Bibliography of Soft X-ray Microscopy - REFERENCES

Originally published as supplemental material for
H. Ade and A.P. Hitchcock, *NEXAFS microscopy and resonant scattering: Composition and orientation probed in real and reciprocal space,* Polymer 49 (**2008**) 643-67

Adam P. Hitchcock (Dept. of Chemistry & Chemical Biology, McMaster University, Hamilton, ON, Canada aph@mcmaster.ca
File: XRM-bib-refs.doc Last changed: 16 Dec 2022 (aph)

CODE: **YYYYABC** or **YYYYAB&** where YYYY = year , A – first letter of last name of first author, B – first letter of last name of second author, C – first letter of last name of third author; if more than 3 authors, replace C with &; if not unique, append a, b, c etc

---

DATABASES

NEXAFS of polymers: https://www.physics.ncsu.edu/stxm/polymerspectro/
Inner shell EELS of gas phase molecules: http://unicorn.mcmaster.ca/corex/cedb-title.html

DATA ANALYSIS SOFTWARE

aXis2000	2000 – present	Hitchcock	free	IDL source & compiled	http://unicorn.chemistry.mcmaster.ca/aXis2000.html (May 2020)
	MacOS version AVAILABLE FROM SOLEIL GITLAB site				http://ifit.mccode.org/tmp/Programs/axis2000/
stack_analyze	2004 – present	Jacobsen	free	IDL compiled	embedded in aXis2000 (source from CJJ on request)
DAWN	2015-present	Basham et al	free	Eclipse, python, Jython	https://dawnsci.org/ (May 2020)
Mantis	2012-present	Lerotic	free	python	http://spectromicroscopy.com/ (May 2020)
Particle analysis	2010-present	Moffet	free	MatLab script	
	https://www.mathworks.com/matlabcentral/fileexchange/29085-stxm-spectromicroscopy-particle-analysis-routines (May 2020)				
PyMCA	2007 - present	Solé et al	free	python scripts for X-raty fluorescence analysis	http://pymca.sourceforge.net/ (May 2020)
STACKLab	2020– present	Tobias Henn	free	MatLab scripts	
	https://www.mathworks.com/matlabcentral/fileexchange/24006-stxm-data-analysis-script-collection-stacklab				
STXMPy	2010-present	Haraszti et al	free	python (10.1186/1752-153X-4-11) (could not find source site , May 2020)	

CONFERENCE PROCEEDINGS

1st Int. Conf. X-ray Microscopy	Göttingen, Germany	1983	G. Schmahl, and D. Rudolph (Eds) **X-ray microscopy** (Springer, 1984)
2nd Int. Conf. X-ray Microscopy	Stony Brook, USA	1987	D. Sayre, M. Howells, J. Kirz, H. Rarback (Eds.) **X-Ray Microscopy II** (Springer, 1988)
3rd Int. Conf. X-ray Microscopy	London, UK	1990	A. Michette, G. R. Morrison, and C. J. Buckley (Eds.) **X-Ray Microscopy III** (Springer, 1992)
4th Int. Conf. X-ray Microscopy	Chernogolovka, Russia	1993	V. V. Aristov, and A. I. Erko (Eds.) **X-Ray Microscopy IV** (Chernogolovka, Russia, 1994).

5th Int. Conf. X-ray Microscopy	Würzburg, Germany	1996	J. Thieme, G. Schmahl, D. Rudolf, E. Umbach (Eds) **X-ray microscopy and spectromicroscopy** (Springer, 1998)
6th Int. Conf. X-ray Microscopy	Berkeley, USA	1999	W. Meyer-Ilse, T. Warwick, and D. Attwood (Eds.) **Am. Inst. Phys. Conf. Proc 507** (2000)
7th Int. Conf. X-ray Microscopy	Grenoble, France	2002	J. Susini, D. Joteux, F. Polack (Eds) **J. de Physique IV Proceedings 104** (2003)
8th Int. Conf. X-ray Microscopy	Himeji, Japan	2005	S. Aoki, Y. Kagoshima, Y. Suzuki (Eds) **IPAP Conference Series 7, Proc. 8th Int. Conf. on X-ray Microscopy**
9th Int. Conf. X-ray Microscopy	Zurich, Switzerland	2008	Christoph Quitmann, Franz Pfeiffer (eds) **J. Physics: Conference Series: Proc. 9th Int. Conf. on X-ray Microscopy Vol 186** (2009)
10th Int. Conf. X-ray Microscopy	Chigaco, USA	2010	Ian McNulty, Catherine Eyberger, Barry Lai (eds) **Am. Inst. Phys. Conf. Proc. 1365** (2011)
11th Int. Conf. X-ray Microscopy	Shanghai, China	2012	Ziyu Wu, Renzhong Tai (eds) **J. Physics: Conference Series: Proc. 9th Int. Conf. on X-ray Microscopy Vol 463** (2013)
12th Int. Conf. X-ray Microscopy	Melbourne, Australia	2014	David Paterson (eds) **Am. Inst. Phys. Conf. Proc 1696** (2016)
13th Int. Conf. X-ray Microscopy,	Oxford, UK	2016	Christoph Rau (eds) **J. Physics: Conf. Series 849** (2017)
14th Int. Conf. X-ray Microscopy,	Saskatoon, Canada	2018	Stephen Urquhart, Adam Hitchcock (eds) **Microscopy & Microanalysis 24 (Suppl 2)** (2018)
15th Int. Conf. X-ray Microscopy,	Hsinchu, Taiwan	2022	Hung-Wei Shiu, Bi-Hsuan Lin, Tzu-Hung Chuang, Der-Hsin Wei (eds) **Am. Inst. Phys. Conf. Proc XXXX** (2023)

BOOKS AND REVIEW ARTICLES

1980SR&	G. Schmahl, D. Rudolph, B. Niemann, and O. Christ, *Zone-plate X-ray Microscopy*, Q. Rev. Biophys. **13**, 297-315 (1980)
1995KJH	J. Kirz, C. Jacobsen, and M. Howells, *Soft X-ray Microscopes and Their Biological Applications*, Q. Rev. Biophys. **28**, 33-130 (1995).
1996A	H. Ade, editor, *Special Issue on Soft X-ray Microscopy*, J. El. Spec. Rel. Phen. **84** (1997)
1998Aa	H. Ade, "X-ray Spectromicroscopy" in *Experimental Methods in the Physical Science*, J.A.R. Samson and D.L. Ederer, Eds., (Academic Press, 1998), **32**, 225 (1998)
1999J	C. Jacobsen, *Soft x-ray microscopy*, Trends in Cell Biology **9**, 44 (1999)
1999A	D. Attwood, *Soft X-rays And Extreme Ultraviolet Radiation, Principles and Applications* (Cambridge University Press, 1999).
2001H	A.P. Hitchcock, *Soft X-ray spectromicroscopy of polymers and biopolymer interfaces*, J.Synchrotron Radiation **8**, 66 (2001)
2002AU	H. Ade and S.G. Urquhart, *NEXAFS Spectroscopy and Microscopy of Natural and Synthetic Polymers* in *Chemical Applications of Synchrotron Radiation*, T. K. Sham, Eds., (World Scientific Publishing, Singapore, 2002) 285.
2002GK&	S Guenther, B Kaulich, L Gregoratti and M Kiskinova, *Photoelectron Microscopy and Applications in Surface and Material Science*, Prog Surf Sci, **70**, 187-260 (2002)
2004A	H. Ade, NEXAFS Microscopy in *Encylcopedia of Polymer Science and Technology*, 3rd edition, J. Kroschwitz, Eds., (Wiley. 2004).
2006SW	J. Stöhr and H.C. Siegmann, *Magnetism. From Fundamentals to Nanoscale Dynamics*. Spinrger Series in Solid State Science, Vol 152 (2006)
2007HJW	M. Howells, C. Jacobsen and T. Warwick, *Principles And Applications of Zone Plate X-Ray Microscopes* in *Science of Microscopy*, Peter W. Hawkes and John C. H. Spence, eds, (Springer, NY, 2007) 10.1007/978-0-387-49762-4
2008AH	H. Ade and A.P. Hitchcock, *NEXAFS microscopy and resonant scattering: Composition and orientation probed in real and reciprocal space,* Polymer **49,** 643-675 (2008)

2009KJ J Kirz and C Jacobsen, *The History and Future of X-ray Microscopy*, J. Physics: Conference Series **186** 012001 (2009).
2010GD& F.M.F. de Groot, E. de Smit, M.M. van Schooneveld, L.R. Aramburo and B.M. Weckhuysen, *in Situ Scanning Transmission X-ray Microscopy of Catalytic solds and Related Nanomaterials*, ChemPhysChem **11** (2010) 951-962.
2010M G. Margaritondo, *Photoelectron spectromicroscopy and spectronanoscopy at synchrotrons: Growing impact on life sciences and materials science*, J. Electron Spectrosc. Rel. Phen. **178-179** 273-291 (2010)
2011FJ& R. Falcone, Ch. Jacobsen, J. Kirz, S. Marchesini, D. Shapiro and J. Spence, *New directions in X-ray Microscopy,* Contemporary Physics **52** 293-318 (2011)
2011KT& B. Kaulich, P. Thibault, A. Gianoncelli1 and M. Kiskinova, *Transmission and emission x-ray microscopy: operation modes, contrast mechanisms and applications*, J. Phys.: Condens. Matter **23** 083002 (2011)
2011S J. Sedlmair, *Soft X-ray Spectromicroscopy of Environmental and Biological Samples*, Göttingen Series in X-ray Physics Vol 7, (University of Göttingen Press, 2011)
2012H A.P. Hitchcock, *Soft X-ray Imaging and Spectromicroscopy* Chapter 22 in Volume II (Methods) of the *Handbook on Nanoscopy*, eds. Gustaaf Van Tendeloo, Dirk Van Dyck and Stephen J. Pennycook (Wiley, **2012**) 745-791
2013FS& J Fink, E Schierle, E Weschke and J Geck, *Resonant elastic soft x-ray scattering* Rep. Prog. Phys. **76** 056502 (2013)
2014B E. Bauer, *Surface Microscopy with Low Energy Electrons*, (Springer, NY, 2014)
2016K C.S.S.R. Kumar, X-ray and neutron techniques for nanomaterials characterization, (Springer, Berlin, 2016) DOI:10.1007/978-3-662-48606-1
2017B A. Braun, *X-ray Studies on Electrochemical Systems: Synchrotron Methods for Energy Materials*, (Walter de Gruyter GmbH & Co KG, 2017)
2018ZA& P. Zeller, M. Amati, et al. , *Scanning Photoelectron Spectro-Microscopy: A Modern Tool for the Study of Materials at the Nanoscale*, Physica Status Solidi (A), **215**, 1800308 (2018)
2018MB&b Mino, L., Borfecchia, E., Segura-Ruiz, J., Giannini, C., Martinez-Criado, G., & Lamberti, C. *Materials characterization by synchrotron x-ray microprobes and nanoprobes.* Rev Modern Physics, **90**, 025007 (2018).
2019FS J. Feng, and A. Scholl, "Photoemission Electron Microscopy," in *Springer Handbook of Microscopy*, P.W. Hawkes, J.C.H. Spence, (Springer Nature Basel, 2019), pp.537-564.
2019J C.J. Jacobsen, *X-ray Microscopy* (Cambridge University Press, 2019)

ARTICLES

1969SR G. Schmahl and D. Rudolph, *Lichstarke Zoneplatten als abbildende Sytee für weiche Röntgenstrahlung* (High power zone plates as image forming systems for soft X-rays) Optik **29** 577-585, (1969)
1972HH P. Horowitz and J.A. Howell, *A scanning x-ray microscope using synchrotron radiation*, Science **178**, 608-611 (1972) **(HI)**
1974K J. Kirz, *Phase zone plates for X rays and the extreme UV*, J. Optical Society of America **64**, 301 (1974)
1976NRS B. Niemann, D. Rudolh and G. Schmahl, *X-ray microscopy with synchrotron radiation*, Applied Optics **15**, 1883-1884 (1976)
1977SK&a D. Sayre, J. Kirz, R. Feder, D. M. Kim, and E. Spiller, *Transmission microscopy of unmodified biological materials: Comparative radiation dosages with electrons and ultrasoft x-ray photons*, Ultramicroscopy **2**, 337 (1977)
1977SK&b D. Sayre, J. Kirz, R. Feder, D. M. Kim, and E. Spiller, *Potential operating region for ultra-soft x-ray microscopy of biological specimens*, Science **196**, p 1339 (1977) **(HI)**
1980Ka J. Kirz, *Mapping the distribution of particular atomic species*, in Ultrasoft X-ray Microscopy: Its Application to Biological and Physical Sciences (D. F. Parsons, ed.) Annals of the New York Academy of Sciences **342**, 273 (1980)
1980Kb J. Kirz, *Specimen damage considerations in biological microprobe analysis*, in Scanning Electron Microscopy **2**, 239 (1980)
1980KS J. Kirz and D. Sayre, *Soft x-ray microscopy of biological specimens*, in *Synchrotron Radiation Research* (H. Winick and S. Doniach, eds.), (Plenum Press, New York) 277 (1980)

1980RK& H. Rarback, J. Kenney, J. Kirz, and X. S. Xie, *Scanning x-ray microscopy - first tests with synchrotron radiation*, in Scanned Image Microscopy (E. A. Ash, ed.), (Academic Press, London),449 (1980)

1980SR& G. Schmahl, D. Rudolph, B. Niemann, and O. Christ, *Zone-plate X-ray Microscopy*, Q. Rev. Biophys. **13**, 297-315 (1980)

1984RK& H. Rarback, J. M. Kenney, J. Kirz, M. R. Howells, P. Chang, P. J. Coane, R. Feder, P. J. Houzego, D. P. Kern, and D. Sayre, *Recent results from the Stony Brook scanning microscope*, in G. Schmahl and D. Rudolph, eds., "X-ray Microscopy I" Springer Series in Optical Sciences **4**, 203 (1984)

1985HK& M. Howells, J. Kirz, D. Sayre, and G. Schmahl, *Soft-x-ray microscopes*, Physics Today **38,** 22 (1985)

1985KR J. Kirz and H. Rarback, *Soft X-ray Microscopes*, Rev. Sci. Instrum. **56**, 1-13 (1985).

1986JK& C. Jacobsen, J. Kenney, J. Kirz, I. McNulty, R. Rosser, F. Cinotti, H. Rarback, and D. Shu, *Soft x-ray scanning microscopy: its practical use for elemental mapping at the NSLS U15 beamline*, Photochemistry and Photobiology **44**, 421 (1986)

1986RS& H. Rarback, D. Shu, H. Ade, C. Jacobsen, J. Kirz, I. McNulty, and R. Rosser, *An undulator based scanning microscope at the National Synchrotron Light Source*, in *X-ray Imaging II* (L. V. Knight and D. K. Bowen, eds.) Proc. SPIE **691**, 107-110 (1986)

1987JK C. Jacobsen, J. Kenney, J. Kirz, R. Rosser, F. Cinotti, H. Rarback, and J. Pine, *Quantitative imaging and microanalysis with a scanning soft x-ray microscope*, Physics in Medicine and Biology **32**, 431 (1987)

1987YH W. B. Yun and M. R. Howells, *High-resolution Fresnel zone plates for x-ray applications by spatial-frequency multiplication*, J. Optical Society of America **4**, p 34 (1987)

1988RS&a H. Rarback, D. Shu, S. C. Feng, H. Ade, J. Kirz, I. McNulty, D. P. Kern, T. H. P. Chang, Y. Vladimirsky, N. Iskander, D. Attwood, K. McQuaid, and S. Rothman, *Scanning x-ray microscope with 75-nm resolution*, Rev. Sci. Instrum. **59**, 52-59 (1988)

1988RS&b H. Rarback, D. Shu, S. C. Feng, H. Ade, C. Jacobsen, J. Kirz, I. McNulty, Y. Vladimirsky, D. P. Kern, and T. H. P. Chang, *The Stony Brook-NSLS scanning microscope*, in D. Sayre, M.R. Howells, J. Kirz, and H. Rarback, eds., "X-ray Microscopy II" Springer Series in Optical Sciences **56** , 194 (1988)

1988SS& D. Shu, D. P. Siddons, H. Rarback, and J. Kirz, *Two-dimensional laser interferometric encoder for the soft x-ray scanning microscope at the NSLS*, NIM Phys. Res. A **266**, 313 (1988)

1988TH B.P. Tonner, G.R. Harp, *Photoelectron microscopy with synchrotron radiation,* Review of Scientific Instruments 59 (1988) 853.

1988YH W.-B. Yun and M. R. Howells, *Experimental demonstration of producing high resolution zone plates by spatial-frequency multiplication*, in D. Sayre, M.R. Howells, J. Kirz, and H. Rarback, eds., "X-ray Microscopy II" Springer Series in Optical Sciences **56** , 182 (1988)

1989BR& C. Buckley, H. Rarback, R. Alforque, D. Shu, H. Ade, S. Hellman, N. Iskander, J. Kirz, S. Lindaas, I. McNulty, M. Oversluizen, E. Tang, D. Attwood, R. DiGennaro, M. Howells, C. Jacobsen, Y. Vladimirsky, S. Rothman, D. Kern, and D. Sayre, *Soft x-ray imaging with the 35 period undulator at the NSLS*, Rev. Sci. Instrum. **60**, 2444 (1989)

1989RI& S. S. Rothman, N. Iskander, D. Attwood, Y. Vladimirsky, K. McQuaid, J. Grendel, J. Kirz, H. Ade, I. McNulty, D. Kern, T. H. P. Chang, and H. Rarback, *The interior of a whole and unmodified biological object - the zymogen granule - viewed with a high-resolution x-ray microscop*e, Biochimica et Biophysica Acta **991**, 484 (1989)

1990AK& H. Ade, J. Kirz, S. L. Hulbert, E. Johnson, E. Anderson, and D. Kern, *X-ray spectromicroscopy with a zone plate generated microprobe*, Applied Physics Letters **56**, 1841 (1990)

1990KA& J. Kirz, H. Ade, E. Anderson, D. Attwood, C. Buckley, S. Hellman, M. Howells, C. Jacobsen, D. Kern, S. Lindaas, I. McNulty, M. Oversluizen, H. Rarback, M. Rivers, S. Rothman, D. Sayre, and D. Shu, *X-ray microscopy with the NSLS soft x-ray undulator*, Physica Scripta T **31**, 12 (1990)

1990RA& S. Rothman, E. Anderson, D. Attwood, P. Batson, C. Buckley, K. Goncz, M. Howells, C. Jacobsen, D. Kern, J. Kirz, H. Rarback, M. Rivers, D. Shu, R. Tackaberry, and S. Turek, *Soft x-ray microscopy in biology and medicine: status and prospects*, Physica Scripta T **31**, 18 (1990)

1990RB&a H. Rarback, C. Buckley, K. Goncz, H. Ade, E. Anderson, D. Attwood, P. Batson, S. Hellman, C. Jacobsen, D. Kern, J. Kirz, S. Lindaas, I. McNulty, M. Oversluizen, M. Rivers, S. Rothman, D. Shu, and E. Tang, *The scanning transmission microscope at the NSLS*, NIM Phys. Res. A **291**, 54 (1990)

1990RB&b H. Rarback, C. Buckley, H. Ade, F. Camilo, R. DiGennaro, S. Hellman, M. Howells, N. Iskander, C. Jacobsen, J. Kirz, S. Krinsky, S. Lindaas, I. McNulty, M. Oversluizen, S. Rothman, D. Sayre, M. Sharnoff, and D. Shu, *Coherent radiation for x-ray imaging: the soft x-ray undulator and the X1A beamline at the NSLS*, JVST **2**, 274 (1990)

1991AK& H. Ade, J. Kirz, S. Hulbert, E. Johnson, E. Anderson, and D. Kern, *Images of a microelectronic device with the X1-SPEM, a first generation scanning photoemission microscope at the National Synchrotron Light Source*, JVST A **9**, 1902 (1991)

1991DC& G. De Stasio, C. Capasso, W. Ng, A. K. Ray-Chaudhuri, S. H. Liang, R. K. Cole, Z. Y. Guo, J. Wallace, G. Margaritondo and F. Cerrina, J. Underwood, R. Perera and J. Kortright, D. Mercanti, M. T. Ciotti, A. Stecchi, *High Resolution Photoelectron Microimaging of Neuron Networks*, Europhys. Lett. **16**, 411-414 (1991).

1991HKS M. R. Howells, J. Kirz, and D. Sayre, *X-ray microscopes*, Scientific American **264**, 88 (1991) **(HI)**

1991JW& C. Jacobsen, S. Williams, E. Anderson, M. T. Brown, C. J. Buckley, D. Kern, J. Kirz, M. Rivers, and X. Zhang, *Diffraction-limited Imaging in a Scanning Transmission X-ray Microscope*, Opt. Comm. **86**, 351-364 (1991)

1991M M. Munschau, *Photoelectron emission microscopy*, Synchrotron Radiation News **4**, (4), 29-34 (1991)

1991MD& D. Mercanti, G. De Stasio, M. T. Ciotti, C. Capasso, W. Ng, A. K. Ray- Chaudhuri, S. H. Liang, R. K. Cole, Z. Y. Guo, J. Wallace, G. Margaritondo, F. Cerrina, J. Underwood, R. Perera, J. Kortright, *Photoelectron Microscopy in the Life Sciences: Imaging Neuron Networks*, J. Vac. Sci. Technol. A**9**, 1320-22 (1991).

1991T B.P. Tonner, *Photoemission spectromicroscopy of surfaces in materials science*, Synchrotron Raidation News, **4**, (2) 27-31 (1991)

1991TG& D. M. Tennant, J. E. Gregus, C. Jacobsen, and E. L. Raab, *Construction and test of phase zone plates for x-ray microscopy*, Optics Letters **16**, 621 (1991)

1992A H.W. Ade, *Scanning photoemission microscopy with synchrotron radiation*, NIM A **139**, 311-319 (1992)

1992AK&a H. Ade, C.-H. Ko, and E. Anderson, *Astigmatism correction in x-ray scanning photoemission microscope with use of elliptical zone plate*, Applied Physics Letters **60**, 1040 (1992)

1992AK&b H. Ade, C.-H. Ko, E. Johnson, and E. Anderson, *Improved images with the scanning photo-electron microscope at the National Synchrotron Light Source*, Surface Interface Analysis **19**, 17 (1992)

1992AK&c H. Ade, J. Kirz, S. Hulbert, E. Johnson, E. Anderson, and D. Kern, *Recent developments in spectromicroscopy with the X1-SPEM*, in A.G. Michette, G.R. Morrison, and C.J. Buckley, eds., "X-ray Microscopy III" Springer Series in Optical Sciences" **67**, 226 (1992)

1992AZ& H. Ade, X. Zhang, S. Cameron, C. Costello, J. Kirz, and S. Williams, *Chemical Contrast in X-ray Microscopy and Spatially Resolved XANES Spectroscopy of Organic Specimens*, Science **258**, 972 (1992) **(HI)**

1992B C. J. Buckley, *Imaging of calcium deposits in cartilage by scanning x-ray microscopy*, Bone **13**, 100 (1992)

1992BA& C. J. Buckley, S. Y. Ali, C. A. Scotchford, M. Rivers, K. L. D'Amico, J. H. Dunsmuir, and S. R. Ferguson, *Imaging of calcium deposits in human cartilage*, Scanning **14**, 27 (1992)

1992BB& R. E. Burge, C. J. Buckley, G. F. Foster, A. Miller, and T. Wess, *X-ray microscopy at sub-optical resolution: Direct observation of the 65-nm periodicity in collagen fibrils*, J. X-ray Science and Technology **3**, 311 (1992)

1992BB&a C. J. Buckley, R. E. Burge, G. F. Foster, M. R., S. Y. Ali, and C. A. Scotchford, "*X-ray probe mapping of calcium deposits in articular cartilage*", in P.B. Kenway, P.J. Duke, G.W. Lorimer, T. Mulvey, I.W. Drummond, G. Love, A.G. Michette, and M. Stedman, eds., "X-ray Optics and Microanalysis 1992", (Bristol, IOP Publishing), 621 (1992)

1992BB&b C. J. Buckley, R. E. Burge, G. F. Foster, S. Y. Ali, C. A. Scotchford, J. H. Dunsmuir, S. R. Ferguson, and M. L. Rivers, "*X-ray imaging of calcium deposits in human cartilage*", in C. Jacobsen and J. Trebes, eds., "Soft X-ray Microscopy" Proc SPIE **1741**, 363-371 (1992)

1992BF& C. J. Buckley, G. F. Foster, R. E. Burge, S. Y. Ali, C. A. Scotchford, J. Kirz, and M. L. Rivers, *"Elemental imaging of cartilage by scanning x-ray microscopy*", Rev. Sci. Inst. **63**, 588 (1992)

1992CKW C. Jacobsen, J. Kirz, and S. Williams, "*Resolution in soft x-ray microscopes*", Ultramicroscopy **47**, 55 (1992)

1992DK& G. De Stasio, S. F. Koranda, B. P. Tonner, G. R. Harp, D. Mercanti, M. T. Ciotti and G. Margaritondo, X-ray Secondary Emission Microscopy (XSEM) of Neurons, Europhys. Lett. **19**, 655-659 (1992).

1992FP& T.W. Ford, A.M. Page, G.F. Foster and A.D. Stead, Effects of Soft X-ray irradiation on cell ultrastructure, Proc SPIE **1741**, 325-332 (1992)

1992GM& K. K. Goncz, M. Moronne, W. Lin, and S. Rothman, "Measuring changes in the mass of single subcellular organelles using x-ray microscopy", in C. Jacobsen and J. Trebes, eds., "Soft X-ray Microscopy" Proc SPIE **1741**, 342 (1992)

1992GP J. R. Gilbert and J. Pine, "Imaging and etching: soft x-ray microscopy on whole wet cells", in C. Jacobsen and J. Trebes, eds., "Soft X-ray Microscopy" Proc SPIE **1741**, 402 (1992)

1992GP& J. R. Gilbert, J. Pine, J. Kirz, C. Jacobsen, S. Williams, C. J. Buckley, and H. Rarback, "Soft x-ray absorption imaging of whole wet tissue culture cells", in A.G. Michette, G.R. Morrison, and C.J. Buckley, eds., "X-ray Microscopy III" Springer Series in Optical Sciences" **67**, 388 (1992)

1992GR K. K. Goncz and S. S. Rothman, "Protein flux across the membrane of single secretion granules", Biochimica et Biophysica Acta **1109**, 7 (1992)

1992J C. Jacobsen, "Making soft x-ray microscopy harder: considerations for sub-0.1 μm resolution imaging at ~4 Å wavelengths", in A.G. Michette, G.R. Morrison, and C.J. Buckley, eds., "X-ray Microscopy III" Springer Series in Optical Sciences" **67**, 274 (1992)

1992JKW C. Jacobsen. J. Kirz and S. Williams, *Resolution in Soft X-ray Microscopes*, Ultramicroscopy **47**, 55-79 (1992)

1992JL&a C. Jacobsen, S. Lindaas, V. Oehler, S. P. Williams, S. Wirick, X. Zhang, S. Guo, and I. Spector, "Experiments in scanning luminescence x-ray microscopy", in C. Jacobsen and J. Trebes, eds., "Soft X-ray Microscopy" SPIE **1741** 223, (1992)

1992JL&b C. Jacobsen and S. Lindaas, "Experiments in zone plate replication using spatial frequency multiplication at x-ray wavelengths", in A.G. Michette, G.R. Morrison, and C.J. Buckley, eds., "X-ray Microscopy III" Springer Series in Optical Sciences" **67**, 101 (1992)

1992KA&a J. Kirz, H. Ade, C. Jacobsen, C.-H. Ko, S. Lindaas, I. McNulty, D. Sayre, S. Williams, X. Zhang, and M. Howells, "Soft x-ray microscopy with coherent x-rays", Rev. Sci. Instrum. **63,** 557 (1992)

1992KA&b C.-H. Ko, H. Ade, J. Kirz, S. L. Hulbert, E. D. Johnson, E. H. Anderson, and D. P. Kern, "Design of the second-generation scanning photoemission microscope at the National Synchrotron Light Source", in C. Jacobsen and J. Trebes, eds., "Soft X-ray Microscopy" Proc SPIE **1741**, 306 (1992)

1992LK& B. W. Loo, Jr., S. Williams, S. Meizel, and S. S. Rothman, "X-ray stereomicroscopy: high resolution 3-D imaging of human spermatozoa in aqueous suspension with natural contrast", J. Microscopy **166**, RP5 (1992)

1992LR& S. Lindaas, H. Rarback, H. Ade, C. Buckley, S. Hellman, M. Howells, C. Jacobsen, J. Kirz, I. McNulty, M. Oversluizen, D. Shu, and S. Williams, "Coherent radiation for x-ray imaging: the performance of the X1A beamline at the NSLS", in A.G. Michette, G.R. Morrison, and C.J. Buckley, eds., "X-ray Microscopy III" Springer Series in Optical Sciences **67**, 34 (1992)

1992LTJ R.A. London, J.E. Trebes and C.J. Jacobsen, *The role of X-ray induced damage in biological microimaging*, C. Jacobsen and J. Trebes, eds., "Soft X-ray Microscopy" Proc SPIE **1741**, 342 (1992)

1992LW& B.W. Loo, Jr., S. Williams, W. T. Lin, W. H. Love, S. Meizel, and S. S. Rothman, "High resolution x-ray stereomicroscopy: true three-dimensional imaging of biological samples", in C. Jacobsen and J. Trebes, eds., "Soft X-ray Microscopy" Proc. SPIE **1741**, 392 (1992)

1992M G. Morrison, “Phase contrast and darkfield imaging in x-ray microscopy”, Proc. SPIE **1741** 186-193 (1992)

1992PG J. Pine and J. Gilbert, "Live cell specimens for x-ray microscopy", in A.G. Michette, G.R. Morrison, and C.J. Buckley, eds., "X-ray Microscopy III" Springer Series in Optical Sciences **67**, 384 (1992)

1992RGL S. S. Rothman, K. K. Goncz, and B. Loo, Jr., "Following protein transport with the high resolution x-ray microscope", in A.G. Michette, G.R. Morrison, and C.J. Buckley, eds., "X-ray Microscopy III" Springer Series in Optical Sciences **67**, 373 (1992)

1992WJ&a S. P. Williams, C. J. Jacobsen, J. Kirz, X. Zhang, J. van't Hof, and S. Lamm, "Radiation damage to chromosomes in the scanning transmission x-ray microscope", in C. Jacobsen and J. Trebes, eds., "Soft X-ray Microscopy" Proc SPIE **1741**, 318 (1992)

1992WJ&b S. Williams, C. Jacobsen, J. Kirz, and X. Zhang, "Imaging with the Brookhaven scanning transmission x-ray microscope", in Synthetic Microstructures in Biological Research (J. M. Schnur and M. Peckerar, eds.), (Plenum Press, New York) 109 (1992)

1992WJ&c S. Williams, C. Jacobsen, J. Kirz, S. S. Lamm, and J. van't Hof, "Scanning transmission x-ray microscopy of hydrated mitotic chromosomes", in A.G. Michette, G.R. Morrison, and C.J. Buckley, eds., "X-ray Microscopy III" Springer Series in Optical Sciences **67**, 408 (1992)

1992WS& N. Watanabe, Y. Shimanuki, M. Taniguchi and H. Kihara, “Soft X-ray Microscopy with zone plates at UVSOR”, Proc. SPIE **1741** 85-93 (1992)

1992ZJW X. Zhang, C. Jacobsen, and S. Williams, "Image enhancement through deconvolution", in C. Jacobsen and J. Trebes, eds., "Soft X-ray Microscopy" Proc. SPIE **1741**, 251 (1992)

1993AH H. Ade and B. Hsiao, "X-ray Linear Dichroism Microscopy", Science **262**, 1427 (1993). **(HI)**

1993AH& H. Ade,B. Hsiao, G. Mitchell, E. Rightor, A.P. Smith and R. Cieslinski, "Chemical contrast X-ray microscopy", MRS Proceedings **332** 142 (1993)

1993AJ& H. Ade, C. Jacobsen, J. Kirz, C.-H. Ko, S. Lindaas, S. Williams, X. Zhang, C. Buckley, E. Anderson, K. Goncz, and S. Rothman, "Recent developments in scanning soft x-ray microscopy", in Vacuum Ultraviolet Radiation Physics: Proceedings of the 10 th VUV conference (F. J. Wuilleumier, Y. Petroff, and I. Nenner, eds.), (World Scientific Publishing, Singapore), 523, (1993)

1993BF& P. M. Bennett, G. F. Foster, C. J. Buckley, and R. E. Burge, "The effect of soft X-radiation on myofibrils", J. Microsc. **172**, 109 (1993)

1993CM& C. Capasso, W. Ng, A. K. Ray-Chaudhuri, S. H. Liang, R. K. Cole, Z. Y. Guo, J. Wallace, J. Underwood, R. Perera, J. Kortright, G. De Stasio and G. Margaritondo, Scanning Photoemission Microscopy on MAXIMUM Reaches 0.1 Micron Resolution, Surf. Sci. **287**, 1046-1050 (1993).

1993DD& G. De Stasio, D. Dunham, B. P. Tonner, D. Mercanti, M. T. Ciotti, C. Coluzza, P. Perfetti, and G. Margaritondo, Aluminum in Rat Cerebellar Neural Cultures, NeuroReport **4**, 1175-1178 (1993).

1993DH& G. De Stasio, S. Hardcastle, S. F. Koranda, B. P. Tonner, D. Mercanti, M. T. Ciotti, P. Perfetti and G. Margaritondo, Photoemission Spectromicroscopy of Neurons, Phys. Rev. E **47**, 2117-2121 (1993).

1993DM G. De Stasio and G. Margaritondo, Photoemission Spectromicroscopy, in New Directions in Research with Third-Generation Soft X-Ray Synchrotron Radiation Sources, A. S. Schlachter and F. J. Wuilleumier Eds., NATO ASI Series E254, 299-313 (1993).

1993DP&a G. De Stasio, P. Perfetti, W. Ng, A. K. Ray-Chaudhuri, S. H. Liang, S. Singh, R. K. Cole, Z. Y. Guo, J. Wallace, C. Capasso, F. Cerrina, D. Mercanti, M. T. Ciotti, F. Gozzo, G. Margaritondo, Scanning Photoemission Spectro-microscopy of Neurons, Phys. Rev. E **48**, 1478-1482 (1993).

1993DP&b G. De Stasio, P. Perfetti, D. Mercanti, M. T. Ciotti, S. Hardcastle, S. F. Koranda, B. P. Tonner, C. Capasso, W. Ng, A. K. Ray-Chaudhuri, S. Liang, S. Singh, F. Cerrina, G. Margaritondo, Photoemission Spectromicroscopies of Neurons, in "Vacuum Ultraviolet Radiation Physics", Proc. 10th VUV edited by F. J. Wuilleumier, Y. Petroff and I. Nenner, (World Scientific, Singapore) 534-543 (1993).

1993JL& C. Jacobsen, S. Lindaas, S. Williams, and X. Zhang, "Scanning luminescence x-ray microscopy: imaging fluorescence dyes at suboptical resolution", J. Microscopy **172**, 121 (1993)

1993SW& J. Stöhr, Y. Wu, B.D. Hermsmeier, M.G. Samant, G.R. Harp, S. Koranda, D. Dunham and B.P. Tonner, Element-Specific magnetic microscopy with circularly polarized X-rays, Science **259**, 658-661 (1993)

1993WZ& S. Williams, X. Zhang, C. Jacobsen, J. Kirz, S. Lindaas, J. van't Hof, and S. S. Lamm, "Measurements of wet metaphase chromosomes in the scanning transmission x-ray microscope", J. Microscopy **170**, pp. 155 (1993)

1994AH& H. Ade, B. Hsiao, G. Mitchell, E. Rightor, A. P. Smith, and R. Cieslinski, "Chemical and orientational imaging of polymeric samples", in G.W. Bailey and A.J. Garratt-Reed, eds., "Proc. 52nd Ann. Mtg. Microscopy Society of America", San Francisco, 68 (1994)

1994BC& R. E. Botto, G. D. Cody, J. Kirz, H. Ade, S. Behal, and M. Disko, "Selective chemical mapping of coal microheterogeneity by scanning transmission x-ray microscopy", Energy and Fuels **8**, 151 (1994)

1994BD& C. J. Buckley, S. Downes, N. Khaleque, S. J. Bellamy, and X. Zhang, "Mapping the density and mineral phase of calcium in bone at the interface with biomaterials using scanning x-ray microscopy", in G.W. Bailey and A.J. Garratt-Reed, eds., "Proc. 52nd Ann. Mtg. Microscopy Society of America", San Francisco, 44 (1994)

1994D G. De Stasio, Synchrotron Radiation Spectromicroscopy: Recent Results in Neurobiology, J. de Phys IV **4**, C9-287-292 (1994).

1994DC& G. De Stasio, F. Cerrina, B. P. Tonner, D. Mercanti, G. Margaritondo, Spectromicroscopy in Biophysics, in "Life Chemistry Reports", **11**, 79-95 (1994).

1994DM&a G. De Stasio, D. Mercanti, M. T. Ciotti, T. C. Droubay, P. Perfetti, G. Margaritondo and B. P. Tonner, Synchrotron Spectromicroscopy in Biophysics: Specificity of Metal Uptake by Neurons, Europhys. Lett. **28**, 283-287 (1994).

1994DM&b G. De Stasio, D. Mercanti, M. T. Ciotti, D. Dunham, T. C. Droubay, B. P. Tonner, P. Perfetti and G. Margaritondo, Aluminum in Rat PriM.Cultures: Glial Cells and GABAergic Neurons, NeuroReport **5**, 1973 (1994).

1994HM&a W. S. Haddad, I. McNulty, J. E. Trebes, E. H. Anderson, R. A. Levesque, and L. Yang, "Ultra high resolution x-ray tomography", Science **266**, 1213 (1994) **(HI)**

1994HM&b W. S. Haddad, I. McNulty, J. E. Trebes, E. H. Anderson, L. Yang, and J. M. Brase, "Demonstration of ultra-high-resolution soft x-ray tomography using a scanning transmission x-ray microscope", in G.W. Bailey and A.J. Garratt-Reed, eds., "Proc. 52nd Ann. Mtg. Microscopy Society of America", San Francisco, 312 (1994)

1994KA& J. Kirz, H. Ade, E. Anderson, C. Buckley, H. Chapman, M. Howells, C. Jacobsen, C.-H. Ko, S. Lindaas, D. Sayre, S. Williams, S. Wirick, and X. Zhang, "New results in soft x-ray microscopy", NIM Phys. Res. B **87**, 92-97(1994)

1994RC A.K. Ray-Chaudhuri and F. Cerrina, Status of soft X-ray photoemission microscopy utilizing synchrotron radiation, NIM B **87** 104-111 (1994)

1994T B.P. Tonner, Sin-sensitive magnetic microscopy with circularly polarized X-rays, J. de Physique IV, **C9** , 407-414 (1994)

1994ZA& X. Zhang, H. Ade, C. Jacobsen, J. Kirz, S. Lindaas, S. Williams, and S. Wirick, "Micro-XANES: chemical contrast in the scanning transmission x-ray microscope", NIM Phys. Res. A *A* **347**, 431-435 (1994)

1995AH& H. Ade, B. Hsiao, G. Mitchell, E. Rightor, A. P. Smith, and R. Cieslinski, "X-ray microscopy of polymeric materials", Proc. Mat.Res. Soc. **375**, 293 (1995)

1995AS& H. Ade, A. P. Smith, S. Cameron, R. Cieslinski, G. Mitchell, B. Hsiao, and E. Rightor, "X-Ray Microscopy in Polymer Science - Prospects of a New Imaging Technique", Polymer **36**, 1843-1848 (1995)

1995B C. J. Buckley, "The measuring and mapping of calcium in mineralised tissues by absorption difference imaging", Rev. Sci. Inst. **66**, 1318 (1995)

1995BB& C. J. Buckley, S. J. Bellamy, X. Zhang, G. Dermody, and S. Hulbert, "The NEXAFS of biological calcium phosphates", Rev. Sci. Inst. **66**, 1322 (1995)

1995CB&a G. D. Cody, R. E. Botto, H. Ade, S. Behal, M. Disko, and S. Wirick, "C-NEXAFS microanalysis and scanning x-ray microscopy of microheterogeneities in a high-volatile A bituminous coal", Energy and Fuels **9**, 75 (1995)

1995CB&b G. D. Cody, R. E. Botto, H. Ade, S. Behal, M. Disko, and S. Wirick, "Inner-shell spectroscopy and imaging of a subbituminous coal: in-situ analysis of organic and inorganic microstructure using C(1s)-, Ca(2p)-, and Cl(2s)-NEXAFS", Energy and Fuels **9**, 525 (1995)

1995CB&c G. Cody, R. E. Botto, H. Ade, and S. Wirick, "Soft x-ray microscopy and microanalysis: applications in organic geochemistry", in W. Yun, ed., X-ray microbeam technology and applications Proc. SPIE **2516**, 185 (1995)

1995CJW H. N. Chapman, C. Jacobsen, and S. Williams, "Applications of a CCD detector in scanning transmission x-ray microscope", Rev. Sci. Instrum. **66**, 1332 (1995)

1995DD& G. De Stasio, D. Dunham, B. P. Tonner, D. Mercanti, M. T. Ciotti, P. Perfetti and G. Margaritondo, Application of Photoelectron Spectromicroscopy to a Systematic Study of Toxic and Natural Elements in Neurons, J. Synch. Rad. **2**, 106-112 (1995).

1995GBR K. K. Goncz, R. Behrsing, and S. S. Rothman, "The morphology and structure of zymogen granules", Cell Tissue Res. **280**, 5191 (1995)

1995GR K. K. Goncz and S. S. Rothman, "A membrane pore can account for the observed permeability of zymogen granules to their enclosed protein", Biophysical et Biochimical Act*a* **1238**, 91 (1995)

1995HT& W. S. Haddad, J. E. Trebes, D. M. Goodman, H.-R. Lee, I. McNulty, E. H. Anderson, and A. O. Zalensky, "Ultrahigh-resolution soft x-ray tomography", in W. Yun, ed., X-ray microbeam technology and applications, Proc SPIE **2516**, 102-107 (1995)

1995HT&b Y. Hwu, C. Y. Tung, Y. I. Pieh, S. D. Lee, P. Alm_ras, F. Gozzo, H. Berger, G. Margaritondo, G. De Stasio, D. Mercanti and M. T. Ciotti, First Spectromicroscopic Tests at the Taiwan Synchrotron Radiation Research Center (SSRC): Chemical and Topographic Microimaging of Layered Systems, Nucl. Instrum. Meth. A **361**, 349-53 (1995).

1995J L. Jochum, *Partially coherent image formation with x-ray microscopes* Appl. Optics **34**(22), 4944-4950 (1995).

1995KJH J. Kirz, C. Jacobsen, and M. Howells, *Soft X-ray Microscopes and Their Biological Applications*, Q. Rev. Biophys. **28**, 33-130 (1995).

1995KK&a C.-H. Ko, J. Kirz, H. Ade, E. Johnson, S. Hulbert, and E. Anderson, "Development of a second generation scanning photoemission microscope with a zone plate generated microprobe at the National Synchrotron Light Source", Rev. Sci. Inst. **66**, 1416-1418 (1995)

1995KK&b C.-H. Ko, J. Kirz, H. Ade, S. Hulbert, E. Johnson, and E. Anderson, "Applications of the X1A scanning photoemission spectromicroscope for element identification on material surfaces", in Applications of Synchrotron Radiation Techniques to Materials Science II, MRS Symp. Proc. **375**, 303 (1995)

1995KK&c C.-H. Ko, J. Kirz, K. Maier, B. Winn, H. Ade, S. Hulbert, E. Johnson, and E. Anderson, "Chemical state mapping on materials surfaces with the X1A second generation scanning photoemission microscope (X1A SPEM-II)", in W. Yun, ed., X-ray microbeam technology and applications Proc SPIE **2516**, 150 (1995)

1995MC& J. M. Maser, H. N. Chapman, C. J. Jacobsen, A. Kalinovsky, J. Kirz, A. Osanna, S. Spector, S. Wang, B. Winn, S. Wirick, and X. Zhang, "Scanning transmission x-ray microscope at the NSLS: from XANES to cryo", in W. Yun, ed., X-ray microbeam technology and applications Proc SPIE **2516**, 78-89 (1995)

1995MDC G. Margaritondo, G. De Stasio, C. Coluzza, Photoemission Spectromicroscopy in Materials Science and in Neurobiology, J. Electr. Spectrosc. **72**, 281-287 (1995).

1995MH& I. McNulty, W. S. Haddad, J. E. Trebes, and E. H. Anderson, "Soft x-ray scanning microtomography with submicrometer resolution", Rev. Sci. Inst. **66**, 1431-1433 (1995)

1995SC D. Sayre and H. N. Chapman, "X-ray microscopy", Acta Crystallographica A **51**, 237 (1995)

1995TD& B.P. Tonner, D. Dunham, T. Droubay, J. Kikuma, J. Denlinger, E. Rotenberg and A. Warwick, "The development of electorn spectromicroscopy", J. El. Spec. Rel. Phen. **75** 309-332 (1995)

1995WJ& S. Williams, C. Jacobsen, J. Kirz, J. Maser, S. Wirick, X. Zhang, H. Ade, and M. Rivers, "Instrumentation developments in scanning soft x-ray microscopy at the NSLS", Rev. Sci. Instrum. **66**, 1271-1275 (1995).

1995ZF& H. Zhangm A. Föhlisch, C. Kunz, A. Moewes, M. Prettorius, A. Ranck, H. sievers, I. Storjohann, V. Wedemeier and J. Voss, Optical luminescence spectroscopy with the scanning soft x-ray microscopy at HASYLAB/DESY, Rev. Sci. Inst **66**, 3513 (1995)

1995ZJ& X. Zhang, C. Jacobsen, S. Lindaas, S. Williams, "Exposure strategies for PMMA from *in situ* XANES spectroscopy"J. Vac. Sci. Technol. B **13** 1477-1483 (1995)

1996AC& J. Almeida, C. Coluzza, T. della'Orto, F. Barbo, M. Bertolo, A. Bianco, S. Cerasari, S. Fontana and G. Margaritondo, J. Appl. Phys. **80**, 1640-1464 (1996)

1996AS& H. Ade, A.P. smith, G.R. Zhuang, B. Wood, I. Plotzker, E. Rightor, D.J Liu, S.C. Liu and C. Sloop, "X-ray microscopy of multi-phase polymeric materials", MRS Symp. Proc. **437** 99-105 (1996)

1996BC& reference missing

1996CB& G. D. Cody, R. E. Botto, H. Ade, and S. Wirick, "The application of soft x-ray microscopy to the in-situ analysis of sporinite in coal", Int. J. Coal Geology **32**, 69 (1996)

1996CF& H. N. Chapman, J. Fu, C. Jacobsen, and S. Williams, "Dark-field x-ray microscopy of immunogold-labeled cells", Microscopy Soc. America **2**, 53 (1996)

1996CJW H. N. Chapman, C. Jacobsen, and S. Williams, "A characterisation of dark-field imaging of colloidal gold labels in a scanning transmission x-ray microscope", Ultramicroscopy **62**, 191 (1996)

1996DL& G. De Stasio, G. F. Lorusso T. Droubay, M. Kohli, P. Muralt, P. Perfetti, G. Margaritondo T. F. Kelly and B. P. Tonner, An Electron Imaging Approach to Soft-X- Ray Transmission Microscopy, Rev. Sci. Instrum. **67**, 737-741 (1996).

1996DM& G. De Stasio, D. Mercanti, M. T. Ciotti, T. C. Droubay, P. Perfetti, G. Margaritondo and B. P. Tonner, Synchrotron Spectromicroscopy of Cobalt Accumulation in Granule Cells, Glial Cells and GABAergic Neurons, J. Phys. D **29**, 259-262 (1996).

1996HG S. Hayakawa and Y. Gohshi, chapter in "Applications of Synchrotron Radiation to Materials Analysis" H. Saisho and Y. Gohshi, eds (Elsevier, 1996)

1996J C. Jacobsen, "Soft-x-ray microscopy: imaging of biological systems", in *Biomedical Applications of Synchrotron Radiation* (E. Burattini and A. Balerna, eds.), Società Italiana di Fisica, IOS Press, 91 (1996)

1996JC& C. Jacobsen, H. N. Chapman, J. Fu, A. Kalinovsky, J. Kirz, J. Maser, A. Osanna, S. Spector, D. Tennant, S. Wang, S. Wirick, and X. Zhang, "Biological microscopy and soft x-ray optics at Stony Brook", J. El. Spec. Rel. Phen. **80**, 337-341 (1996)

1996K C. Kunz, "X-ray microscopy" Physica Scripta **T61**, 19-25 (1996)

1996KY& H. Kihara, A. Yamamoto, P. Guttmann and G. Schmahl, Observation of the internal membrane system of COS cells by X-ray microscopy, J. El. Spec. Rel. Phen. **80**, 369-372 (1996)

1996MAS G. Margaritondo, J. Almeida, G. De Stasio, Recent Progress in Synchrotron Radiation Spectroscopy and Spectromicroscopy, J. Jpn. Soc. Synch. Radiat. Res. **8**, 521-532 (1995).

1996MKV A. Moewes, C. Kunz and J. Voss, "Soft X-ray luminescence microscopy and spectroscopy of Gd2S:Pr and (Y,Gd)2O3:Eu ceramics", NIM A **373** 299-304 (1996)

1996OJ& A. Osanna, C. Jacobsen, A. Kalinovsky, J. Kirz, J. Maser, and S. Wang, "X-ray microscopy: preparations for studies of frozen hydrated specimens", *Scanning Microscopy (Supplement)* **10**, 349 (1996)

1996SA A. P. Smith and H. Ade, "Quantitative Orientational Analysis of a Polymeric Material (Kevlar Fiber) with X-ray Microspectroscopy", Appl. Phys. Lett. **69**, 3833 (1996)

1996UH& S.G. Urquhart, A.P. Hitchcock, E.G. Rightor, H. Ade and A.P. Smith, *Polymer Chemical Speciation by NEXAFS Spectromicroscopy: Insights from Molecular Modelling*, Proceedings of a Symposium on "Applications of SR to Materials Science", 1996 Spring meeting of the MRS (San Francisco, Apr 8, 1996), L.J. Terminello, S.M. Mini, H. Ade, D.L. Perry (eds) MRS Symp. Proc. **437,** 243-248 (1996)

1996VF& J. Voss, M. Fornefett, C. Kunz, A. Moewes, M. Pretorius, A. Ranck, M. Schroeder and V. Wedemeier, "Soft X-ray spectromicroscopy ", J. El. Spec. Rel. Phen. **80**, 329-335 (1996)

1996WA& B. Winn, H. Ade, C. Buckley, M. Howells, S. Hulbert, C. Jacobsen, J. Kirz, I. McNulty, J. Miao, T. Oversluizen, I. Pogorelski, and S. Wirick, "X1A: Second generation undulator beamlines serving soft x-ray spectromicroscopy experiments at the NSLS", Rev. Sci. Instr. **67**, A31 (1996)

1996WH& B. Winn, X. Hao, C. Jacobsen, J. Kirz, J. Miao, S. Wirick, H. Ade, C. Buckley, M. Howells, S. Hulbert, I. McNulty, and T. Oversluizen, "Considerations for a Soft X-ray Spectromicroscopy Beamline", "Optics for High-Brightness Synchrotron Radiation Beamlines II" SPIE Proc. **2856**, 100 (1996)..

1996ZB& X. Zhang, R. Balhorn, J. Mazrimas, and J. Kirz, "Mapping and Measuring DNA to Protein Ratios in Mammalian Sperm Head by XANES Imaging", J. Struct. Biol. **116**, 335 (1996).

1997A H. Ade, "Compositional and Orientational Characterization of Polymeric Materials with X-ray Microscopy", Trends Polym. Sci. **5**, 58-66 (1997).

1997AD& R. Andres, G. De Stasio, G. F. Lorusso, J. Redondo, D. Mercanti, M. T. Ciotti, and G. Margaritondo, Boron Chemical Status after Incineration Studied by Spectromicroscopy, in "Advances in Neutron Capture Therapy", B. Larsson, J. Crawford And R. Weinreich Eds., Elsevier, Amsterdam, 326-329, 1997.

1997AS& H. Ade, A. P. Smith, H. Zhang, G. R. Zhuang, J. Kirz, E. Rightor, and A. Hitchcock, "X-ray Spectromicroscopy of Polymers and Tribological Surfaces at Beamline X1A at the NSLS", J. Electron Spectrosc. Relat. Phenom. **84**, 53-72 (1997)

1997BK&a C. J. Buckley, N. Khaleque, S. J. Bellamy, M. Robins, and X. Zhang, "Mapping the organic and inorganic components of tissue using NEXAFS", Journal de Physique IV **7** (C2 Part 1) 83 (1997)

1997BK&b E. Bauer, C. Koziol, G. Lilienkamp and T. Schmidt, Spectromicroscopy in a low energy electron microscope, J. Electron Spectrosc. Rel. Phen. **84**, 201-209 (1997)

1997BO& J. Boese, A. Osanna, C. Jacobsen, and J. Kirz, "Carbon edge XANES spectroscopy of amino acids and peptides", J. El. Spec. Rel. Phen. **85**, 9 (1997)

1997BS& T.P. M. Beelen, W. Shi, G. R. Morrison, H.F. Van Garderen, M.T. Browne, R.A. Van Santen and E. Pantos, *Scanning Transmission X-Ray Microscopy: A New Method for the Investigation of Aggregation in Silica*, J. Colloid and Interface Science 185, 217–227 (1997)

1997BY& R.E. Burge, X.-C. Yuan, J.N. Knauer, M.T. Browne and P. Charlambous, "Scanning soft X-ray imaging at 10 nm resolution", Ultramicroscopy **69** 259-278 (1997)

1997CD& A. Cossy-Favre, J. Diaz, S. Anders, H. Padmore, Y. Liu, M. Samant, J. Stohr, H. Brown, and T. P. Russell, "Photoelectron emission microscopy and its application to the study of polymer surfaces", Acta Physica Polonica A. **91**, 923 (1997).

1997CM C. Coluzza and R. Moberg, Spectromicroscopy and chemical imaging by laterally-resolved ESCA, J. Electron Spectrosc. Rel. Phen. **84**, 109-127 (1997)

1997D G. De Stasio, New Possibilities Opened by Synchrotron Spectro-microscopy in Neurobiology, Acta Physica Polonica A**91**, 715 (1997).

1997DC& G. De Stasio, M. Capozi, T. C. Droubay, D. Mercanti, M. T. Ciotti, G. F. Lorusso, R. Andres, T. Suda, P. Perfetti, B. P. Tonner and G. Margaritondo, The Effect of Ashing on Cells: Spectromicroscopy of Physiological Elements, Anal. Biochem. **252**, 106-109 (1997).

1997DG& G. De Stasio, B. Gilbert, R. Andres, G. F. Lorusso, J. Redondo, E. G. Van Meir, J.-F. Brunet, T. C. Droubay, B. P. Tonner, D. Mercanti, M. T. Ciotti, T. Suda, P. Perfetti and G. Margaritondo, Synchrotron Spectromicroscopy for Microchemical Analysis of Boron in Rat Brain Tumor treated with BSH, in "Advances in Neutron Capture Therapy", B. Larsson, J. Crawford And R. Weinreich Eds., Elsevier, Amsterdam, 321-325, 1997.

1997DM G. De Stasio and G. Margaritondo, Photoelectron Spectromicroscopy with Synchrotron Radiation: Applications to Neurobiology. In Spectromicroscopy with VUV Photons and X-Rays, J. Electr. Spectr. and Rel. Phenom., **84**, 137-147, 1997

1997DMT T. Droubay, G. Mursky and B. P. Tonner, High-resolution X-ray absorption microspectroscopy of lamellar phases in natural ilmenite, J. Electron Spectrosc. Rel. Phen. **84**, 159-169 (1997)

1997FW& R. Fink, M. R. Weiss, E. Umbach, D. Preikszas, H. Rose, R. Spehr, P. Hartel, W. Engel, R. Degenhardt, R. Wichtendahl, *et al.*, SMART: a planned ultrahigh-resolution spectromicroscope for BESSY II, J. Electron Spectrosc. Rel. Phen. **84**, 231-250 (1997)

1997H Y. Hwu, Photoelectron spectromicroscopy as a microchemical probe of high temperature superconductors, J. Electron Spectrosc. Rel. Phen. **84**, 149-158 (1997)

1997HS& H. Ade, A. P. Smith, H. Zhang, G. R. Zhuang, J. Kirz, E. Rightor and A. Hitchcock, X-ray spectromicroscopy of polymers and tribological surfaces at beamline X1A at the NSLS, J. Electron Spectrosc. Rel. Phen. **84**, 53-72 (1997)

1997MB& E. L. Montei, V. W. Ballarotto, M. E. Little and M. E. Kordesch, Applications for small photoelectron emission microscopes, J. Electron Spectrosc. Rel. Phen. **84**, 129-136 (1997)

1997MC& M. Marsi, L. Casalis, L. Gregoratti, S. Günther, A. Kolmakov, J. Kovac, D. Lonza and M. Kiskinova, ESCA Microscopy at ELETTRA: what it is like to perform spectromicroscopy experiments on a third generation synchrotron radiation source, J. Electron Spectrosc. Rel. Phen. **84**, 73-83 (1997)

1997MD G. Margaritondo and G. De Stasio, Synchrotron Spectromicroscopy for the Life Sciences: General Considerations and Special Procedures, Int. J. Imaging Sys. Technol. **8**, 188-203 (1997).

1997MG G. Meister and A. Goldmann, Angle-resolved ultraviolet photoelectron microspectroscopy, J. Electron Spectrosc. Rel. Phen. **84**, 1-8 (1997)

1997MGS G. K. L. Marx, V. Gerheim and G. Schönhense, Multipole WIEN-filter for a high-resolution X-PEEM, J. Electron Spectrosc. Rel. Phen. **84**, 251-261 (1997)

1997ML& Magowan, C., J. Liang, R.L. Coppel, and N. Mohandas, "Intracellular structures of normal and aberrant Plasmodium falciparum malaria parasites imaged by soft x-ray microscopy," Proc. Natl. Acad. Sci. USA **94**, 6222-6227 (1997)

1997MR& Qing Ma, R. A. Rosenberg, Changyoung Kim, J. Grepstad, P. Pianetta, T. Droubay, D. Dunham and B. Tonner, Comparative magnetic-field imaging, electric-field imaging, and scanning Auger microscopy study of metal–matrix composites, J. Electron Spectrosc. Rel. Phen. **84**, 99-107 (1997)

1997MTB Myneni, S., T. Tokunaga, and G.E. Brown, "Abiotic selenium redox transformations in the present of Fe(II,III) oxides," Science **278**(5340), 1106-1109 (1997). **(HI)**

1997RH& E. G. Rightor, A. P. Hitchcock, H. Ade, R. D. Leapman, S. G. Urquhart, A. P. Smith, G. Mitchell, D. Fischer, H. J. Shin, and T. Warwick, "Spectromicroscopy of poly(ethylene terephthalate): comparison of spectra and radiation damage rates in x-ray absorption and electron energy loss", J. Phys. Chem B **101**, 1950-1960 (1997)

1997SF& W. Swiech, G. H. Fecher, Ch. Ziethen, O. Schmidt, G. Schönhense, K. Grzelakowski, C. M. Schneider, R. Frömter, H. P. Oepen and J. Kirschner, Recent progress in photoemission microscopy with emphasis on chemical and magnetic sensitivity, J. Electron Spectrosc. Rel. Phen. **84**, 171-188 (1997)

1997SJT S. Spector, C. Jacobsen, and D. Tennant, "Process optimization for production of sub-20 nm soft x-ray zone plates", J. Vac. Sci. Technol. B **15**, 2872-2876 (1997)

1997SL& A.P. Smith, J.H. Laurer, H. W. Ade, S.D. Smith, A. Ashraf, and R.J. Spontak, "X-ray Microscopy and NEXAFS Spectroscopy of Macrophase-Separated Random Block Copolymer/Homopolymer Blend", Macromolecules **30**, 663 (1997)

1997SS& A. Aingh, H. Solak, N. Krasnoperov, F. Cerrina, A. Cossy, J. diaz, J. Stöhr and M. Samant, Am x-ray spectromicroscopic study of the local structure of patterned titanium silicide, Appl. Phys. Lett. **71** 55-57 (1997)

1997TD& B. P. Tonner, D. Dunham, T. Droubay and M. Pauli, A photoemission microscope with a hemispherical capacitor energy filter, J. Electron Spectrosc. Rel. Phen. **84**, 211-229 (1997)

1997US& F. U. Hillebrecht, D. Spanke, J. Dresselhaus and V. Solinus, Imaging of magnetic domains by photoemission microscopy, J. Electron Spectrosc. Rel. Phen. **84**, 189-200 (1997)

1997UZN U. Johansson, H. Zhang and R. Nyholm, Thermal desorption of oxides on Si(100): a case study for the scanning photoelectron microscope at MAX-LAB, J. Electron Spectrosc. Rel. Phen. **84**, 45-52 (1997)

1997V J. Vos, The scanning soft X-ray microscope at Hasylab: imaging and spectroscopy of photoelectrons, photoluminescence, desorbed ions, reflected, scattered and transmitted light, J. Electron Spectrosc. Rel. Phen. **84**, 29-44 (1997)

1997WA& Tony Warwick, Harald Ade, Adam P. Hitchcock, Howard Padmore, Ed. G. Rightor and Brian P. Tonner, Soft X-ray spectromicroscopy development for materials science at the Advanced Light Source, J. Electron Spectrosc. Rel. Phen. **84**, 85-98 (1997)

1997WW& M. R. Weiss, V. Wüstenhagen, R. Fink and E. Umbach, PISAM: a photon-induced scanning Auger microscope, J. Electron Spectrosc. Rel. Phen. **84**, 9-28 (1997)

1998Aa H. Ade, "X-ray Spectromicroscopy" in *Experimental Methods in the Physical Science*, J.A.R. Samson and D.L. Ederer, Eds., (Academic Press, 1998), **32**, pp. 225 (1998)

1998AA E.H.Anderson and D.T. Attwood, "*Resolution determination in x-ray microscopy: an analysis of the effects of partial coherence and illumination spectrum,*" Journal of X-ray Science and Technology **8**(2), 95-104 (1998).

1998Ab H. Ade, "NEXAFS and x-ray linear dichroism microscopy and applications to polymer science", in J. Thieme, G. Schmahl, E. Umbach, and D. Rudolph, eds., "X-ray Microscopy and Spectromicroscopy", III-3 (1998)

1998Ac H. Ade, "Characterization of Polymer Microstructure with X-ray Microscopy", Electron Microscopy 1998, Symp AA, Vol II, 847-848 (1998)

1998AW& H. Ade, D. A. Winesett, A. P. Smith, S. Anders, T. Stammler, C. Heske, D. Slep, M. H. Rafailovich, J. Sokolov, and J. Stöhr, "Bulk and Surface Characterization of a Dewetting Thin Film Polymer Bilayer", Appl. Phys. Lett. **73**, 3775 (1998)

1998AY& H. Ade, W. Yang, S.L. English, J. Hartman, R.F. Davis, R.J. Nemanich, V.n. Litvinenko, I.V. Pinayev, Y. Wu, J.M.J. Madey, A free-electron laser photoemission eeleectron microscope system (PEL-PEEM), Surf. Rev. Lett. **5**, 1257-1268 (1998)

1998BB& R. Balhorn, R. E. Braun, B. Breed, J. T. Brown, D. Evenson, J. M. Heck, J. Kirz, I. McNulty, W. Meyer-Ilse, and X. Zhang, "Applications of x-ray microscopy to the analysis of sperm chromatin", in J. Thieme, G. Schmahl, E. Umbach, and D. Rudolph, eds., "X-ray Microscopy and Spectromicroscopy", (Berlin, Springer-Verlag), II-29 (1998)

1998BK& C. Buckley, N. Khaleque, S. J. Bellamy, M. Robbins, and X. Zhang, "Mapping the organic and inorganic components of bone", in J. Thieme, G. Schmahl, E. Umbach, and D. Rudolph, eds., "X-ray Microscopy and Spectromicroscopy" . II-47 (1998)

1998BO& J. Boese, A. Osanna, C. Jacobsen, J. Kirz, E. Tall, and X. Zhang, "X-ray absorption near-edge structure of amino acids and peptides", in J. Thieme, G. Schmahl, E. Umbach, and D. Rudolph, eds., "X-ray Microscopy and Spectromicroscopy", (Berlin, Springer-Verlag), III-89 (1998)

1998CA& G. Cody, H. Ade, S. Wirick, G. Mitchell, and A. Davis, "Determination of chemical-structural changes in vitrinite accompanying luminescence alteration using C-NEXAFS analysis", Organic Geochemistry **28**, 441 (1998)

1998CD& A. Cossy-Favre, J. Diaz, Y. Liu, H. R. Brown, M. G. Samant, J. Stöhr, A. J. Hanna, S. Anders, and T. P. Russell., "X-PEEM Study on Surface Orientation of Stylized and Rubbed Polyimides", Macromolecules **31**, 4957 (1998).

1998DC& G. De Stasio, M. Capozi, G. F. Lorusso, P.A. Baudat, T. C. Droubay, P. Perfetti, G. Margaritondo and B. P. Tonner, MEPHISTO: Performance Tests of a Novel Synchrotron Imaging Photoelectron Spectromicroscope, Rev. Sci. Instrum. **69**, 2062- 2067 (1998).

1998DG& G. De Stasio, B. Gilbert, L. Perfetti, T. Nelson, M. Capozi, P. A. Baudat, F. Cerrina, P. Perfetti, B. P. Tonner and G. Margaritondo, Soft-X-Ray Transmission Photoelectron Spectromicroscopy with the MEPHISTO System, Rev. Sci. Instrum. **69**, 3106-3108 (1998).

1998FC& M. Feser, M. Carlucci-Dayton, C. Jacobsen, J. Kirz, U. Neuhäusler, G. Smith, and B. Yu, "Applications and instrumentation advances with the Stony Brook scanning transmission x-ray microscope", Proc. SPIE **3449**, 19 (1998).

1998FK& G. J. Flynn, L. P. Keller, C. Jacobsen, and S. Wirick, "Carbon and potassium mapping and carbon bonding state measurements on interplanetary dust", Meteoritics and Planetary Science **33** , S-4, A50 (1998)

1998FR& S.-F. Fan, H. Rarback, H. Ade, and J. Kirz, "Exploration of the demyelinated axon of the medullated shrimp giant nerve by soft x-ray microscopy", in D. Sayre, M.R. Howells, J. Kirz, and H. Rarback, eds., "X-ray Microscopy II" Springer Series in Optical Sciences **56** , 399 (1988)

1998GR& B. Gilbert, J. Redondo, P-A. Baudat, G. F. Lorusso, R. Andres, E. G. Van Meir, M-F. Hamou, T. Suda, D. Mercanti, M. T. Ciotti, T. C. Droubay, B. P. Tonner, P. Perfetti, G. Margaritondo and G. De Stasio, Spectromicroscopy of Boron for the Optimization of Boron Neutron Capture Therapy (BNCT) for Cancer, J. Phys. D **31**, 2642-2647 (1998).

1998GT& Gozzo, F.G., B.B. Triplett, H. Fujimoto, R. Ynzunza, P.D. Kinney, Y.S. Uritsky, G. Ackermann, H.A. Padmore, W. Steele, and Z. Hussain, "Chemical analysis of particles and semiconductor microstructures by synchrotron radiation soft x-rays photoemission spectromicroscopy," Materials Research Society Symposium Proceedings **524**, 227 (1998).

1998JK C. Jacobsen and J. Kirz, "X-ray microscopy with synchrotron radiation", Nature Structural Biology **5** (supplement), 650 (1998) **(HI)**

1998JMW C. Jacobsen, R. Medenwaldt, and S. Williams, "A perspective on biological x-ray and electron microscopy", in J. Thieme, G. Schmahl, E. Umbach, and D. Rudolph, eds., "X-ray Microscopy and Spectromicroscopy", (Berlin, Springer-Verlag), II-93 (1998)

1998KK& C.-H. Ko, R. Klauser, D.-H. Wei, H.-H. Chan and T.J. Chuang, *The soft X-ray scanning photoemission Microscopy Project at SRRC*, J. Syn. Rad. **5**, 299 (1998)

1998KLM W.J. Kozek, C.A. Larabell, and M.M. Moronne, "Applications of soft x-ray and other microscopy techniques to elucidate the structure of parasitic metazoa," Microscopy & Microanalysis **4**(2), 1156 (1998).

1998KM& K.E., Kurtis, P.J.M. Monteiro, J.T. Brown and W. Meyer-Ilse W, *Imaging of ASR gel by soft X-ray microscopy.* Cement and Concrete Research, **28** 411-421 (1998).

1998KW& J. Kikuma, T. Warwick, H. -J. Shin, J. Zhang and B. P. Tonner, "Chemical state analysis of heat-treated polyacrylonitrile fiber using soft X-ray spectromicroscopy", J. El. Spec. Rel.Phen. **94**, 271-278 (1998).

1998MJ& J. Maser, C. Jacobsen, J. Kirz, A. Osanna, S. Spector, S. Wang, and J. Warnking, "Development of a cryo scanning x-ray microscope at the NSLS", in J. Thieme, G. Schmahl, E. Umbach, and D. Rudolph, eds., "X-ray Microscopy and Spectromicroscopy", (Berlin, Springer-Verlag), I-35 (1998)

1998MU R. Medenwaldt and E. Uggerhoj, "Description of an x-ray microscope with 30 nm resolution", Rev. Sci. Inst. **69**, 2974-2977 (1998)

1998SA&a D. Slep, J. Asselta, M. H. Rafailovich, J. Sokolov, D. A. Winesett, A. P. Smith, H. Ade, Y. Strzhemechny, S. A. Schwarz, and B. B. Sauer, "Phase Separation of Polystyrene and Bromo-Polystyrene Mixtures in Equilibrium Structures in Thin Films", Langmuir **14**, 4860 (1998).

1998SA&b Th. Stammler, S. Anders, H. A. Padmore, J. Stöhr, M. Scheinfein, and H. Ade, High-resolution x-ray photoemission electron microscopy at the Advanced Light Source, Mat. Res. Soc. Symp. Proc. **524**, 25 (1998)

1998SB& A. P. Smith, C. Bai, H. Ade, R.J. Spontak, C.M. Balik, and C.C. Koch, "X-ray Microscopy of Novel Thermoplastic/Liquid Crystalline Polymer Blends by Mechanical Alloying", Macromol. Rapid Commun. **19**, 557 (1998)

1998SH& Th. Schmidt, S. Heun, J. slezak, J. diaz, K.c. Prince, G. Lilienkamp and E. Bauer, SPELEEM: Combining LEEM and spectroscopic imaging, Surf. Rev. Lett. **5** 1287-1296 (1998)

1998SJT S. J. Spector, C. J. Jacobsen, and D. M. Tennant, "Zone plates for a scanning transmission x-ray microscope", in J. Thieme, G. Schmahl, E. Umbach, and D. Rudolph, eds., "X-ray Microscopy and Spectromicroscopy", (Berlin, Springer-Verlag), IV-13 (1998)

1998SP& J. Stohr, H.A. Padmore, S. Anders, T.C. Stammler, and M. Scheinfein, "Principles of X-ray magnetic dichroism spectromicroscopy," *Surf. Rev. Lett.* **5**, 1297-1308 (1998).

1998SS& S. Anders, Th. Stammler, C. S. Bhatia, J. Stöhr, W. Fong, C.-Y. Chen, and D. B. Bogy, Study of disks and slider surfaces using x-ray photoemission electron microscopy and near edge x-ray absorption fine structure spectroscopy, Mat. Res. Soc. Symp. Proc. **517**, 415 (1998)

1998WF&a T. Warwick, K. Franck, J. Kortright, G. Meigs *et al.*, "A Scanning Transmission X-ray Microscope for Materials Science Spectromicroscopy at the Advanced Light Source", Rev. Sci. Instrum. **69**, 2964 (1998)

1998WF&b R. Wichtendahl, R. Fink, H. Kuhlenbeck, D. Preikszas, H. Rose, R. Spehr, P. Hartel, W. Engel, R. Schlögl, H.-J. Freund, A.M. Bradshaw, G. Lilienkamp, Th. Schmidt, E. Bauer, G. Brenner and E. Umbach, "SMART: An aberration-corrected XPEEN/LEEM with energy filter", Surf. Rev. Lett. **5** 1249-1256 (1998)

1998WJ Y. Wang and C. Jacobsen, "A numerical study of resolution and contrast in soft x-ray contact microscopy", J. Microscopy **191**, 159 (1998)

1998YB& J. Yeung, J.T. Brown, E. Meites, R.L. Coppel, N. Mohandas, and C. Magowan, "X-ray microscopic visualization of specific labeling of adhesive molecule CD36 and cytoadherence by plasmodium falciparum infected erythrocytes," Res. Commun. Mol. Pathol. Pharmacol. **99**(3), 245-258 (1998).

1998ZM& D. Zhang, D. N. McIlroy, W. L. O'Brien, G. De Stasio, The Chemical and Morphological Properties of Boron-Carbide Alloys as Determined by Imaging Photoelectron Spectromicroscopy, J. Materials Science **33**, 4911-4915 (1998).

1998ZZ& H. Zhang, G. R. Zhuang, H. Ade, C.-H. Ko, B. Winn, J. Kirz, D. Leta, R. Polizotti, S. Cameron, S. Hulbert, and E. Johnson, "Recent progress with the scanning photoemission microscope at the national synchrotron light source", in J. Thieme, G. Schmahl, E. Umbach, and D. Rudolph, eds. "X-ray Microscopy and Spectromicroscopy", (Berlin, Springer-Verlag), II-143 (1998)

1999AP& S. Anders, H.A. Padmore, R.M. Duarte, T. Renner, T. Stammler, A. Scholl, M.R. Scheinfein, J. Stöhr, L. Séve, B. Sinkovic *Photoemission electron microscope for the study of magnetic materials,* Rev. Sci. Inst.**70**, 3973-3981 (1999)

1999AS&a S. Anders, Th. Stammler, W. Fong, C.-Y. Chen, D. B. Bogy, C. S. Bhatia, and J. Stöhr, *Study of tribochemical processes on hard disks using photoemission electron microscopy*, J. Tribology **121,** 961 (1999)

1999AS&b S. Anders, Th. Stammler, W. Fong, D. B. Bogy, C. S. Bhatia, and J. Stöhr, *Investigation of slider surfaces after wear using photoemission electron microscopy*, J. Vac. Sci. Technol. **A 17**, 2731 (1999)

1999AS&c Anders, S., H.A. Padmore, R.M. Duarte, T.C. Stammler, A. Scholl, M.R. Scheinfein, J. Stohr, L. Seve, and B. Sinkovic, "*Photoemission electron microscope for the study of magnetic materials,*" Rev. Sci. Instrum. **70** 3973-3981 (1999)

1999AW& H. Ade, D. A. Winesett, A. P. Smith, S. Qu, S. Ge, J. Sokolov, and M. Rafailovich, *Phase Segregation in Polymer Thin Films: Elucidations by X-ray and Scanning Force Microscopy*, Europhys. Lett. **45**, 526-532 (1999)

1999BF& Bhatia, C.S., W. Fong, C. Chen, J. Wei, D. Bogy, S. Anders, T.C. Stammler, and J. Stohr, "*Tribo-Chemistry at the head/disk interface*," IEEE Transactions on Magnetics **35**, 910-915 (1999)

1999CS&a J. N. Cutler, J. H. Sanders, P. J. John, G. De Stasio, B. Gilbert and K. Tan, Chemical Characterization of Antiwear Films Generated by Tris-[p-(perfluoroalkylether)phenyl] phosphine using X-ray Absorption Spectroscopy, WEAR **236**, 165-178 (1999).

1999CS&b G. W. Canning, M. L. Suominen Fuller, G. M. Bancroft, M. Kasrai, J.N. Cutler, G. De Stasio and B. Gilbert, Spectromicroscopy of tribological films from engine oil additives: part I: films from ZDDPs, Tribology Letters **6**, 159-169 (1999).

1999DG& G. De Stasio, B. Gilbert, L. Perfetti, R. Hansen, D. Mercanti, M. T. Ciotti, R. Andres, V. E. White, P. Perfetti, and G. Margaritondo, Cell Ashing for Trace Element Analysis: a New Approach Based on UV/Ozone, Anal. Biochem. **266**, 174-180 (1999).

1999GKK E.S. Gilbert, A.V. Khlebnikov, and J.D. Keasling, "Use of soft x-ray microscopy for analysis of early-stage biofilm formation," Water Sci. Technol. **39**(7), 269-272 (1999).

1999GS& R. Giebler, B. Schulz, J. Reiche, L. Brehmer, M. Wühn, C. Wöll, A. Smith, S. Urquhart, H. Ade, and W. Unger, "NEXAFS-spectroscopy on ordered films of amphiphilic derivatives of 2,5-diphenyl-1,3,4-oxadiazoles", Langmuir **15**, 1291 (1999)

1999HS& S. Heun, Th. Schmidt, B. Ressel, E. Bauer and K.C. Prince, Nanospectroscopy at Elettra, Synchr. Rad. News. **12** (5), 25-29 (1999)

1999HT&a A.P. Hitchcock, T. Tyliszczak, I. Koprinarov, H. Stöver, W.H. Li, Y.M. Heng, K. Murti, P. Gerroir, J. R. Dutcher, K. Dalnoki-Veress and H.W. Ade, *X-ray Spectromicroscopy Studies of Polymer Microstructure*, X-ray Microscopy 99, Berkeley, CA, AIP Conf. Proc. **507**, 231-234 (1999)

1999HT&b A.P. Hitchcock, T. Tyliszczak, Y.M. Heng, R. Cornelius, J.L. Brash, H. Ade, S. Anders, A. Scholl and F. Nolting, *X-ray Spectromicroscopy Studies of Protein-Polymer Interactions* , X-ray Microscopy 99, Berkeley, CA, AIP Conf. Proc. **507**, 235-238 (1999)

1999HT&c A. Hirai, K.. Takemoto, Nishino K, Niemann B, Hettwer M, Rudolph D, Anderseon E, Attwood D, Kern DP, Nakayama Y, Kihira H, *Transmission x-ray microscopy with 50 nm resolution installed at Ritsumeikan synchrotron radiation center*. Jpn. J. Appl. Phys. 38:274-278 (1999)

1999J C. Jacobsen, "Soft x-ray microscopy", Trends in Cell Biology **9**, 44 (1999)

1999JN C. Jacobsen and U. Neuhäusler, "Soft x-ray optics and spectromicroscopy: potential for soil science specimens", in Synchrotron Methods in Clay Science **8**, 183 (1999)

1999KM& K.E., Kurtis, P.J.M. Monteiro, J.T. Brown and W. Meyer-Ilse W, *High resolution transmission soft X-ray microscopy of deterioration products developed in large concrete dams.* Journal of Microscopy **196** 288-298 (1999).

1999KMB K. Kurtis, P.J.M. Monteiro, and J.T. Brown, "*Analysis of deterioration products developed in large concrete dams by high resolution transmission soft x-ray microscopy*," J. Microsc. Oxford **196**(3), 288-298 (1999).

1999M M.M. Moronne, "*Development of X-ray excitable luminescent probes for scanning X-ray microscopy*", Ultramicroscopy **77**, 23 (1999)

1999MH& R.P. Mikalo, P. Hoffmann, Th. Heller, D.R. Batchelor, G. Appel and D. Schmeisser, Soping and defect inhomogeneities pf polypyrrole tosylate films as revealed by m-NEXAFS, Mats. Scie. Eng. C **8-9,** 257-265 (1999)

1999MM S. Myneni and G.A. Martinez, "Imaging of humic substance macromolecular structures in water and soils," Science **286**(5443), 1335-1337 (1999).

1999MZ& D. N. McIlroy, Daqing Zhang, R.M. Cohen, J. Wharton, Yongjun Geng, M. Grant Norton, G. De Stasio, B. Gilbert, L. Perfetti, J. H. Streiff, B. Broocks and Jeanne L. McHale, Electronic and Dynamic Studies of Boron Carbide Nanowires, Phys. Rev. B **60**, 4874 (1999).

1999NA& U. Neuhäusler, S. Abend, G. Lagaly, and C. Jacobsen, "Soft x-ray spectromicroscopy on solid stabilized emulsions", Colloid and Polymer Science **277**, 719 (1999)

1999PJP K.D. Joyeux, and D. Phalippou, "Phase contrast experiments on the NSLS-X1A scanning microscope", in J. Thieme, G. Schmahl, E. Umbach, and D. Rudolph, eds., "X-ray Microscopy and Spectromicroscopy", (Berlin, Springer-Verlag), I-105 (1998)

1999RK& J. Rothe, E. Kneedler, K. Pecher, B.P. Tonner, K. Nealson,T. Grundl, W. Meyer-Ilse and T. Warwick, "Spectromicroscopy of Mn distributions in micronodules produced by biomineralization", J. Synchr. Rad. **6**, 359-361 (1999)

1999SG& T. Schmitt, P. Guttmann, O. Schmidt, P. Müller-Buschbaum, M. Stamm, G. Schönhense, and G. Schmahl, "Microscopy of Thin Polymer Blend Films of Polystyrene and Poly-n-butyl-methacrylate", X-ray Microscopy, AIP Conf. Proc. **507**, 245 (1999).

1999SP& G. De Stasio, L. Perfetti, B. Gilbert, O. Fauchoux, M. Capozi, P. Perfetti, G. Margaritondo and B. P. Tonner, The MEPHISTO Spectromicroscope Reaches 20 nm Lateral Resolution, Rev. Sci. Instrum. **70**, 1740-1742 (1999).

1999SS&a A.P. Smith, R.J. Spontak, H. Ade, S. D. Smith, and C.C. Koch, "High-Energy Cryogenic Blending and Compatibilization of Immiscible Polymers", Adv. Mater. **11**, 1277 (1999)

1999SS&b J. Stohr, A. Scholl, T. Regan, S. Anders, J.M. Lüning, M.S. Scheinfein, H.A. Padmore, and R.L. White, "Images of the antiferromagnetic structure of NiO (100) surface by means of x-ray magnetic linear dichroism spectro-microscopy," *Physical Review Letters* **83**, 1862-1865 (1999) **HI**

1999TD& B.P. Tonner, T. Droubay, J. Denlinger, W. Meyer-Ilse, T. Warwick, J. Rothe, E. Kneedler, K. Pecher, K. Nealson and T. Grundl, "Soft X-ray spectroscopy and imaging of interfacial chemistry in environmental specimens", Surf. Int. Anal. **27**, 247-258 (1999)

1999UH& S. G. Urquhart, A. P. Hitchcock, A. P. Smith, H. W. Ade, W. Lidy, E. G. Rightor, and G. E. Mitchell, "NEXAFS Spectromicroscopy of Polymers: Overview and Quantitative Analysis of Polyurethane Polymers", J. Electron Spectrosc. Relat. Phenom. **100**, 119-135 (1999)

1999ZL& S. Zhu, Y. Liu, M. H. Rafailovich, J. Sokolov, D. Gersappe, D. A. Winesett, and H. Ade, "Confinement Induced Miscibility in Polymer Blends", Nature **400**, 49 (1999) **(HI)**

20008SC& J. P. Strachan, V. Chembrolu, Y. Acremann, X. W. Yu, A. A. Tulapurkar, T. Tyliszczak, J. A. Katine, M. J. Carey, M. R. Scheinfein, H. C. Siegmann, and J. Stöhr, *Direct observation of spin-torque driven magnetization reversal through nonuniform modes*. Phys. Rev. Lett. 100, 247201 (2008). (HI)

20008SS& E.de Smit, I. Swart, J.F. Creemer, G.H. Hoveling, M.K. Gilles, T. Tyliszczak, P.J. Kooyman, H.W. Zandbergen, C. Morin, B.M. Weckhuysen and F.M.F. de Groot, *Nanoscale chemical imaging of a working catalyst by scanning transmission X-ray microscopy*, Nature **456** 226-230, (2008) **HI**

2000A D. Attwood, *Soft X-rays And Extreme Ultraviolet Radiation, Principles and Applications* (Cambridge University Press, 2000).

2000AO& E. H. Anderson, D. L. Olynick, B. Harteneck, E. Veklerov, G. Denbeaux, W. L. Chao, A. Lucero, L. Johnson, and D. Attwood, *Nanofabrication and Diffractive Optics for High-Resolution X-Ray Applications*, J. Vac. Sci. & Technol. B **18**, 2970 (2000)

2000BR&a M. Berglund, L. Rymell, M. Peuker, T. Wilhein, and H. M. Hertz, *"Compact water-window x-ray microscopy"*, J. Microscopy **197**, 268 (2000)

2000BR&b H.M. Hertz, M.Berglund, G.A. Johansson, T. Wilhein, M. Peuker, and H. Brismar, *"Compact water-window x-ray microscopy with a laser plasma droplet source"*, in *X-Ray Microscopy*, Eds. W. Mayer-Ilse, Warwick, and D. Attwod, AIP Conf. Proc **507**, 712 (2000).

2000C G. Cody, "Probing chemistry within the membrane structure of wood with soft X-ray spectral microscopy", Proc. Sixth Int. Conf. on X-ray Microscopy AIP Conf. Proc **507**, 307-312 (2000)

2000DG& Gelsomina De Stasio, B. Gilbert, T. Nelson, R. Hansen, J. Wallace, D. Mercanti, M. Capozi, P. A. Baudat, P. Perfetti, G. Margaritondo and B. P. Tonner, *Feasibility Tests of Transmission X-Ray PhotoElectron Emission Microscopy (X-PEEM) of Wet Samples*, Rev. Sci. Instr. **71**, 11 (2000)

2000EH& D. Eish, U. Herber, U. Groh, M. Marsi, M. Kiskinova, W. Riead, R. Fink and E. Umbach,"Lateral Inhomogeneities of Cu(In, Ga)Se2 absorber films", Thin Solid Films, **361**, 258 (2000)

2000FB& M. Feser, T. Beetz, M. Carlucci-Dayton and C. Jacobsen, "Instrumentation advances and detector development with the Stony Brook scanning transmission x-ray microscope", in W. Meyer-Ilse, T. Warwick, and D. Attwood, eds., "X-ray Microscopy: Proc. Sixth International Conference", AIP Conf. Proc **507**, 367 (2000)

2000GA& B. Gilbert, R. Andres, P. Perfetti, G. Margaritondo, G. Rempfer and G. De Stasio, Charging Phenomena in PEEM Imaging and Spectroscopy, Ultramicroscopy **83**, 123-139 (2000).

2000GKM E.M. Gartner, K.E. Kurtis, and P.J.M. Monteiro, *Proposed mechanism of C-S-H growth tested by soft X-ray microscopy*. Cement and Concrete Research, **30**, 817-822 (2000).

2000GP&a B. Gilbert, L. Perfetti, R. Hansen, D. Mercanti, M. T. Ciotti, R. Andres, P. Perfetti, and G. De Stasio, UV-Ozone Ashing of Cells and Tissues for Spatially Resolved Trace Element Analysis, Front. Biosci. **5**, 10-17 (2000).

2000GP&b B. Gilbert, L. Perfetti, O. Fauchoux, J. Redondo, P.-A. Baudat, R. Andres, M. Neumann, S. Steen, D. Gabel, D. Mercanti, M. T. Ciotti, P. Perfetti, G. Margaritondo, and G. De Stasio, The Spectromicroscopy of Boron in Human Glioblastomas following Administration of BSH, Phys. Rev. E **62**, 1110-1118 (2000).

2000JA& C. Jacobsen, S. Abend, T. Beetz, M. Carlucci-Dayton, M Feser, K. Kaznacheyev, J. Kirz, J. Maser, U. Neuhäusler, A. Osanna, A. Stein, C. Vaa, Y. Wang, B. Winn, and S. Wirick, "Recent developments in scanning microscopy at Stony Brook", in W. Meyer-Ilse, T. Warwick, and D. Attwood, eds.,"X-ray Microscopy: Proc. Sixth International Conference", AIP Conf. Proc **507**, 12 (2000)

2000JW& C. Jacobsen, S. Wirick, G. Flynn, and C. Zimba, "Soft X-ray Spectroscopy from Image Sequences with Sub-100 nm Spatial Resolution", J. Microscopy **197**, 173-184 (2000)

2000Ka M Kiskinova, "Spectromicroscopy studies with high spatial resolution", Surf. Rev. Lett. **7**, 447 (2000)

2000Kb M.P. Kiskinova, "Chemical characterization of surfaces and interfaces with submicron spatial resolution", Surf. Int. Anal. **30**, 464-470 (2000)

2000KG& J. Kovac, L. Gregoratti, S. Guenther, A. Kolmakov, M. Marsi and M. Kiskinova, "Spectromicroscopy study of a Ni+Ag/Si(111) interface", Surf. Int. Anal. **30**, 473 (2000)

2000KJ& K. Kaznacheyev A. Osanna and B. Winn, "Sealed cell for in-water measurements", in W. Meyer-Ilse, T. Warwick, and D. Attwood, eds., "X-ray Microscopy: Proc. Sixth International Conference", AIP Conf. Proc **507**, 395(2000)

2000KMM K.E. Kurtis, W. Meyer-Ilse, and P.J.M. Monteiro, *Soft X-ray spectromicroscopy for in situ study of corrosion.* Corrosion Science, **42,** 1327-1336 (2000).

2000KW& K Kalukin, B. Winn, Y. Wang, C. Jacobsen, Z. H. Levine, and J. Fu, "Calibration of high-resolution x-ray tomography with atomic force microscopy", J. Res National Institute of Standards and Technology **105**, 867 (2000)

2000LD& M. Labrenz, G. K. Druschel, T. Thomsen-Ebert, B. Gilbert, S.A. Welch, K. M. Kemner, G. A. Logan, R. E. Summons, G. De Stasio, P. L. Bond, B. Lai, Shelly D. Kelly, and J.F. Banfield, "Sphalerite (ZnS) deposits forming in natural biofilms of sulfate-reducing bacteria", Science **290**, 1744-47 (2000). **HI**

2000LG& B. Luerssen, S. Gunther, H. Marbach, M. Kiskinova, J. Janek and R. Imbihl, "Photoelectron spectromicroscopy of electrochemically induced oxygen spillover at the Pt/YSZ interface", Chem. Phys. Lett **316**, 331 (2000)

2000LR B.W. Loo and S. Rothman, "Automatic image acquisition, calibration and montage assembly for biological x-ray microscopy," J. Microsc.,Äì Oxford **197**(2), 185-201 (2000).

2000LYB C.A. Larabell, D. Yager, and B. Rowning, "From dynamics to details: live-dell light microscopy and high resolution (25 nm) soft x-ray microscopy," Microscopy and Microanalysis **6**(Suppl. 2), 84-85 (2000).

2000MO& J. Maser, A. Osanna, Y. Wang, C. Jacobsen, J. Kirz, S. Spector, B. Winn, and D. Tennant, "Soft X-ray Microscopy with a Cryo Scanning Transmission X-ray Microcscope: I. Instrumentation, Imaging and Spectroscopy", J. Microsc. **197**, 68-79 (2000)

2000NA& U. Neuhäusler, S. Abend, S. Ziesmer, D. Schulze, D. Stott, K. Jones, H. Feng, C. Jacobsen, and G. Lagaly, "Soft x-ray spectromicroscopy on hydrated colloidal and environmental science samples", in W. Meyer-Ilse, T. Warwick, and D. Attwood , eds.,"X-ray Microscopy: Proc. Sixth International Conference", AIP Conf. Proc **507**, 323 (2000)

2000ND& J Nelson M Danailov, L Gregoratti, M Mars and M Kiskinova, "SPEM Study of the laser-induced transformations of CdTe films", J. Appl. Phys. **87** 3520 (2000)

2000NJ& U. Neuhäusler, C. Jacobsen, D. Schulze, D. Stott, and S. Abend, "A specimen chamber for soft x-ray spectromicroscopy on aqueous and liquid samples", J. Synchrotron Radiation **7**, 110-112 (2000)

2000NS& F. Nolting, A. Scholl, J. Stöhr, J. W. Seo, J. Fompeyrine, H. Siegwart, J.-P. Locquet, S. Anders, J. Lüning, E. E. Fullerton, M. F. Toney, M. R. Scheinfein and H. A. Padmore, Direct observation of the alignment of ferromagnetic spins by antiferromagnetic spins, Nature **405**, 767 (2000) **HI**

2000OJ A. Osanna and C. Jacobsen, "Principal component analysis for soft x-ray spectromicroscopy", in W. Meyer-Ilse, T. Warwick, and D. Attwood, eds., "X-ray Microscopy: Proc. Sixth International Conference", AIP Conf. Proc **507**, 601(2000)

2000PJ& F. Polack, D. Joyeux, M. Feser, D. Phalippou, M. Carlucci-Dayton, K. Kaznacheyev, and C. Jacobsen, "Demonstration of Phase Contrast in Scanning Transmission X-ray Microscopy: Comparison of Images Obtained at NSLS X1-A with Numerical Simulations", in W. Meyer-Ilse, T. Warwick, and D. Attwood, eds. "X-ray Microscopy: Proc. Sixth International Conference", AIP Conf. Proc **507**, 573 (2000)

2000PK& K. Pecher, E. Kneedler, J. Rothe, G. Meigs, T. Warwick, K. Nealson and B.P. Tonner, "Charge state mapping of mixed valent iron and managanese mineral particles using STXM", in W. Meyer-Ilse, T. Warwick, and D. Attwood , eds., "X-ray Microscopy: Proc. Sixth International Conference", AIP Conf. Proc **507**, 291 (2000)

2000RDD J. Rothe, M. Denecke, and K. Dardenne, "Soft x-ray spectromicroscopy investigation of the interaction of aquatic humic acid and clay colloids", Journal of Colloid Interface Science **231**, 91 (2000)

2000S A. Scholl, "Antiferromagnetism: Taking a very close look at magnetic structures," Science **288**(5472), 1762-1763 (2000) **HI**

2000SA J. Stöhr and S. Anders, X-ray spectro-microscopy of complex materials and surfaces, IBM J. Res. Develop. **44**, 535 (2000)

2000SA&a A. P. Smith, H. Ade, C. M. Balik, C. C. Koch, S. D. Smith, and R. J. Spontak, "Cryogenic Mechanical Alloying of Poly(methyl methacrylate) with Polyisoprene or Poly(ethylene-*alt*-propylene)", Macromolecules **33**, 2595 (2000)

2000SA&b A.P. Smith, H. Ade, C.C. Koch, S.D. Smith, and R J. Spontak, "Addition of a Block Copolymer to Polymer Blends Produced by Cryogenic Mechanical Alloying", Macromolecules **33**, 1163 (2000).

2000SA&c D. Slep, J. Asselta, M. H. Rafailovich, J. Sokolov, D. A. Winesett, A. P. Smith, H. Ade, and S. Anders, "The Effect of an Interactive Surface on the Equilibrium Contact Angle in Bilayer Polymer Blends", Langmuir **16**, 2369 (2000)

2000SL& D. Slep, J. Asselta, M.A. Raffailovich, J. Sokolov, D.A. Winsett, A.P. Smith, H.W. Ade, and S. Anders, "Effect of an interactive surface on the equilibrium contact angles in bilayer polymer films," *Langmuir* **16**, 2369-2375 (2000).

2000SS&a A. P. Smith, J. S. Shay, R. J. Spontak, C. M. Balik, H. Ade, S. D. Smith, and C. C. Koch, "High-energy Mechanical Milling of Poly(methyl methacrylate), Polyisoprene and Poly(ethylene-*alt*-propylene)", Polymer **41**, 6271 (2000).

2000SS&b A.P. Smith, R.J. Spontak, C.C. Koch, S. D. Smith, and H. Ade, "Temperature-Induced Morphological Evolution in Polymer Blends Produced by Cryogenic Mechanical Alloying", Macromol. Mater. Eng. **274**, 1 (2000)

2000SS&c A.P. Smith, R.J. Spontak, C.C. Kock and H. Ade, "X-ray microscopy of rubber modified poly(methyl methacrylate) blends produced by cryogenic mechanical alloying". Proc. Sixth Int. Conf. on X-ray Microscopy AIP Conf. Proc **507**, 60-65 (2000)

2000SS&d A. Scholl, J. Stohr, J.M. Lüning, J.-P. Locquet, J. Fompeyrine, J.W. Seo, H. Siegwart, F. Nolting, S. Anders, and E.E. Fullerton, "Observation of antiferromagnetic domains in epitaxial thin films," Science **287**, 1014-1016 (2000). **HI**

2000ST& C. Schmidt, J. Thieme, U. Neuhäusler, U. Schulte-Ebbert, G. Abbt-Braun, C. Specht, and C. Jacobsen, "Association of particles and structures in the presence of organic matter", in W. Meyer-Ilse, T. Warwick, and D. Attwood , eds., "X-ray Microscopy: Proc. Sixth International Conference", AIP Conf. Proc **507**, 313-318 (2000)

2000TL& L. Thomas, J. Luening, J. Stohr, S.S. Parkin, A. Scholl, F. Nolting, and S. Anders, "Oscillatory decay of magnetization induced by domain-wall stray fields," Physical Review Letters **84**, 3462-3465 (2000). **HI**

2000TS& D. Tennant, S. Spector, A. Stein, and C. Jacobsen,, "Electron beam lithography of Fresnel zone plates using a rectilinear machine and trilayer resists", in W. Meyer-Ilse, T. Warwick, and D. Attwood, eds., "X-ray Microscopy: Proc. Sixth International Conference", AIP Conf. Proc **507**, 601 (2000)

2000WA&a D. A. Winesett, H. Ade, J. Sokolov, M. Rafailovich, and S. Zhu, "Substrate Dependence of Morphology in Thin Film Polymer Blends of Polystyrene and Poly(Methyl Methacrylate)", Polymer International **49**, 458 (2000).

2000WA&b B. Winn, H. Ade, C. Buckley, M. Feser, M. Howells, S. Hulbert, C. Jacobsen, K. Kaznacheyev, J. Kirz, A. Osanna, J. Maser, I. McNulty, J. Miao, T. Oversluizen, S. Spector, B. Sullivan, S. Wang, S. Wirick, and H. Zhang, "Illumination for coherent soft x-ray applications: the new X1A beamline at the NSLS", J.Synchrotron Radiation **7**, 395-404 (2000)

2000WG& D.A. Winesett, D. Gersappe, M. Rafailovich, J. Sokolov, S. Zhu, and H. Ade, "Compatibilization Dynamics in Highly Immiscible Polymer Blends", AIP Conf. Pro. Ser **507**, 274 (2000)

2000WJ& Y. Wang, C. Jacobsen, J. Maser, and A. Osanna, "Soft x-ray microscopy with a cryo STXM: II. Tomography", J. Microscopy **197**, 80-93 (2000)

2000WS& D. Weiss, G. Schneider, B. Niemann, P. Guttmann, D. Rudolph, G. Schmahl, "Tomographic Imaging of Cryogenic Biological Specimens with the Xray microscope at BESSY I", Proc. Sixth Int. Conf. on X-ray Microscopy AIP Conf. Proc. **507**, 123-128 (2000)

2000WT& U. Wiesemann, J. Thieme, P. Guttmann, B. Niemann, D. Rudolph and G. Schmahl, *The New STXM at BESSY II*, XRM99 Proceedings, AIP Conf. Proc. **507**, 430 (2000)

2000WZ& D. A. Winesett, S. Zhu, J. Sokolov, M. Rafailovich, and H. Ade, "Time-Temperature Superposition of Phase Separating Polymer Blend Films", High Perform. Polym. **12**, 599 (2000)

2000ZN M. Zharnikov and M. Neuber, *Characterization of adsorbate ensembles by X-ray linear dichroism microscopy* Surf. Sci. **464**, 8-22 (2000)

2000ZS& C. Ziethen, O. Schmidt, G. K. L. Marx, G. Schönhense, R. Frömter, J. Gilles, J. Kirschner, C. M. Schneider and O. Gröning, Orbital mapping of carbon thin films by XANES-spectromicroscopy**,** J. El. Spectr. Rel Phen **107**, 261-271 (2000)

2001AU H. Ade and S. G. Urquhart, "NEXAFS spectroscopy and microscopy of natural and synthetic polymers", in *Chemical Applications of Synchrotron Radiation* (T. K. Sham, ed.), Singapore: World Scientific Publishing, (2001)

2001BC& A. Barinov, L. Casalis, L. Gregoratti and M. Kiskinova, "Au/GaN interface: initial stages of formation and temperature-induced effects ", Phys. Rev. B **63**, 85308 (2001)

2001BC&b A Barinov, L Casalis, L Gregoratti and M Kiskinova, "Stages of formation and thermal stability of a gold-n-GaN interface", J. Phys. D Appl. Phys. **34** 279 (2001)

2001BG& A Barinov, L Gregoratti, B Kaulich, M Kiskinova and A Rizzi, "Defect-induced lateral chemical heterogeneity at Ni/GaN interfaces and its effect on the electronic properties of the interface", Appl. Phys. Lett. **79**, 2752 (2001)

2001BGK A Barinov, L Gregoratti and M Kiskinova, "Direct experimental evidence of insensitivity of local Schottky barriers to lateral chemical inhomogeneity in case studies of metal/GaN(0001) interfaces", Phys. Rev. B **64,** 201312 (2001)

2001CL& P. Chaudhari,, J. A. Lacey, J. A. Doyle, E. Galligan, S. A. Lien, A. C. Callegari, G. Hougham, N. D. Lang, P. S. Andry, R. John, K-H. Yang, M. Lu, C. Cai, J. L. Speidell, S. Purushothaman, J. Ritsko, M. G. Samant, J. Stöhr, Y. Nakagawa, Y. Katoh, Y. Saitoh, K. Sakai, H. Satoh, S. Odahara, H. Nakano, J. Nakagaki and Y. Shiota, Atomic beam alignmant of inorganic materials for liquid crystal displays, Nature **411**, 56 (2001) **HI**

2001DA& G. Denbeaux , E. Anderson, W. Chao, T. Eimuller, L. Johnson, M. Kohler, C.A. Larabell, M. Le Gros, P. Fischer, A. Pearson, G. Schultz, D. Yager and D. Attwood *Soft X-ray microscopy to 25 nm with applications to biology and magnetic materials*. Nuclear Instruments & Methods in Physics Research Section A **467** 841-844 (2001)

2001DC& G. De Stasio, P. Casalbore, R. Pallini, B. Gilbert, F. Sanita', M. T. Ciotti, G. Rosi, A. Festinesi, L. M. Larocca, A. Rinelli, D. Perret, D. W. Mogk, P. Perfetti, M. P. Mehta, and D. Mercanti, Gadolinium in Human Glioblastoma Cells for Gadolinium Neutron Capture Therapy, Cancer Research **61**, 4272 (2001).

2001DF& G. Denbeaux, P. Fischer, G. Kusinski, M. LeGros, A. Pearson, D. Attwood "A full field transmission X-ray microscope as a tool for high resolution magnetic imaging," IEEE Trans on Magn. **37** 2764 (2001)

2001DG& G. De Stasio, B. Gilbert, B.H. Frazer, K. H. Nealson, P. G. Conrad, V. Livi, M. Labrenz, J. F. Banfield, The Multidisciplinarity of Spectromicroscopy: from Geomicrobiology to Archaeology J. El. Spectr. Rel Phen **114 /116**, 997-1003 (2001).

2001EF&a T. Eimuller, P. Fischer, M. Kohler, M. Scholz, P. Guttmann, G. Denbeaux, S. Glock, G. Bayreuther, G. Schmahl, D. Attwood, G. Schatz "Imaging magnetic domains with Magnetic Transmission X-ray Microscopy," Appl. Phys. **73** 624–627 (2001)

2001EF&b T.E. Eimueller., P. Fischer, M.R. Koehler, P. Guttmann, G. Denbeaux, S. Glueck, G. Bayreauther, D.T. Attwood, and G. Schutz, "Transmission x-ray microscopy using x-ray magnetic circular dichroism," Applied Physics A: Materials Science & Processing **73**(6), 697-701 (2001).

2001ES& T. Eimuller, M. Scholz, P. Guttmann, P. Fischer, M. Kohler, G. Bayreuther, G. Schmahl, G. Schatz "Magnetization reversal of a multilayered FeGd dot array imaged by Transmission X-ray Microscopy," J. Appl. Phys. **89** 7162 (2001)

2001FB& M. Feser, T. Beetz, C. Jacobsen, J. Kirz, S. Wirick, A. Stein, and T. Schäfer, "Scanning transmission soft x-ray microscopy at beamline X-1A at the NSLS - advances in instrumentation and selected applications", in Soft X-ray and EUV Imaging Systems II (D. A. Tichenor and J. A. Folta, eds.) SPIE **4506**, 146 (2001)

2001FE&a P. Fischer, T. Eimuller, G. Schatz, G. Bayreuther, S. Tsunashima, N. Takagi, G. Denbeaux and D. Attwood "Magnetic Domains in nanostructured media studied with M-TXM," J. Synchr. Rad. **8** 325-327 (2001)

2001FE&b P. Fischer, T. Eimuller, G. Schatz, M. Kohler, G. Bayreuther, G. Denbeaux, D. Attwood *"Study of in-plane magnetic domains with Magnetic Transmission X-ray microscopy,"* J. Appl. Phys. **89** 7159 (2001)

2001FE&c P. Fischer, T.E. Eimueller, G. Schutz, G. Denbeaux, A.E. Lucero, L.E. Johnson, D.T. Attwood, S. Tsunashima, M. Kumazawa, N. Takagi, et al ., "Element-specific imaging of magnetic domains at 25 nm spatial resolution using soft x-ray microscopy," Rev. Sci. Instrum. **72**(5), 2322-2324 (2001).

2001FE&d P. Fischer, T.E. Eimueller, S. Glueck, G. Schuetz, S. Tsunashima, M. Kumazawa, N. Takagi, G. Denbeaux, and D.T. Attwood, "High Resolution Imaging of Magnetic Domains with Magnetic Soft X-ray Microscopy," J. Magnetics Society of Japan **25**(3-2), 186-191 (2001).

2001FJ& M. Feser, C. Jacobsen, P. Rehak, G. DeGeronimo, P. Holl, and L. Strüder, "Novel integrating solid state detector with segmentation for scanning transmission soft x-ray microscopy", in X-ray micro-and nano-focusing: applications and techniques II (I. McNulty, ed.) SPIE **4499**, 117 (2001)

2001GB& L. Gregoratti, A. Barinov, L. Casalis and M. Kiskinova, "Spectromicroscopy of interface reactions between thin Ni films and a Au/Si interface ", Appl. Surf. Sci. **171**, 265-274 (2001)

2001GM&a B. Gilbert, G. Margaritondo, D. Mercanti, P. Casalbore, G. De Stasio, Synchrotron spectromicroscopy in medicine and biology. J. Alloys & Compounds. **328**, 8-13, (2001).

2001GM&b B. Gilbert, G. Margaritondo, S. Douglas, K.H. Nealson, R.F. Edgerton, G. Rempfer, G. De Stasio, XANES microspectroscopy of biominerals with photoconductive charge compensation, J. El. Spectr. Rel Phen. **114/116**, 1005 (2001).

2001GM&c L Gregoratti, M Marsi, G Cautero, M Kiskinov, GR Morrison and AW Potts, "Spectromicroscopy of interfaces with synchrotron radiation: multichannel data acquisition ", Nucl. Inst. Meth A **467** 884 (2001)

2001GM&d S Guenther, H Marbach, R Hoyer, R Imbihl, L Gregoratti and M Kiskinova, "Spatial variations of the interface composition during surface chemical reactions ", J. El. Spectrosc.**114** 989 (2001)

2001H A. P. Hitchcock, "Soft X-ray spectromicroscopy of polymers and biopolymer interfaces", J.Synchrotron Radiation **8**, 66 (2001)

2001HK& A.P. Hitchcock, I. Koprinarov, T. Tyliszczak, E. G. Rightor, G. E. Mitchell, M. T. Dineen, F. Heyes, W. Lidy, R. D. Priester, S. G. Urquhart, A. P. Smith, and H. Ade, "Optimization of Scanning Transmission X-Ray Microscopy for the Identification and Quantitation of Reinforcing Particles in Polyurethanes", Ultramicroscopy **88**, 33-49 (2001)

2001HL& J.D.Hamamoto, S. Lelievre, G. Denbeaux, L. Johnson, A.E. Lucero, D. Yager, M.A. Le Gros, and C.A. Larabell, "High resolution protein localization using soft x-ray microscopy," J. Microscopy **201**(3), 395-403 (2001).

2001HT& Y. Hwu, W. L. Tsai, B. Lai, J. H. Je, G. H. Fecher, M. Bertolo and G. Margaritondo, *"Using photoelectron emission microscopy with hard-X-rays"*, Surf. Sci. **480**, 188-195 (2001)

2001KH& I.N. Koprinarov, A.P. Hitchcock, W.H. Li, Y.M. Heng and H.D.H. Stöver, Quantitative Compositional Mapping of Core-Shell Polymer Microspheres by Soft X-ray Spectromicroscop*y,* Macromolecules **34**, 4424 (2001)

2001KK& G.J. Kusinski, K.M. Krishnan, G. Denbeaux, G. Thomas, B. Terris, and D. Weller, "Magnetic imaging of ion-irradiation patterned Co/Pt multilayers using complementary electron and photon probes," Applied Physics Letters **79**(14), 2211-2213 (2001).

2001LD&a R. Larciprete, M. Danailov, A. Barinov, L. Gregoratti, L. Casalis and M. Kiskinova, "Lateral heterogeneity in the surface composition after laser processing of Ti/Si interface contaminated with oxygen", Appl. Phys. Lett. **79**, 191-193 (2001)

2001LD&b R. Larciprete, M. Danailov, A. Barinov, L. Gregoratti, and M. Kiskinova, "Thermal and pulsed laser induced surface reactions in Ti/Si(001) interfaces studied by spectromicroscopy with synchrotron radiation", J. Appl. Phys. **90** , 4361 (2001)

2001LD&c R Larciprete, M Danailov, A Barinov, L Casalis, L Gregoratti , A Goldoni and M Kiskinova, "Visible and UV pulsed laser processing of the Ti/Si(001) interface studied by XPS microscopy with synchrotron radiation" , Surf Sci **482-485**, 141 (2001)

2001LS& B.W. Loo, Jr., I.M. Sauerwald, A.P. Hitchcock and S.S. Rothman, *A new sample preparation method for soft X-ray microscopy: nitrogen based contrast and radiation tolerance properties of glycol methacrylate-embedded and sectioned tissue*, J. Microscopy **204** 69-86 (2001).

2001LSa M.-K. Lee and H. J. Shin, The commissioning results of the first undulator beamline at the Pohang Light Source , NIM Phys. Res. A **467-468**, 508 (2001)

2001LSb M.-K. Lee and H. J. Shin, *Soft X-ray spectromicroscope at the Pohang Light Source,* Rev. Sci. Inst **72**, 2605-2609 (2001)

2001MH& W. Meyer-Ilse, D.Hamamoto, A. Nair, S.A. Lelievre. G. Denbeaux, L. Johnson, A.L. Pearson, D. Yager, M.A. Legros and C.A. Larabell *High resolution protein localization using soft X-ray microscopy*. J Microsc. **201** 395-403 (2001)

2001MI& C. Morin, H. Ikeura-Sekiguchi, T. Tyliszczak, R. Cornelius, J. Brash, A. Hitchcock, A. Scholl, F. Nolting, G. Appel, D. Winesett, K. Kaznacheyev, and H. Ade, "X-Ray Spectromicroscopy of Immiscible Polymer Blends: Polystyrene-Poly(Methyl Methacrylate)", J Electron Spectrosc **121**, 203 (2001)

2001OJ& A. Osanna, C. Jacobsen, J. Kirz, and Y. Sheynkin, "Cryogenic scanning transmission microscopy for biochemical analysis of the sperm", Fertility and Sterility **76**, S1 459 (2001)

2001OR& H. Ohldag, T. J. Regan, J. Stöhr, A. Scholl, F. Nolting, J. Lüning, C. Stamm, S. Anders and R. L. White, Spectroscopic identification and direct imaging of interfacial magnetic spins, Phys. Rev. Lett. **87**, 247201 (2001) **HI**

2001OS& H. Ohldag, A. Scholl, F. Nolting, S. Anders, F.U. Hillebrecht, and J. Stöhr, Spin reorientation at the antiferromagnetic NiO(001) surface in response to an adjacent ferromagnet, Phys. Rev. Lett. **86**, 2878 (2001) **HI**

2001RO& T. J. Regan, H. Ohldag, C. Stamm, F. Nolting, J. Lüning,, J. Stöhr, and R. L. White, Chemical effects at metal/oxide interfaces studied by x-ray absorption spectroscopy, Phys. Rev. B **64**, 214422 (2001)

2001SA&a C. C. Sloop, H. Ade, R. E. Fornes, R. D. Gilbert, and A. P. Smith, "Near-edge X-ray Absorption Fine Structure (NEXAFS) Microscopy of a Polycarbonate/poly (acrylonitrile/butadiene/styrene) Blend", J. Polym. Sci.: Part B: Polym. Phys. **39**, 531 (2001).

2001SA&b A P. Smith, H. Ade, C. C. Koch, and R.J. Spontak, "Cryogenic Mechanical Alloying as an Alternate Strategy for the Recycling of Tires", Polymer **42**, 4453 (2001)

2001SA&c A.P. Smith, H. Ade, S.D. Smith, C.C. Koch, and R J. Spontak, "Anomalous Phase Inversion in Polymer Blends Prepared by Cryogenic Mechanical Alloying", Macromolecules **34**, 1536 (2001)

2001SB Th. Schmidt and E. Bauer, "Influence of intefactants on thin metal growth", Surf. Sci. 480, 137-144 (2001)

2001SK& A. Scheinost, R. Kretzschmar, I. Christl, and C. Jacobsen, "Carbon group chemistry of humic and fulvic acid: A comparison of C-1s NEXAFS and 13C-NMR spectroscopies", in Humic Substances: Structures, Models and Functions, Royal Society of Chemistry, Cambridge 37 (2001)

2001SL H. J. Shin and M.-K. Lee, Scanning soft X-ray spectromicroscopy at the Pohang Light Source: commissioning results, NIM Phys. Res. A **467-468**, 909 (2001)

2001SN& A. Scholl, F. Nolting, J. Stöhr, T. Regan, J. Lüning , J. W. Seo, J.-P. Locquet, J. Fompeyrine, S. Anders, H. Ohldag and H. A. Padmore, Exploring the microscopic origin of exchange bias with photoelectron emission microscopy, J. Appl. Phys. **89**, 7266 (2001)

2001SO& G Schönhense, A Oelsner, O Schmidt, G.H Fecher, V Mergel, O Jagutzki, H Schmidt-Böcking, "Time-of-flight photoemission electron microscopy – a new way to chemical surface analysis", Surf. Sci. **480**, 180-187 (2001)

2001SU& A.P. Smith, S.G. Urquhart, D.A. Winesett, G. Mitchell, and H. Ade, "Use of Near Edge X-Ray Absorption Fine Structure Spectromicroscopy to Characterize Multi-component Polymeric Systems", Appl. Spectrosc. **55**, 1676-1681 (2001)

2001TF& N. Takagi, P. Fischer, S. Tsunashima, M. Kumazawa, H. Ishida, A. Yamyguchi, H. Noguchi, and M. Kume, "Observation of Thermomagnetically Recorded Magnetic Domains in TbFeCo Films with X-ray Microscopy," Jpn. J. Appl. Phys. 1 **40**(Part 2, 4B), L380-L382 (2001).

2001TFTa N. Takagi, P. Fischer and S. Tsunashima "Observation of Thermomagnetically Recorded Domains with high resolution magnetic X-ray Microscopy (in Japanese)," J. Magn. Soc. of Japan **25** 186-191 (2001)

2001TFTb N. Takagi, P. Fischer, and S. Tsunashima, "Observation of Thermomagnetically Recorded Domains with a High-Resolution Magnetic X-Ray Microscope," Journal of the Magnetics Society of Japan **25**(7), 1370-1377 (2001).

2001VC& S. Vogt, H.N. Chapman, C. Jacobsen and R. Medenwaldt, "Dark field x-ray microscopy: the effects of condenser/detector aperture", Ultramicroscop*y* **87,** 25 (2001)

2001WK& T Wilhein, B Kaulich, E Di Fabrizio, F Romanato, S Cabrini, J Susini, Differential interference contrast x-ray microscopy with submicron resolution, Appl. Phys. Lett. **78** 2082-85 (2001)

2001ZG&a Y. Zhang, S. Ge, B. Tang, T. Koga, M. Rafailovich, J. Sokolov, D. Peiffer, Z. Li, A. Dias, "Effect of carbon black and silica fillers in elastomer blends", Macromolecules **34**, 7056 (2001).

2001ZG&b X.H., Zhang, R.S. Gates, S. Anders, and S.M. Hsu, "An accelerated wear test method to evaluate lubricant thin films on magnetic hard disks," Tribology Letters **11**, 15-21 (2001).

2001ZS& J. Ziegelbauer, B. Shan, D. Yager, C.A. Larabell, and B. Hoffmann, "Transcription factor MIZ-1 is regulated via microtubule association," Molecular Cell **8**, 339-349 (2001).

2002A D. Attwood "Soft X-ray Microscopy and Extreme Ultraviolet Lithography: Imaging in the 20-50 nm Regime ," Rev. Sci. Instr. **73,** 1637 (2002)

2002AA& Attwood, D.T., E. Anderson, G. Denbeaux, K. Goldberg, P.P. Naulleau, and G. Schneider, "*Soft x-ray microscopy and EUV lithography: an update on imaging at 20-40 nm spatial resolution*.," X-Ray Lasers 2002 AIP Conference Proceedings **641** 461-468 (2002)

2002AK& G. Appel, I. Koprinarov, G. E. Mitchell, A. P. Smith, and H. Ade, "X-ray spectromicroscopy of branched polyolefin blends", Advanced Light Source Compendium of User Abstracts 2001. **LBNL-50227** (2002)

2002AS& Anders, S., S. Sun, C.B. Murray, C.T. Rettner, M.E. Best, T. Thomson, M. Albrecht, J.-U. Thiele, E.E. Fullerton, and B. Terris, "*Lithography and self-assembly for nanometer scale magnetism*," Microelectronic Engineering **61-62**, 569-575 (2002)

2002AT&a Anders, S., M.F. Toney, T. Thomson, R. Farrow, J.-U. Thiele, B. Terris, S. Sun, and C.B. Murray, "*X-ray absorption and diffraction studies of thin polymer/FePt nanoparticle assemblies*," J. Appl. Phys. **93**, 6299-6304 (2003)

2002AT&b K. Amemiya, H. Takahashi, M. Nakazawa, H. Shimizu, T. Majima, Y. Nakagawa, N. Yasuda, M. Yamamoto, T. Kageji, M. Nakaichi, T. Hasegawa, T. Kobayashi, Y. Sakurai, K. Ogura, Soft X-ray imaging using CR-39 plastics with AFM readout, NIM B B **187** 361–366 (2002).

2002AU H. Ade and S.G. Urquhart, "NEXAFS Spectroscopy and Microscopy of Natural and Synthetic Polymers" in Chemical Applications of Synchrotron Radiation, T. K. Sham, Eds., (World Scientific Publishing, Singapore, 2002) 285.

2002BC&a C. K. Boyce, G. D. Cody, M. Feser, C. Jacobsen, A. H. Knoll, and S. Wirick, *Organic chemical differentiation within fossil plant cell walls detected with X-ray spectromicroscopy*, Geology **30**, 1039 (2002)

2002BC&b MT Browne, P Charalambous, RE Burg and XC Yuan, *Combined microscope for scanning X-ray transmission and surface topography.* Ultramicroscopy; **92** 221-232 (2002)

2002BC&c E. Bauer, S. Cherifi, L. Däweritz, M. Kaestner, S. Heun, and A. Locatelli, *Low-energy electron microscopy/x-ray magnetic circular dichroism photoemission electron microscopy study of epitaxial MnAs on GaAs,* J. Vac. Sci. Technol. B **20**, 2539 (2002).

2002BF& T. Beetz, M. Feser, C. Jacobsen, J. Kirz, D. Sayre, D. Shapiro, Y. Sheynkin, A. Stein, and S. Wirick, *Soft x-ray microscopy at the NSLS*, in Proc. IEEE 2002 Int. Symp. Biomedical Imaging: Macro to Nano, 137 (2002)

2002BG&a A Barinov, L Gregoratti, B Kaulich and M Kiskinova, *Surface Electromigration Patterns in a Confined Adsorbed Metal Film: Ga on GaN*, Chem Phys Phys. Chem, **3**, 1019-1025 (2002)

2002BG&b A Barinov, L Gregoratti, L Casalis and M Kiskinova, *Interfacial reactions and Schottky barrier properties of composite patterned metal/GaN interfaces*, J Vac Sci Technol B, **20**, 1918-22 (2002)

2002BK B. Kaulich and M. Kiskinova, *Synchrotron radiation x-ray microscopy based on zone plate optics*, in *Nanoscale spectroscopy and its applications to semiconductor research* Lecture Notes in Physics, **588** , 93-111 (2002)

2002BS& A. Bottcher, U. Starke, H. Conrad, R. Blume, H. Niehus, L. Gregoratti, B. Kaulich, A. Barinov and M. Kiskinova, "Spectral and spatial anisotropy of the oxide growth on Ru(0001)", J Chem Phys **117** , 8104-8106 (2002)

2002CB& F. Claret, A. Bauer, T. Schäfer, L. Griffault, and B. Lanson, "Experimental investigation of the interaction of clays with high-pH solutions: A case study from the Callovo-Oxfordian formation, Meuse-Haute Marne underground laboratory (France)", Clays and Clay Minerals **50**, 633 (2002).

2002CL& Choi, H. J., W.W. Ling, A. Scholl, J. H. Wolfe, U. Bovensiepen, F. Toyama, and Z. Q. Qiu, "Spin reorientation transition in magnetically coupled Fe/Cu/Ni/Cu(001), Physical Review B **66**, 014409 (July 2002)

2002CUA T. Coffey, S.G. Urquhart and H. Ade, "Characterization of the Effects of Soft X-ray Irradiation on Polymers" J. Electron Spectrosc. Relat. Phenom. **122,** 65 (2002)

2002ES& T.E. Eimueller, M. Scholz, P. Guttmann, M. Koehler, G. Bayreuther, P. Fischer, and G. Schuetz, "Undulation instabilities in laterally structured magnetic multilayers," J. Appl. Phys. **91**(10), 7334-7336 (2002).

2002FD&a P. Fischer, G. Denbeaux, T. Eimuller, D. Goll, G. Schutz "Magnetic imaging with soft X-ray microscopy," IEEE Trans. Magn. **38** 33 (2002)

2002FD&a P. Fischer, G. Denbeaux, T.E. Eimueller, D. Goll, and G. Schuetz, “Magnetic imaging with soft x-ray microscopy,” IEEE Transactions on Magnetics **38**(5, Part 1), 2427-2431 (2002).

2002FD&b P. Fischer, G. Denbeaux, T. Ono, T. Okuno, T. Eimuller, D. Goll, G. Schutz "Study of magnetic domains by magnetic soft x-ray transmission microscopy ," J. Phys. D: Appl. Phys. 35, 2391 (2002)

2002FD&c P. Fischer, G. Denbeaux, F. Nolting, D. Goll, T. Eimüller, C. Quitmann, and G. Schütz, “Imaging magnetic microstructures with soft X-ray microscopies,” Trans. Magn. Soc. Japan **2**(4), 234-237 (2002).

2002FE& P. Fischer, T. Eimuller, D. Goll, H. Stoll, A. Puzic, G. Schatz, G. Denbeaux "Magnetic imaging with full-field soft X-ray microscopy," Z. f. Metallkunde 93, 493 (2002)

2002FGD B.H. Frazer, B. Gilbert, and G. De Stasio, X-ray absorption microscopy of aqueous samples, Rev. Sci. Instrum. **73**, 1373 (2002).

2002GK& S Guenther, B Kaulich, L Gregoratti and M Kiskinova, Photoelectron Microscopy and Applications in Surface and Material Science, Prog Surf Sci, **70**, 187-260 (2002)

2002GL& A Goldoni, R Larciprete, L Gregoratti, B Kaulich, M Kiskinova, Y Zhang, H Dai, F Parmigiani, “X-ray photoelectron microscopy of the C1s core level of free standing single-wall carbon nanotubes”, Appl Phys Lett, **80**, 2165 (2002)

2002GM&a S. Gunther, H. Marbach, B. Lurssen, R. Imbihl, L. Gregoratti, A. Barinov, M. Kiskinova, “Directional Transport of K on Catalytic Metal Surfaces”, Surf Rev Lett, **9**,751-758 (2002)

2002GM&b S Guenther, H Marbach, R Hoyer, R Imbihl, L Gregoratti, A Barinov and M Kiskinova, “On the origin of stationary concentration patterns in the H-2+O-2 reaction on a microstructured Rh(110)/Pt surface with potassium”, J Chem Phys, **117**, 2923 (2002)

2002HM& A.P. Hitchcock, C. Morin, Y.M. Heng, R.M. Cornelius and J.L. Brash, *Towards practical soft X-ray spectromicroscopy of biomaterials*, J. Biomaterials Science, Polymer Ed. **13**, 919 (2002)

2002I S. Imada, *Magnetic Microspectroscopy by a Combination of XMCD and PEEM*, Surface Review and Letters, **9**, 877 (2002)

2002JB& C. Jacobsen, T. Beetz, M. Feser, A. Osanna, A. Stein, and S. Wirick, "Spectromicroscopy of biological and environmental systems at Stony Brook: instrumentation and analysis", Surface Review and Letters **9**, 185-191 (2002)

2002KCM K.E. Kurtis,C.L. Collins and P.J.M. Monteiro "*The surface chemistry of the alkali-silica reaction: A critical evaluation and X-ray microscopy*," Concrete Science and Engineering **4**, 2-11 (2002)

2002KD& I. Koprinarov, M. Demirors, T. Tyliszczak, A.L.D. Kilcoyne, A.P. Hitchcock, H. Ade, R. Celinski and G.E. Mitchell, *Orientation of Fibrils in Polymer Crazes Studied by STXM*, 2001 ALS Compendium, LBNL publication (2002)

2002KH& I.N. Koprinarov, A. P. Hitchcock, C. T. McCrory, and R. F. Childs, *Quantitative Mapping of Structured Polymeric Systems Using Singular Value Decomposition Analysis of soft X-ray Images*, J. Phys. Chem. B **106**, 5358 (2002)

2002KO& K. Kaznacheyev, A. Osanna, C. Jacobsen, O. Plashkevych, O. Vahtras, H. Ågren, V. Carravetta, and A. Hitchcock, "Innershell absorption spectroscopy of amino acids", J. Phys. Chem. A **106**, 3153 (2002)

2002KP& B. Kaulich, F Polack, U Neuhaeusler, J Susini, E Di Fabrizio, T Wilhein, *Diffracting aperture based differential phase contrast for scanning X-ray microscopy* Optics Express **10** 1111-1118 (2002)

2002KT& G.J Kusinski, G. Thomas, G. Denbeaux, K.M. Krishnan, and B. Terris, “Temperature and ion irradiation dependence of magnetic domains and microstructure in Co/Pt multilayers,” J. Appl. Phys. **91**(10 part 2), 7541-7543 (2002). 6.1.2

2002KZ& M. Köhler,J. Zweck, G. Bayreuther, P. Fischer, G. Schütz, G. Denbeaux, and D.T. Attwood, “Micromagnetic investigation of sub-100-nm magnetic domains in atomically stacked Fe(001)/Au(001) multilayers,” J. Magn. Magn. Mater. **240**(1-3), 79-82 (2002).

2002LC& A. Locatelli, S. Cherifi, S. Heun, M. Marsi, K. Ono, A. Pavlovska, and E. Bauer, *X-ray magnetic circular dichroism imaging in a low energy electron microscope,* Surf. Rev. Lett. **9**, 171-176 (2002).

2002LG& R. Larciprete, L. Gregoratti , M. Danailov , R. M. Montereali , F. Bonfigli , M. Kiskinova, *Direct writing of fluorescent patterns on LiF films by x-ray microprobe*”, Appl Phys Lett, **80,** 3862-3 (2002)

2002LJ& B. Lurssen, J. Janek, S. Gunther, M. Kiskinova and R. Imbihl, Microspectroscopy at a moving reduction front in zirconia solid electrolyte, Phys Chem Chem Phys, **4**, 2673 (2002)

2002LO& J. Labis, A. Ohi, C. Kamezawa, T. Fujiki, K. Yoshida, M. Hirai, M. Kusaka and M. Iwami, *PEEM and SXES Characterization on the Surface and Interface of the Transition-Metal/SiC System,* Surf. Rev. Lett. 9, 313(2002

2002MG&a H Marbach, S Guenther, B Luersen, L Gregoratti, M Kiskinova and Imbihl, "Selforganization of alkali metal on a catalytic metal surface" Catalysis Lett. **83**, 161 (2002)

2002MG&b H Marbach, S Guenther, B Luerssen, L Gregoratti, M Kiskinova and R Imbihl, "Mass transport of alkali metal in reaction fronts on a catalytic metal surface", Chem Phys Lett. **364,** 207 (2002)

2002MM& S. Minko, M. Müller, D. Usov, A. Scholl, C. Froeck, and M. Stamm, *Lateral versus Perpendicular Segregation in Mixed Polymer Brushes*, Phys. Rev. Lett **88,** 035502, (2002) **HI**

2002MW& G.E. Mitchell, L. R. Wilson, M. T. Dineen, S. G. Urquhart, F. Hayes, E. G. Rightor, A. P. Hitchcock, and H. Ade, "Quantitative characterization of microscopic variations in the cross-link density of gels", Macromolecules **35**, 1336 (2002).

2002ND& A. J. Nelson, M. Danailov, A. Barinov, B. Kaulich, L. Gregoratti and M. Kiskinova, "Scanning photoelectron microscopy study of laser-induced surface reactions in Pt/Si(001)", Appl Phys Lett, **81** , 11246 (2002)

2002NL& F. Nolting, J.M. Lüning, J. Rockenberger, J. Hu, and A.P. Alivisatos, "A PEEM Study of Small Agglomerates of Colloidal Iron Oxide Nanocrystals," *Surf. Rev. Lett.* **9**(1), 437-440 (2002).

2002PD& P. Fischer, G. Denbeaux, F. Nolting, D. Goll, T. Eimuller, C. Quitmann, G. Schutz *"Imaging magnetic microstructures with soft X-ray microscopies ,"* Trans. Magn. Soc. Japan **2** 234-237 (2002)

2002PH& K.C. Prince, S. Heun, L. Gregoratti, A. Barinov and, M. Kiskinova, "Long-term oxidation behaviour of lead sulfide surfaces" in *Nanoscale spectroscopy and its applications to semiconductor research*, **588**, 111-120 (2002)

2002PM&a A.W. Potts, G.R. Morrison, L. Gregoratti, A. Barinov, B. Kaulich and M. Kiskinova, "The exploitation of multichannel detection in scanning photoemission microscopy", Surf Rev Lett, **9,** 705-708 (2002)

2002PM&b A. W Potts, G.R Morrison, L Gregoratti and M Kiskinova, "Photoemission microscopy of the metal/metal interface: Au sub-monolayers on polycrystalline Ni ", Appl Surf Sci, **195**, 80 (2002)

2002PR& M. Plaschke, J. Rothe, T. Schäfer, M. Denecke, K. Dardenne, S. Pompe, and K.-H. Heise, "Combined AFM and STXM *in situ* study of the influence of Eu(III) on the agglomeration of humic acid", Coll. Surf. A: Physiochemical and Engineering Aspects **197**, 245, (2002).

2002RMM L.M. Russell, S.F. Maria and S.C.B. Myeni, *Mapping Organic coatings on atmospheric particles,* Geophys. Res. Lett **29**, 26-1-4 (2002)

2002RN& Joerg Rockenberge, Frithjof Nolting, Jan Luning, Jiangtao Hu and A. Paul Alivisatos, "Soft X-ray imaging and spectroscopy of Single nanocrystals", J. Chem. Phys. **106**, 6322-6328 (2002)

2002RU& E. G. Rightor, S. G. Urquhart, A. P. Hitchcock, H. Ade, A. P. Smith, G. E. Mitchell, R. D. Priester, A. Aneja, G. Appel, G. Wilkes, and W. E. Lidy, "Identification and quantitation of urea precipitates in flexible polyurethane foam formulations by X-ray spectromicroscopy", Macromolecules **35**, 5873 (2002).

2002S A. Scholl, "Thin-film magnetism: PEEM studies," in *Encyclopedia of Materials: Science and Technology*, n.a., (Elsevier London, 2002)

2002SA&a G. Schneider, E. Anderson, S. Vogt , C. Knochel, D. Weiss, M. Legros, and C.A. Larabell "Computed tomography of cryogenic cells," Surface Review and Letters 9 177 (2002)

2002SA&b .S. Sun, S. Anders, H.F. Hamann, J. Thiele, J.E.E. Baglin, T. Thomson, E.E. Fullerton, C.B. Murray, and B. Terris, "Polymer mediated self-assembly of magnetic nanoparticles," *Journal of the American Chemical Society* **124**, 2884-2885 (2002)

2002SD& G. Schneider, G. Denbeaux, E.H. Anderson, B. Bates, A.E. Lucero, M.A. Meyer, D. Hambach, and E.A. Stach, "Dynamical x-ray microscopy investigation of electromigration in passivated inlaid Cu interconnect structures.," Applied Physics Letters **81**(14), 2535-2537 (2002).

2002SM&a G. Schneider, M.A. Meyer, G. Denbeaux, E. Anderson, B. Bates, A. Pearson, C. Knchel, D. Hambach, E. A. Stach, E. Zschech "Electromigration in passivated Cu Interconnects studied by Transmission X-ray Microscopy ," J. Vac. Sci. Technol. B **20**, 3089 (2002)

2002SM&b G. Schneider, M.A. Meyer, G. Denbeaux, E.H. Anderson, B. Bates, A. Pearson, D. Hambach, E.A. Stach, E. Zschech "Dynamical x-ray microscopy investigation of electromigration in passivated inlaid Cu interconnect structures," Appl. Phys. Lett. **81**, 2535 (2002)

2002SO& A. Scholl, H. Ohldag, F. Nolting, J. Stöhr, and H. A. Padmore, "X-ray photoemission electron microscopy, a tool for the investigation of complex magnetic structures", Rev. Sci. Instrum. **73**, 1362 (2002)

2002SW&a S Suzuki, Y Watanabe, T Ogino, S Heun, L Gregoratti, A Barinov, B Kaulich, M Kiskinova, W Zhu and C Bower, "Extremely small diffusion constant of Cs in multiwalled carbon nanotubes", J Appl Phys. **92**, 7527-7535 (2002)

2002SW&b S Suzuki, Y Watanabe, T Ogino, S Heun, L Gregoratti, A Barinov , B Kaulich, M Kiskinova, W Zhu and Z Bower, "Electronic structure of carbon nanotubes studied by photoelectron spectromicroscopy", Phys Rev B, **66**, 35414 (2002)

2002UA S.G. Urquhart, and H Ade, "Trends in the Carbonyl Core (C1s, O1s) $\rightarrow \pi^*_{C=O}$ Transition in the Near Edge X-ray Absorption Fine Structure Spectra of Organic Molecules", J. Phys. Chem B **106**, 8531-8538 (2002).

2002WK& T. Wilhein, B. Kaulich, E. Di Fabrizio, S. Cabrini, F. Romanato, J. Susini, M. Altissimo, B. Fayard, *Differential interference contrast x-ray microscopy with twin zone plates*, J. Opt. Soc. Am. A **19** 797-807 (2002)

2002WW& Y. Wu, Z, C. Won, A. Scholl, A. Doran, F. Toyoma, X.F. Jin, N.V. Smith, and Z.Q. Qiu, "Interfacial magnetism of fcc Fe and the effect of the oscillatory interlayer coupling on the Ni magnetic properties in Ni/Fe/Co/Cu(100)," Physical Review B **65**, 214417 (2002)

2002YS Y. Yamamoto and K. Shinohara, Application of X-ray microscopy in analysis of living hydrated cells"", Anatomical Record (New Anat.) **269,** 217-223 (2002)

2002ZF& W. H. Zhang, B. X. Fu, Y. Seo, E. Schrag, B. Hsiao, P. T. Mather, N. L. Yang, D. Y. Xu, H. Ade, M. Rafailovich, and J. Sokolov, "Effect of Methyl Methacrylate/Polyhedral Oligomeric Silsesquioxane Random Copolymers in Compatibilization of Polystyrene and Poly(methyl methacrylate) Blends", Macromolecules **35**, 8029 (2002).

2003AA& Attwood, D.T., E. Anderson, W. Chao, G. Denbeaux, P. Fischer, K. Goldberg, J.A. Liddle, P.P. Naulleau, G. Schneider, J. Goldsmith, J. Taylor, and D.W. Sweeney, "Soft X-ray Microscopy and EUV Lithography: Imaging in the 20-40 nm Regime," Meeting of the IEEE Lasers & Electro-Optics Society, **1**, 158-159 (2003).

2003AK& H. Ade, A.L.D. Kilcoyne, T.Tyliszczak, P.Hitchcock, E.Anderson, B.Harteneck, E.G.Rightor, G.E.Mitchell A.P.Hitchcock, and T.Warwick, *Scanning transmission X-ray microscopy at a bending magnet beamline at the Advanced Light Source*, X-ray Microscopy 2002, Grenoble, France, J. de Physique Coll **104**, 3-8 (2003)

2003AT& Anders, S., M.F. Toney, T. Thomson, J.-U. Thiele, B. Terris, S. Sun, and C.B. Murray, "*X-ray studies of magnetic nanoparticle assemblies*," J. Appl. Phys. **93**, 7343-7345 (2003)

2003BC&a C. K. Boyce, G. D. Cody, M. L. Fogel, R. M. Hazen, C. M. O. Alexander, and A. H. Knoll, "Chemical evidence for cell wall lignification and the evolution of tracheids in early Devonian plants", Int. J. Plant Sciences **164**, 691 (2003)

2003BC&b S. Botti, R. Ciardi, R. Larciprete, A. Goldoni, L. Gregoratti, B. Kaulich and M. Kiskinova, "Silicon nanowires grown on Si(100) substrates via thermal reactions with carbon nanoparticles", Chem Phys Lett, **371**, 394 (2003)

2003BF& R Belkhou, R Flammini, M Marsi, A Taleb-Ibrahimi, L Gregoratti, A Barinov and M Kiskinova, "Role of the gold segragation in the growth mode and the morphology of Fe/Au(001) magnetic thin films", Surf Sci, **532-535**, 63-68 (2003)

2003BG& M Bertolo, L Gregoratti, S Heun, B Kaulich, M Kiskinova "X-ray spectromicroscopy with synchrotron radiation: approaches and applications", in Science, Technology and Education of Microscopy: an Overview, ed. A. Mendez-Vilas, (Formatex), 676 (2003)

2003BJ T. Beetz and C. Jacobsen, "Soft x-ray radiation-damage studies in PMMA using a cryo-STXM", J. Synchrotron Rad **10**, 280 - 283 (2003)

2003BJ& T. Beetz, C. Jacobsen, C.-C. Kao, J. Kirz, O. Mentes, C. Sanchez-Hanke, D. Sayre and D. Shapiro, *Development of a novel apparatus for exeperiments in soft X-ray diffraction imaging and diffraction tomography,* Journal de Physique IV **104**, 27, (2003)

2003CA&a W. Chao, E. Anderson, G. Denbeaux, B. Harteneck, J.A. Liddle, D. Olynick, A.E. Lucero, F. Salmassi, C. Song, and D.T. Attwood, "20-nm-resolution soft x-ray microscopy demonstrated using multilayer test structures," Optics Letters **28**(21), 2019-2021 (2003).

2003CA&b W. Chao, E. Anderson, G. Denbeaux, B. Harteneck, J.A. Liddle, D. Olynick, A.E. Lucero, F. Salmassi, C. Song, and D.T. Attwood, "Demonstration of 20 nm half-pitch Spatial Resolution with Soft X-ray microscopy," Journal of Vacuum Science and Technology B: Microelect. & Nanometer Structures **21**(6), 3108-3111 (2003).

2003CA&c W. Chao, E. Anderson, G. Denbeaux, B. Harteneck, A.J. Liddle, A.E. Lucero, D. Olynick, F. Salmassi, C. Song, and D.T. Attwood, "Photon-based Microscopy with 20-nm Spatial Resolution," Optics and Photonics News **14**(12), 18 (2003).

2003CB& L. M. Croll, J. F. Britten, C. Morin, A. P. Hitchcock, and H. D. H. Stöver, "Integrating Near-Edge X-Ray Absorption Fine Structure (NEXAFS) Microscopy and Crystallography: The Effects of Molecular Order", J. Synchrotron Rad. **10**, 265 (2003)

2003CD& Chambers, S.A., T.C. Droubay, C.M. Wang, A.S. Lea, R. Farrow, L. Folks, V. Deline, and S. Anders, "Clusters and Magnetism in epitaxial Co-doped TiO2 anatase," *Applied Physics Letters* **82**, 1257-1259 (2003)

2003CM& L.M. Croll, C. Morin, I. Koprinarov, A.P.Hitchcock, and H.D.H. Stöver *Optimization of polymer capsules aided by scanning transmission x-ray microscopy* X-ray Microscopy 2002, Grenoble, France, J. de Physique Coll **104**, 507-508 (2003)

2003DA& G. Denbeaux, E.H. Anderson, B. Bates, W. Chao, J.A. Liddle, B. . Harteneck , A. . Pearson , F. . Salmassi , G. . Schneider , P. . Fischer , T. . Eimuller , S. . Taylor , H. . Chang , and G.J. Kusinski, "X-ray magnetic microscopy for correlations between magnetic domains and crystal structure ," J. Phys. IV **104**, 477-481 (2003).

2003DC& E. Di Fabrizio, D. Cojoc, S. Cabrini, B. Kaulich, J. Susini, *Design and fabrication of new optics for X-ray microscopy and material science*, J. Phys. IV **104** 177-184 (2003)

2003DF& G. De Stasio, B.H. Frazer, B. Gilbert, K.L. Richter and J.W. Valley, *Compensation of charging in X-PEEM: a successful test on mineral inclusions in 4.4 Ga old zircon*, Ultramicroscopy **98**, 57-62 (2003).

2003DS& G. Denbeaux, , G. Schneider, A.E. Lucero, W. Chao, B. Bates, B. Harteneck, D. Olynick, E. Anderson, P. Fischer, and M.G. Juenger, "Recent progress with high resoluton X-ray microscopy at the XM-1," J. Phys. IV **104**, 9-9 (2003).

2003EE& Eimueller, T.E., P. Fischer, P. Guttmann, G. Denbeaux, M. Scholz, M. Koehler, G. Bayreuther, and G. Schuetz, "Multilayered magnetic nanostrips studied by transmission X-ray microscopy," J. Phys. IV **104**, 483-486 (2003).

2003ES& S.M. Eisebitt, M. Lorgen, W. Eberhardt, J.M. Lüning, J. Stohr, C.T. Rettner, O. Hellwig, E.E. Fullerton, and G. Denbeaux, "Polarization effects in coherent scattering from magnetic specimen: Implications for X-ray holography, lensless imaging, and correlation spectroscopy," Physical Review B: Condensed Matter and Materials Physics **68**(10), 104419-1-104424 (2003).

2003F P. Fischer, *Magnetic soft X-ray transmission microscopy* Current Opinion in Solid State & Material Sciences **7**(2), 173-179 (2003).

2003FD& P. Fischer, G. Denbeaux, H. Stoll, A. Puzic, J. Raabe, F. Nolting, T. Eimuller, G. Schatz "Magnetic imaging with soft X-ray microscopies,J. Phys. IV France **104** 471 (2003)

2003FE& P. Fischer, T. Eimuller, G. Schutz, and G. Denbeaux, "Imaging magnetic domain structures with Soft X-ray Microscopy," J. Structural Chemistry **14**(1), 39-47 (2003).

2003FG& B.H. Frazer, B. Gilbert, B.R. Sonderegger, and G. De Stasio, The probing depth of total electron yield in the sub keV range: TEY-XAS and X-PEEM, Surface Science, **537**, 161-167 (2003).

2003FJ& M. Feser, C. Jacobsen, P. Rehak, and G. DeGeronimo, *Scanning transmission x-ray microscopy with a segmented detector*, Journal de Physique IV **104**, 529 (2003)

2003FK&a G.J. Flynn, L.P. Keller, M. Feser, S. Wirick, C. Jacobsen, "The origin of organic matter in the solar system: Evidence from the interplanetary dust particles", Geochimica et Cosmochimica Acta **67**, 4791 (2003)

2003FK&b G. Flynn, L. Keller, S. Wirick, C. Jacobsen, and S. Sutton, "Analysis of interplanetary dust particles by soft and hard x-ray microscopy", Journal de Physique IV **104**, 367 (2003)

2003GK M. Geoghegan and G. Krausch, "Wetting at polymer surfaces and interfaces", Progress in Polymer Science **28**, 261 (2003).

2003GT& G. Gleber, J. Thieme, J. Niemeyer, and M. Feser, "Interaction of organic substances with iron studied by O1s spectroscopy: development of an analysis program", Journal de Physique IV **104**, 429 (2003)

2003HA& A.P. Hitchcock, T. Araki, H. Ikeura-Sekiguchi, N. Iwata and K. Tani, *3d chemical mapping of toners by serial section scanning transmission X-ray microscop*y, (X-ray Microscopy 2002, Grenoble, France) J. Phys. IV France **104**, 509-512 (2003)

2003HAA M. Harris, G. Appel, and H. Ade, "Surface Morphology of Annealed Polystyrene and Poly(Methyl Methacrylate) Thin Film Blends and Bilayers", Macromolecules **36**, 3307 (2003).

2003HC& I.-H. Hong, J.W. Chiou, S.-C. Wang, R. Klauser, W.F. Pong, L.C. Chen and T.J. Chuang, *Electronic Structure of aligned carbon nanotubes studied by SPEM*, (X-ray Microscopy 2002, Grenoble, France) J. Phys. IV France **104**, 467-470 (2003)

2003HD& O. Hellwig, G. Denbeaux, J.B. Kortright, and E.E. Fullerton, "X-ray studies of aligned magnetic stripe domains in perpendicular multilayers ," Physica B: Condensed Matter **336**(1-2), 136-144 (2003).

2003IF& M. Im, P. Fischer, T.E. Eimueller, G. Denbeaux, and S.C. Shin, "Magnetization reversal study of CoCrPt alloy thin films on a nanogranular-length scale using magnetic transmission soft X-ray microscopy," Applied Physics Letters **83**(22), 4589-4591 (2003).

2003IL& Ionov, Leonid., S. Minko, Manfred. Stamm, Jean-Fra Gohy, Robert. Jerome, and A. Scholl, "Reversible chemical patterning on stimuli-responsive polymer film:Environment-responsive lithography," J. American Chemical Society **125**, 8302 (2003).

2003JC& S. Jiang, L. Chen, H. XieH. Gao, J. Chen, W.Q. Zhang and Z. Xu, Observation of *E. Coli* cells by soft X-ray microscopy, (X-ray Microscopy 2002, Grenoble, France) J. Phys. IV France **104**, 459-462 (2003)

2003JF& C. Jacobsen, M. Feser, M. Lerotic, S. Vogt, J. Maser, and T. Schäfer, "Cluster analysis of soft x-ray spectromicroscopy data", Journal de Physique IV **104**, 623 (2003)

2003JL& M.C.G., Juenger, VHR Lamour, PJM Monteiro, EM Gartner and GP Denbeaux, *Direct observation of cement hydration by soft X-ray transmission microscopy*. Journal of Materials Science Letter ,**22**, 1335-1337 (2003).

2003K M Kiskinova, "*Chemical, electronic and magnetic properties of surfaces and interfaces probed with x-ray microscopes at ELETTRA*", J Phys. IV, **104**, 453 (2003)

2003KB& B Kaulich, D Bacescu, D Cocco, J Susini, C David, E. DiFabrizio, S. Cabrini, G. Morrison, J Thieme and M. Kiskinova, *Twinmic: A European twin microscope station combining full-field imaging and scanning microscopy*, J Phys IV, **104** 103-108 (2003)

2003KD& W.J Kozek, G. Denbeaux, C.A. Larabell, C.R. Sterling, S. Garlapati, and C.C. Wang, "Soft X-ray Microscopy: A New Technology for examination of Parasitic Specimens," Microscopy and Microanalysis **9**(supp. S02), 1452-1453 (2003).

2003KK& G.J. Kusinski, K.M. Krishnan, G. Denbeaux, and G. Thomas, "Magnetic reversal of ion beam patterned Co/Pt multilayers," Scripta Materialia **48**(7), 949-954 (2003).

2003KM K.E. Kurtis, and P.J.M. Monteiro, *Chemical additives to control expansion of alkali-silica reaction gel: proposed mechanisms of control.* Journal of Materials Science, **38** 2027-2036 (2003).

2003KR Kurtis, K.E. and F.A. Rodrigues, *Early age hydration of rice hull ash cement examined by transmission soft X-ray microscopy.* Cement and Concrete Research, **33,** 509-515 (2003).

2003KT& A. L. D. Kilcoyne, T. Tyliszczak, W. F. Steele, S. Fakra, P. Hitchcock, K. Franck, E. Anderson, B. Harteneck, E. G. Rightor, G. E. Mitchell, A. P. Hitchcock, L. Yang, T. Warwick, and H. Ade, *Interferometer-controlled scanning transmission X-ray microscopes at the Advanced Light Source*, J. Synchrotron Radiation **10**, 125 (2003).

2003KV& M. Klaui, Vaz, J. A. C. Bland, T. L. Monchesky, J. Unguris, E. Bauer, S. Cherifi, S. Heun, A. Locatelli, L. J. Heyderman, Z. Cui, *Direct observation of spin configurations and classification of switching processes in mesoscopic ferromagnetic rings,* Phys. Rev. B **68**, 134426 (2003).

2003KZ& R. Klauser, M. Zharnikov, I.-H. Hong, S.-C. Wang, A. Gölzhauzer and T.J. Chuang, *Imaging of patterned self-assembled monolayers by SPEM*, (X-ray Microscopy 2002, Grenoble, France) J. Phys. IV France **104**, 459-462 (2003)

2003LB& A. Locatelli, A. Bianco, D. Cocco, S. Cherifi, S. Heun, M. Marsi, M. Pasqualetto, E. Bauer, *High lateral resolution spectroscopic imaging of surfaces: The undulator beamline Nanospectroscopy,* J. Phys. IV France **104**, 99-102 (2003).

2003LN& J. Lüning, F. Nolting, H. Ohldag, A. Scholl, J. W. Seo, J. Fompeyrine, J.-P. Locquet,and J. Stöhr, *Determination of the antiferromagnetic axis in epitaxial $LaFeO_3$ films by soft x-ray magnetic linear dichroism spectroscopy*, Phys. Rev. B **67**, 214433 (2003)

2003LO& J. Labis, A. Ohi, M. Hirai, M. Kusaka and M. Iwami, *Surface morphology and Interface structural analyses of the Ti(film)/SiC(substrate) by PEEM*, Surf. Interface Anal. **35**, 89-93 (2003)

2003LS& J. R. Lawrence, G. D. W. Swerhone, G. G. Leppard, T. Araki, X. Zhang, M. M. West, and A. P. Hitchcock, "Scanning transmission X-ray, laser scanning, and transmission electron microscopy mapping of the exopolymeric matrix of microbial biofilms", Applied and Environmental Microbiology **69**, 5543 (2003)

2003MK& K. Masenelli-Varlot, M. Kasrai, G.M. Bancroft, G. De Stasio, B. Gilbert, E.S. Yamaguchi, and P.R. Ryason, Spatial distribution of the chemical species generated under rubbing from ZDDP and dispersed potassium triborate, Tribology Letters **14**, 157-166 (2003).

2003MS& J. Miao, J. Stohr, T. Ishikawa, C.A. Larabell, M.A. Le Gros, and Y. Nishino, "Imaging whole Escherichia coli bacteria by using single-particle x-ray diffraction," Proc. Natl. Acad. Sci. USA **100**(1), 110-112 (2003).

2003OS& H. Ohldag, A. Scholl, F. Nolting, E. Arenholz, S. Maat, A. T. Young, M. Carey, and J. Stöhr, Origin of exchange bias in magnetic device materials, Phys. Rev. Lett. **91**, 017203 (2003)

2003PM& A. W. Potts, G. R. Morrison, L. Gregoratti, M. Kiskinova and A. Locatelli, *Spectromicroscopy study of the dynamics of submonolayer Pd on a polycrystalline Ni surface*, Phys Rev B, **67**, 045411 (2003)

2003PW& K. Prabhakaran, Y. Watanabe, Y. Homma, T. Ogino, B. Q. Wei, P. M. Ajayan, K. V. P. M. Shafi, A. Ulman, S. Heun, A. Locatelli, S. Cherifi, *Selective activation and passivation of nanoparticle catalysts through substrate mediation,* Langmuir **19**, 10629 (2003)

2003RMD J. Rothe, M. Plaschke, and M. Denecke, "Soft x-ray spectro-microscopy investigation of the formation and ageing of Eu(III)-induced humic acid aggregates", Journal de Physique IV **104**, p421 (2003).

2003RU I.S., Retzko and W.E. Unger, "Analysis by Carbon Materials by X-ray Photoelectron Spectroscopy and X-ray Absorption Spectroscopy," Advanced Engineering Materials **5**(7), 519-522 (2003)

2003S A. Scholl, "Applications of photoemission electron microscopy (PEEM) in magnetism research," Current Opinion in Solid State & Material Sciences **7**, 59-66 (2003)

2003SA& S. Sun, S. Anders, T. Thomson, J.E.E. Baglin, M.F. Toney, H.F. Hamann, C.B. Murray, and B. Terris, "Controlled Synthesis and Assembly of FePt Nanoparticles," J. Physical Chemistry B **107**, 5419-5425 (2003)

2003SC&a T. Schäfer, F. Claret, A. Bauer, L. Griffault, E. Ferrage, and B. Lanson, "Natural organic matter (NOM)-clay association and impact on Callovo-Oxfordian clay stability in high alkaline solution: Spectromicroscopic evidence", Journal de Physique IV **104**, 413 (2003)

2003SC&b T Schmidt, T Clausen, S Gangopadhyay, J Falta, S Heun, L Gregoratti, A Barinov, B Kaulich and M Kiskinova, "Spectro-microscopy of ultra-thin SiN films on Si(111)", Nucl Instrum Meth B, **200**, 79-85 (2003)

2003SD& Schneider, G., G. Denbeaux, E.H. Anderson, W.A. Bates, F. Salmassi, P. Nachimuthu, A.E. Lucero, D.B. Richardson, D. Hambach, N. Hoffmann, W. Hasse, and K. Hoffmann, "Electromigration in integrated circuit interconnects studied by x-ray microscopy," NIM B **199**, 469-474 (2003).

2003SH& T. Schäfer, N. Hertkorn, R. Artinger, F. Claret, A. Bauer. "Functional group analysis of natural organic colloids and clay association kinetics using C(1s) spectromicroscopy", Journal de Physique IV **104**, 409, (2003)

2003SJ& A. Stein, C. Jacobsen, K. Evans-Lutterodt, D. Tennant, G. Bogart, F. Klemens, L. Ocola, B. Choi, and S. Sreenivasan, "Diffractive x-ray optics using production fabrication methods", JVST B **21**, 214 (2003)

2003SL& H.J. Shin, M.K. Lee, G.B. Kim C.K. Hong, J.Y. Lee, J.W. Kim, S.M. Park, Y.S. Roh and K. Jeeong, *A SPEM got Materials Science Spectromicroscopy at the Pohang Light Source*, Journal de Physique IV **104**, 467, (2003)

2003SS& A.D. Smith., P. Schofield, A. Scholl, R.A. Pattrick, and J.C. Bridges, "XPEEM valence state imaging of mineral micro-intergrowths with a spatial resolution of 100 nm ," *J. Phys. IV* **104**, 373-376 (2003)

2003ST& C. Schmidt, J. Thieme, U. Neuhäusler, C. Jacobsen, B. Kaulich, M. Salomée, and J. Susini, "Spectromicroscopy of soil colloids", Journal de Physique IV **104**, 405 (2003)

2003TSK J. Thieme, G. Schneider, and C. Knoechel, *X-ray tomography of a microhabitat of bacteria and other soil colloids with sub-100 nm resolution,* Micron **34**, 339-344 (2003).

2003TT& S. Tsunashima ; N. Takagi ; A.Yamaguchi ; Mi. Kume ; P. Fischer ; M. Kumazawa, Observation of thermomagnetically recorded domains with high-resolution magnetic soft x-ray microscopy , Proc. SPIE 5060 81 (2003)

2003WA& D.A. Winesett, H. Ade, A. P. Smith, S.G. Urquhart, A.J. Dias, and P. Stevens, "Application of Scanning Transmission X-ray Microscopy to the Rubbers Industry", Rubber Chemistry and Technology **76**, 803 (2003)

2003WO& N.B. Weber, H. Ohldag, H. Gomonaj, and F.U. Hillebrecht, "Magnetostrictive Domain Walls in Antiferromagnetic NiO," Physical Review Letters **91**(23), 237205 (2003) **HI**

2003WS& D. A. Winesett, S. Story, J. Lüning, and H. Ade, "Tuning Substrate Surface Energies for Blends of Polystyrene and Poly(methyl methacrylate)", Langmuir **19**, 8526 (2003).

2003WT& U. Wiesemann, J, thieme, P. Guttmann, R. Frükw, S. Rehbein, B. Niemann, D. Rudolph and G. Schmahl, *First results of a new STXM at Bessy-II* , Journal de Physique IV **104**, 95, (2003)

2003WW&a C. Won,, Y.Z. Wu, N. Kurahashi, K.T. Law, H.W. Zhao, A. Scholl, A. Doran, and Z.Q. Qiu, "Evidence of the oscillatory magnetic anisotropy in Ni/Co/Ni/Cu(100)," Physical Review B **67**, 174425-174431 (2003)

2003WW&b Won, C., Y.Z. Wu, A. Scholl, A. Doran, N. Kurahashi, H.W. Zhao, and Z.Q. Qiu, "Magnetic Phase Transition in Co/Cu/Ni/Cu(100) and Co/Fe/Ni/Cu(100)," Physical Review Letters **91**, 147202 (2003) **HI**

2003WYJ Y. Wang, W. Yun, and C. Jacobsen, "Achromatic Fresnel optics for wideband extreme-ultraviolet and x-ray imaging", Nature **424**, 50 (2003) **HI**

2003ZG W. Zhang, S. Ge, Y. Wang, M. H. Rafailovich, O. Dhez, D. A. Winesett, H. Ade, K. V. P. M. Shafi, A. Ulman, R. Popovitz-Biro, R. Tenne, and J. Sokolov, "Use of Functionalized WS_2 Nanotubes to Produce New Polystyrene/Polymethylmethacrylate Nanocomposites", Polymer **44**, 2109 (2003).

2004A H. Ade, "*NEXAFS Microscopy"* in Encylcopedia of Polymer Science and Technology, 3rd edition, J. Kroschwitz, Eds., (Wiley. 2004).

2004AB&a L Aballe, A Barinov, A Locatelli, S Heun and M Kiskinova, Tuning surface reactivity via Electron Quantum Confinement, Phys Rev Lett, **93**,196103 (2004). **HI**

2004AB&b L. Aballe, A. Barinov, A. Locatelli, S. Heun, S. Sherifi and M. Kiskinova, "Spectromicroscopy of ultrathin Pd films on W(110): interplay of morphology and electronic structure", Appl Surf Sci, **238** ,138-142 (2004)

2004AG& L Aballe, L Gregoratti, A Barinov, M Kiskinova, T Clausen, S Gangodadhyay and J Falta, "Interfacial interactions at Au/Si3N4/Si(111) and Ni/Si3N4/Si(111) structures with ultrathin nitride films", Appl Phys Lett, **84**, 5031

2004AT& R.G. Agostino, T. Caruso, G. Chiarello, R. Filosa, V. Formoso, E. Colavita, E. Barborini, C. Lenardi, P. Piseri, P. Milani, *Spatially resolved valence band study of nanostructured carbon films containing transition metal nanocrystals*, Carbon, **42** 923-927 (2004)

2004BL& J. A. Brandes, C. Lee, S. Wakeham, M. Peterson, C. Jacobsen, S. Wirick and G. Cody, "Examining marine particulate organic matter at sub-micron scales using scanning transmission X-ray microscopy and carbon X-ray absorption near edge structure spectroscopy", Marine Chemistry **92,** 107 (2004)

2004BS& A. Braun, N. Shah, F.E. Huggins, G.P. Huffman, S. Wirick, C. Jacobsen, K. Kelly and A.F. Sarofim, "A study of diesel PM with X-ray microspectroscopy", Fuel **83** 997 (2004).

2004BY& K. Benzerara, T. H. Yoon, T. Tyliszczak, B. Constantz, A. M. Spormann and G. E. Brown, S*canning Transmission X-ray Microscopy Study of Microbial Calcification*, Geobiology **2**, 249 (2004)

2004BZ& C. K. Boyce, M. A. Zwieniecki, G. D. Cody, C. Jacobsen, S. Wirick, A. H. Knoll, and N. M. Holbrook, "Evolution of xylem lignification and hydrogel transport regulation", Pro. Nat. Acad. Sci. USA **101**, 17555 (2004) **HI**

2004CA&a S.-B. Choe, Y. Acremann, A. Scholl, A. Bauer, A. Doran, J. Stöhr, H.A. Padmore, Vortex-core-driven magnetization dynamics, Science **304**, 430 (2004) **HI**

2004CA&b S.B. Choe, Y. Acremann, A. Bauer, A. Scholl, A. Doran, J. Stöhr, and H.A. Padmore, Picosecond time resolved microscopy of magnetic structures using x-peem, AIP Conference Proceedings **705,** 1391 (2004)

2004CA&c T. Caruso, R.G. Agostino, G. Bongiorno, E. Barborini, P. Piseri, P. Milani, C. Lenardi, S. La Rosa, M. Bertolo, Writing submicrometric metallic patterns by ultraviolet synchrotron irradiation of nanostructured carbon and TiOx-carbon films, Appl. Phys. Lett. **84** 3412 (2004)

2004CD& C.S. Chan, G. De Stasio, S.A. Welch, M. Girasole, B.H. Frazer, M. Nesterova, S. Fakra, and J.F. Banfield, Microbial polysaccharides template assembly of nanocrystal fibers, Science **303**, 1656-1658 (2004). **HI**

2004CV& M. Cinchetti, D. A. Valdaitsev, A. Gloskovskii, A. Oelsner, S. A. Nepijko and G. Schönhense, Photoemission time-of-flight spectromicroscopy of Ag nanoparticle films on Si(111), J. Electron Spectrosc. Relat. Phenom. **137-40**, 249-257 (2004)

2004DF& G. De Stasio, B.H. Frazer, M. Girasole, L.M. Wiese, E.K. Krasnowska, G. Greco, A. Serafino, and T. Parasassi. Imaging the cell surface: argon sputtering to expose inner cell structures. Microsc. Res. Tech. **63**, 115- 121 (2004).

2004DL&a I.J. Drake, T.C.N. Liu, M.K. Gilles, T. Tyliszczak, A.L.D. Kilcoyne, D.K. Shuh, R.A. Mathies, and A.T. Bell, *An In-situ cell for characterization of solids by soft X-ray absorption*, Rev. Sci. Inst. **75**, 3242-3247 (2004).

2004DL&b M. Dubois, , V. Lizunov, A. Meister, T. Gulik-Krzywicki, J.M. Verbavatz, E. Perez, J. Zimmerberg, and T.N. Zemb, “Shape control through molecular segregation in giant surfactant aggregates,” Proc. Natl. Acad. Sci. USA **101**(42), 15082-15087 (2004).

2004DM& De Decker, H Marbach, M Hinz, S Gunther, M Kiskinova, A.S. Mikhailov and R Imbihl, “Promoter-induced reactive phase separation in surface reactions”, Phys Rev Lett, **92**, 198305 (2004) **HI**

2004FE& O. Fruchart, M. Eleoui, J. Vogel, P.O. Jubert, A. Locatelli, and A. Ballestrazzi, *Nanometers-thick self-organized Fe stripes: bridging the gap between surfaces and magnetic materials,* Appl. Phys. Lett. **84**, 1335 (2004)

2004FG& B.H. Frazer, M. Girasole, L.M. Wiese, T. Franz and G. De Stasio, Spectromicroscope for the PHotoelectron Imaging of Nanostructures with X-rays (SPHINX): performance in biology, medicine and geology, Ultramicroscopy **99**, 87-94 (2004).

2004FK&a G.J. Flynn, L.P. Keller, C. Jacobsen, S. Wirick, "An assessment of the amount and types of organic matter contributed to the Earth by interplanetary dust", Advances in Space Research **33**, pp. 57 (2004)

2004FK&b G. Flynn, L. Keller, C. Jacobsen, and S. Wirick, "The Origin of Organic Matter in the Solar System: Evidence from the Interplanetary Dust Particles", in R.P. Norris and F.H. Stootman, eds., *Bioastronomy 2002: Life Among the Stars,* International Astronomical Union proceedings **S-213** 275 (2004)

2004FKT S. Fakra, S., A.L. Kilcoyne, and T. Tyliszczak, “Scintillator Detectors for Scanning Transmission X-ray Microscopes at the Advanced Light Source,” in *Synchrotron Radiation Instrumentation 2003: Eighth International Conference on Synchrotron Radiation Instrumentation*, T. Warwick, J. Stohr, H.A. Padmore, J. Arthur, AIP Conf Proc. **705**, 973-976 (2004)

2004FM& J. Feng, A. A. MacDowell, R. Duarte, A. Doran, E. Forest, N. Kelez, M. Marcus, D. Munson, H. Padmore, K. Petermann, S. Raoux, D. Robin, A. Scholl, R. Schlueter, P. Schmid, J. Stöhr, W. Wan, D. H. Wei and Y. Wu, An aberration corrected photoemission electron microscope at the advanced light source, AIP Conference Proceedings **705,** 1070 (2004)

2004FS& P. Fischer, H. . Stoll, A. Puzic, B. Van Waeyenberge, J.M. Raabe, T. Haug, G. Denbeaux, A.E. Lucero, R. Hollinger, C.H. Back, D. Weiss, and G. Schultz, “Imaging sub-ns spin dynamics in magnetic nanostructures with Magnetic Transmission X-ray microscopy,” AIP Conf Proc. **705** 1291-1294 (2004)

2004FW& R. Flammini, F. Wiame, R. Belkhou, A. Taleb-Ibrahimi, L. Gregoratti, A. Barinov, M. Marsi and M. Kiskinova, “Effects of annealing on the structure of the Au/Si(111)-H interface”, Surf Sci, **564**,121-130 (2004)

2004GB& L. Gregoratti, A. Barinov, E. Benfatto, G. Cautero, C. Fava, P. Lacovig, D. Lonza, M. Kiskinova, R. Tommasini and S. Mahl, 48-Channel electron detector for photoemission spectroscopy and microscopy,Rev Sci Instrum, **75,** 68-71 (2004)

2004GE& S Gunther, F Esch, L Gregoratti, A Barinov, M Kiskinova, E Taglauer and H Knozinger, Gas-phase transport during the spreading of MoO_3 on Al_2O_3 support surfaces: Photoelectron spectromicroscopic study, J Phys Chem B, **108**, 14223-14231 (2004)

2004GL Le Gros, M.A., and C.A. Larabell, “Cryo X-ray Tomography: New Tool for 3-D Imaging of Biological Specimens at better than 50 nm Resolution,” Microscopy & Microanalysis **10**(S02), 1016 (2004).

2004GJ& G. Gundiah, N.S. John, P.J. Thomas, G.U. Kulkarni, C.N.R. Rao, and S. Heun, *Dip-pen nanolithography with magnetic Fe_2O_3 nanocrystals,* Appl. Phys. Lett. **84** (2004) 5341 - 5343.

2004GS& H. Geckeis, T. Schäfer, W. Hauser, T. Rabung, T. Missana, C. Degueldre, A. Möri, J. Eikenberg, T. Fierz, and W. Alexander. "Results of the Colloid and Radionuclide Retention Experiment (CRR) at the Grimsel Test Site (GTS), Switzerland - Impact of Reaction Kinetics and Speciation on Radionuclide Migration." Radiochimica Acta **92**, 765-774 (2004)

2004HK& Hütten, A., S. Kämmerer, J. Schmalhorst, A. Thomas, and G. Reiss, “The current potential of Co2MnSi Heusler alloy electrodes in magnetic tunnel junctions,” Physica Status Solidi A: Applied Research **201**(15), 3271-3279 (2004)

2004HRH Holmberg, S. Rehbein, and H.M. Hertz, *"Nano-fabrication of condenser and micro zone plates for compact x-ray microscopy"*, Microel. Engin., **73-74**, 639 (2004)

2004IW& J Ivanco, B Winter, F P Netzer, M G Ramsey, L Gregoratti and M Kiskinova, *Oxygen as a surfactant for Al contact metallization of organic layers*, Appl Phys Lett, **85,**585-587 (2004)

2004JK& G.A.Johannson, S.M. Khanna, P. Mannstrom, G. Denbeaux, and M. Ulfendahl, “Exploring the use of soft X-ray microscopy for imaging subcellular structures of the inner ear,” J. Microscopy **215**(2), 203 (2004).

2004KB& K. Kaznacheyev, I. Blomqvist, E. Hallin, S. Urquhart, D. Loken, T. Tylisczak, T. Warwick and A.P. Hitchcock, *Principles of optical design of the SM beamline at the CLS*, AIP Conf. Proc. **705**, 1303-1307 (2004)

2004KH& C. Kamezawa, M. Hirai, M. Iwami and J. Labis, *Surface analyses of Zr (film)/4H-SiC (substrate) by synchrotron radiation Induced-PEEM*, Appl. Surf. Sci., **237**, 611-615(2004)

2004KM& L. P. Keller, S. Messenger, G. J. Flynn, S. Clemett, S. Wirick, and C. Jacobsen, *The nature of molecular cloud material in interplanetary dust*, Geochimica et Cosmochimica Acta **68** 2571 (2004)

2004KT A.L. Kilcoyne and T. Tyliszczak, *Fast Soft X-ray Beam Shutter,*AIP Conf Proc. **705**, 605-607 (2004)

2004KV&a M. Kläui, C.A.F. Vaz, W. Wernsdorfer, E. Bauer, S. Cherifi, S. Heun, A. Locatelli et. Al, *Domain wall behaviour at constrictions in ferromagnetic ring structure,* Physica B **343**, 343-349 (2004).

2004KV&b M. Kläui, C.A.F. Vaz, J.A.C. Bland, L.J. Heyderman, F. Nolting, A. Pavlovska, E. Bauer, S. Cherifi, S. Heun, and A. Locatelli, *Head-to-head domain-wall phase diagram in mesoscopic ring magnets,* Appl. Phys. Lett. **85**, 5637 (2004).

2004KV&c M. Kläui, C.A.F. Vaz, T.L. Monchesky, J. Unguris, E. Bauer, S. Cherifi, S. Heun, et. Al, *Spin configurations and classification of switching processes in ferromagnetic rings down to sub-100nm dimensions***,** J. Magn. Magn. Mat. **272-276**, 1631-1636 (2004).

2004LN& L. Aballe, A. Barinov, A. Locatelli, S. Heun, and M. Kiskinova, *Tuning Surface Reactivity via Electron Quantum Confinement,* Phys. Rev. Lett. **93**, 196103 (2004). **(HI)**

2004LH& Lawrence, J.R., A.P. Hitchcock, G.G. Leppard, and T.R. Neu, "Mapping biopolymer distributions in microbial communities," in *Flocculation in natural and engineered environmental processes*, I.G. Droppo, G.G. Leppard, and T.M. Milligan and S.N. Liss, (CRC Press, Boca Raton, 2004), pp.121-141

2004LHK A Locatelli, S Heun and M Kiskinova, *Direct observation of reaction-induced lateral distribution of submonolayers of Au deposited on a Rh(110) surface*, Surf Sci, **566**,1130-1136 (2004)

2004LJ& M. Lerotic, C. Jacobsen, T. Schäfer, and S. Vogt, *Cluster analysis of soft x-ray spectromicroscopy dat*a, Ultramicroscopy **100**, 35 (2004)

2004LLa C.A. Larabell and M.A. Le Gros *X-ray tomography generates 3-D reconstructions of the yeast, Saccharomyces cerevisiae, at 60-nm resolution.* Molecular Biology of the Cell. **15** 957-962 2004

2004LLb C.A. Larabell and M.A. Le Gros, "Cryo X-ray Tomography of Whole Cells at 50 nm Resolution," Microscopy and Microanalysis **10**, 1180-1181 (2004).

2004M C. Morin, *Soft X-Ray Spectromicroscopy of Proteins on Patterned Polymer Films*, McMaster, Chemistry PhD thesis (Dec 2004)

2004ME& Meier, G., R. Eiselt, M.A. Bolte, M. Barthelmes, T.E. Eimueller, and P. Fischer, "Comparative study of magnetization reversal in isolated and strayfield coupled microcontacts," Applied Physics Letters **85**(7), 1193-1195 (2004).

2004MG& H Marbach, S Gunther, T Neubrand, R Hoyer, L Gregoratti, M Kiskinova and R. Imbihl, *Photoelectron spectromicroscopy of potassium redistribution in the 0-2+H-2 reaction on Rh(110)*, J Chem Phys, **108**, 15182-15191 (2004)

2004MH& C. Morin, A. P. Hitchcock, R. M. Cornelius, J. L. Brash, S. G. Urquhart, A. Scholl, and A. Doran, "Selective adsorption of protein on polymer surfaces studied by soft X-ray photoemission electron microscopy", J. Electron Spectrosc. Relat. Phenom. **137-40**, 785 (2004).

2004MR& S.F. Maria, L.M. Russell, M.K. Gilles, and S.C.B. Myneni, *Organic Aerosol Growth Mechanisms and Their Climate-Forcing Implications*, Science **306**, 1921-1924 (2004). **(HI)**

2004NB& M.A. Nicholls, G. M. Bancroft, P.R. Norton,, M. Kasrai, G. De Stasio, B.H. Frazer and L.M. Wiese. Chemomechanical properties of antiwear films using X-ray absorption microscopy and nanoindentation techniques. Tribology Letters **17**, 245-259 (2004).

2004NK& M.N. Najman, M. Kasrai, G. M. Bancroft, B.H. Frazer and G. De Stasio. The correlation of microchemical properties to antiwear (AW) performance in ashless thiophosphate oil additives. Tribology Letters, **17**, 811-822 (2004).

2004NN& M.A. Nicholls, P.R. Norton, G.M. Bancroft, M. Kasrai, T. Do, B.H. Frazer and G. De Stasio, Nanometer scale chemomechanical characterization of antiwear films. Tribology Letters **17**, 205-216 (2004).

2004OH& D. Olynick, B.D. Harteneck, E. Veklerov, M.P. Tendulkar, J.A. Liddle, A.L. Kilcoyne, and T. Tyliszczak, "25 nm Mechanically Buttressed High Aspect Ratio Zone Plates: Fabrication and Performance," Journal of Vacuum Science and Technology B: Microelect. & Nanometer Structures **22**(6), 3186-3190 (2004)

2004OK& A. Oeslsner, A. Krasyuk, G.H.Fecher, C.m. Schneider and G. Schönhense, Image enhancement in photoemission electron microscopy by imaging time-of-flight analysis, J. El. Spec.**137-140**, 751-756, (2004)

2004OO& T.W. Olson, J.M.W. Olson, A. Scholl, and Y. Suzuki, "Magnetic domain structure of colossal magnetoresistance thin films and islands," *J. Appl. Phys.* **95** 7354-7356 (2004).

2004PR& M. Plaschke, J. Rothe, M. Denecke and T. Fanghänel, *Soft x-ray spectromicroscopy of humic acid europium(III) complexation by comparision to model substances*, J. Electron Spectrosc. Relat. Phenom. **135** 53 (2004)

2004PRD M. Plaschke, J. Rothe, and M. A. Denecke, "Characterization of Gorleben groundwater colloids by scanning transmission X-ray microscopy", Progress in Colloid and Polymer Science **126**, 130 (2004)

2004RH& S. Rehbein, A. Holmberg, G.A. Johansson, P.A.C. Jansson, and H.M. Hertz, *"Fabrication and characterization of condenser zone plates for compact x-ray microscopy"*, JVST B, **22**, 1118 (2004)

2004RPD J. Rothe, M. Plaschke, and M. A. Denecke, "Scanning transmission x-ray microscopy as a speciation tool for natural organic molecules," Radiochimica Acta **92**, 711 (2004)

2004RR& F. Ratto, F. Rosei, A. Locatelli, S. Cherifi, S. Fontana, S. Heun, P.-D. Szkutnik, A. Sgarlata, M. De Crescenzi, and N. Motta, *Composition of Ge(Si) islands in the growth of Ge on Si(111),* Appl. Phys. Lett. **84**, 4526 (2004)

2004SJ& Y. Sato, T.F. Johnson, S. Chiang, J.A. Giacomo, X.D. Zhu, D.P. Land, F. Nolting, and A. Scholl, "Magnetic Domain Structures in Ultrathin Fe(x)Ni(1-x) Films on Cu(111): Dependence on Film Thickness and Stoichiometry," J. Vac. Sci Tech A **22** 135-139 (2004)

2004SL&a A. Scholl, M. Liberati, E. Arenholz, H. Ohldag, and J. Stöhr, Creation of an antiferromagnetic exchange spring, Phys. Rev. Lett. **92**, 247201 (2004) **(HI)**

2004SL&b F. Schedin, L. Leung, C.A. Muryn, E.W. Hill, A. Scholl, and G. Thornton, "Photoemission electron microscopy and atomic force microscopy of epitaxial iron oxide films on alpha-Al2O3(0001," *J. Appl. Phys.* **95**(11(Pt.2)), 7450-7452 (2004)

2004SN A. Scholl, F. Nolting, J. W. Seo, H. Ohldag, J. Stöhr, S. Raoux, J.-P. Locquet and J. Fompeyrine, Domain-size-dependent exchange bias in Co/$LaFeO_3$, Appl. Phys. Lett. **85**, 4085 (2004)

2004SP& H. Stoll, A. Puzic, B. Van Waeyenberge, P. Fischer, J.M. Raabe, M. Buess, T. Haug, R. Hollinger, C. Back, D. Weiss, and G. Denbeaux, "High-resolution imaging of fast magnetization dynamics in magnetic nanostructures," Applied Physics Letters **84**(17), 3328-3330 (2004).

2004ST& D.D. Sarma, D. Topwal, U. Manju, S.R. Krishnakumar, M. Bertolo, S. La Rosa, G. Cautero, T.Y. Koo, P.A. Sharma, A. Fujimori, Direct Observation of Large Electronic Domains with Memory Effect in Doped Manganites, Phys. Rev. Lett. **93** 097202 (2004) **(HI)**

2004SW&a S Suzuki, Y Watanabe, T Ogino, Y Homma, D Takagi, S Heun, L Gregoratti, A Barinov and M Kiskinova, "Observation of single-walled carbon nanotubes by photoemission microscopy", Carbon, **42**, 559-563 (2004)

2004SW&b S. Suzuki, Y. Watanabe, Y. Homma, S.-Y. Fukuba, S. Heun, and A. Locatelli, *Work functions of individual single-walled carbon nanotubes,* Appl. Phys. Lett. **85**, 127 (2004).

2004SZ& S. Sun,, H. Zeng, D.B. Robinson, P.M. Rice, S.X. Wang, and G. Li, "Monodisperse MFe_2O_4 (M=Fe, Co, Mn) Nanoparticles," *Journal of the American Chemical Society* **126** 273-279 (2004)

2004TW& T. Tyliszczak, T. Warwick, A. L. D. Kilcoyne, S. Fakra, D. K. Shuh, T. H. Yoon, G. E. Brown, Jr., S. Andrews, V. Chembrolu, J. Strachan, and Y. Acremann, "*Soft X-ray Scanning Transmission Microscope Working in an Extended Energy Range at the Advanced Light Source*", Synchrotron Radiation Instrumentation 2003, AIP Conference Proceedings 705, 1356-1359 (2004).

2004U Usov, D.G., "*Switching of Surface Composition and Morphology of Binary Polymer Brushes,*" doctoral dissertation, Technische Universitaet Dresden, Dresden, Germany, 2004, advisor Prof. Manfred Stamm.

2004W D.A. Winesett, "*STXM of elastomers and polyolefins*", Microsc. & Microanal., **10** (S2) 172-173 (2004)

2004WD& T Weitkamp, O Dhez, B Kaulich, C David, *Tantalum zone plates for scanning x-ray microscopy between 0.5 and 2.5 keV, Design and Microfabrication of Novel X-Ray Optics* II Proc. SPIE **5539** 90-98 (2004)

2004WG& Wang, Y., S. Ge, J. Sokolov, Y. Zou, H.W. Ade, J.M. Lüning, A. Lustiger, and G. Maron, "*Crystallization in the Thin and Ultrathin Films of Poly(ethylene-vinyl acetate) and Linear Low Density Polyethylene*," Macromolecules **37**(9), 3319-3327 (2004).

2004WK& T Weitkamp, B Kaulich, O Dhez, C David, *First tantalum zone plates for the TWINMIC x-ray microscopy project*, Microelectronic Engineering **73-74** 651-656 (2004)

2004WW&a C. Won, Y.Z. Wu, H.W. Zhao, A. Scholl, A. Doran, and Z.Q. Qiu, "Effect of the interlayer coupling on the Ni spin reorientation in Ni/Fe/Co/Cu(100)," *Physical Review B: Condensed Matter and Materials Physics* **68**, 052404-052707 (2003).

2004WW&b Y.Z. Wu, C. Won, A. Scholl, A. Doran, H. W. Zhao, X. F. Jin, and Z. Q. Qiu, "Magnetic Stripe Domains in Coupled Magnetic Sandwiches," *Physical Review Letters* **93**, 117205 (September 2004)

2004YJ& Yoon, T.H., S.B. Johnson, K. Benzerara, C.S. Doyle, T. Tyliszczak, D.K. Shuh, and G.E. Brown, *In Situ characterization of Aluminum-Containing Mineral-Microorganism Aqueous Suspensions Using Scanning Transmission X-ray Microscopy*, Langmuir **20,** 10361 (2004).

2004ZO& M. Zharnikov, Y. Ouchi, M. Hasegawa, and A. Scholl, "X-ray Absorption Spectromicroscopy Study of UV-Photoinduced Surface Modification and Anisotropy in Polyimide Films," Journal of Physical Chemistry B **108**, 859-863 (2004)

2004ZW& H.W. Zhao, C. Won, Y. Z. Wu, A. Scholl, A. Doran, and Z. Q. Qiu, "Magnetic phase transition and spin-reorientation transition of Cu/Ni/Fe/Cu(001) studied by photoemission electron microscopy," Physical Review B **70**, 024423-024429 (2004)

2005AH& T. Araki, A. P. Hitchcock, F. Shen, P. L. Chang, M. Wang, and R. F. Childs, "Quantitative chemical mapping of sodium acrylate- and N-vinylpyrrolidone-enhanced alginate microcapsules", J. Biomaterials Science-Polymer Edition **16**, 611 (2005)

2005AMS J. Adam, J. Moy and J. Susini *Table-top water window transmission x-ray microscopy: Review of the key issues, and conceptual design of an instrument for biology*.Rev. Sci. Instrum. **76**, 091301 (2005).

2005BC& S Botti, R Ciardi, F Fabbri, R Larciprete, A Goldoni, L Gregoratti, B Kaulich and M Kiskinova, "Electron microscopy and photoelectron spectromicroscopy study of catalyst-free transformation of carbon nanoparticles into nanotubes", J Appl Phys **98**, 084307 (2005)

2005BE& M.A.Bolte, R. Eiselt, T.E. Eimueller, P. Fischer, and G. Meier, "Micromagnetic simulation as a bridge between magnetic-force and magnetic-transmission X-ray microscopy," J. Magn. Magn. Mater. **290-291**(part 1), 723-726 (2005).

2005BG& Buchanan, K., K.Y. Guslienko, S.-B. Choe, A. Doran, A. Scholl, S.D. Bader, and V. Novosad, "Magnetization reversal in patterned double-vortex structures," J. Appl. Phys. **97**, 10H503-1-3 (2005)

2005BH& A. Braun, F.E. Huggins, N. Shah, Y. Chen, S. Wirick, S.B. Mun, C. Jacobsen and G.P. Huffman, "Advantages of soft X-ray absorption over TEM-EELS for solid carbon studies - a comparative study on diesel soot with EELS and NEXAFS", Carbo*n* **43**, 117 (2005)

2005BH&b G. Biasiol, S. Heun, G. B. Golinelli, A. Locatelli, T.O. Menteş, F.Z. Guo, C. Hofer, C. Teichert, and L. Sorba, *Surface compositional gradients of InAs/GaAs quantum dots,* Appl. Phys. Lett. **87**, 223106 (2005).

2005BK& Blomqvist, P.G., K.M. Krishnan, and H. Ohldag, "Direct imaging of asymmetric magnetization reversal in exchange-biased Fe/MnPd bilayers by X-ray photoemission electron microscopy," Physical Review Letters **94**(10), 107203 (2005) **HI**

2005BN& R Blume, H Niehus, H Conrad, A Bottcher, L Aballe, L Gregoratti, A Barinov and M. Kiskinova, "Identification of Subsurface Oxygen Species Created during Oxidation of Ru(0001)", J Phys Chem B, **109**, 14052-14058 (2005)

2005BR& A Bauer, T Rabung, F Claret, T Schäfer, G Buckau, T Fanghänel. Influence of Temperature on Sorption of Europium onto Smectite: The Role of Organic Contaminants. Appl. Clay Sci.. **30**, 1 (2005)

2005BS& A Braun, N Shah, F Huggins, K Kelly, A Sarofim, C Jacobsen, S Wirick, H Francis, J Havsky, et al.. X-ray Scattering and Spectroscopy Studies on Diesel Soot from Oxygenated Fuel Under Various Engine Load Conditions. Carbon. **43**, 2588 (2005)

2005BT& A. Bauer, T. Rabung, F. Claret, T. Schäfer, G. Buckau, and T. Fanghänel, "Influence of temperature on sorption of europium onto smectite: the role of organic contaminants," Applied Clay Science **30**, 1 (2005).

2005BY&a Benzerara, K., T.H. Yoon, N. Menguy, T. Tyliszczak, and G.E. Brown, *Nanoscale Environments Associated with Bioweathering of a Meteoritic Mg-Fe Pyroxene*, Proc. Natl. Acad. Sci. USA **102**, 979-982 (2005). **(HI)**

2005BY&b Buchanan, K., K.Yu. Guslienko, A. Doran, A. Scholl, S.D. Bader, and V. Novosad, "*Magnetic remanent states and magnetizationion reversal in patterned trilayer nanodots,*" Physical Review B **72**, 134415-1-8 (2005).

2005CH&a W. L. Chao, B. D. Harteneck, J. A. Liddle, E. H. Anderson, and D. T. Attwood, "Soft X-ray microscopy at a spatial resolution better than 15nm", Nature **435**, 1210-1213 (2005) **(HI)**

2005CH&b S. Cherifi, R. Hertel, J. Kirschner, H. Wang, R. Belkhou, A. Locatelli, S. Heun, A. Pavlovska, and E. Bauer, *Virgin domain structures in mesoscopic Co patterns: Comparison between simulation and experiment,* J. Appl. Phys. **98**, 043901 (2005).

2005CS&a L. M. Croll, H. D. H. Stover, and A. P. Hitchcock, "Composite tectocapsules containing porous polymer microspheres as release gates", Macromolecules **38**, 2903 (2005)

2005CS&b F. Claret, T. Schäfer, T. Rabung, M. Wolf, A. Bauer, and G. Buckau, "Differences in properties and Cm(III) complexation behavior of isolated humic and fulvic acid derived from Opalinus clay and Callovo-Oxfordian argillite," Applied Geochemistry **20**, 1158 (2005)

2005DB& P Dudin, A Barinov, L Gregoratti, M Kiskinova, F Esch, C Dri, C Africh and G Comelli, "Initial oxidation of a Rh(110) surface using atomic or molecular oxygen and reduction of the surface oxide by hydrogen", J Phys Chem B, **109** ,13649-13654 (2005)

2005DC& E Di Fabrizio, D Cojoc, S Cabrini, M Altissimo, B Kaulich, T Wilhein, J Susini, O Dhez, *Phase and intensity control through diffractive optical elements in X-ray microscopy*, J. El. Spec. Rel. Phen. **144-147** 957-962 (2005)

2005DH& L. Däweritz, C. Herrmann, J. Mohanty, T. Hesjedal, and K. H. Ploog; E. Bauer, A. Locatelli, S. Cherifi, R. Belkhou, A. Pavlovska, S. Heun, *Tailoring of the structural and magnetic properties of MnAs films grown on GaAs - Strain and annealing effect,* J. Vac. Sci. Technol. B **23**, 1759 (2005).

2005DRC G. De Stasio, D. Rajesh, P. Casalbore, M.J. Daniels, R.J. Erhardt, B.H. Frazer, L.M. Wiese, K.L. Richter, B.R. Sonderegger, B. Gilbert, S. Schaub, R.J. Cannara, J.F. Crawford, M.K. Gilles, T. Tyliszczak, J.F. Fowler, L. M. Larocca, S.P. Howard, D. Mercanti, M..P. Mehta, and R. Pallini, Are Gadolinium Contrast Agents Suitable for Gadolinium Neutron Capture Therapy? Neurological Research **27**, 387 (2005).

2005DSG G. De Stasio, M.A. Schmitt, S.H. Gellman, Spectromicroscopy at the Organic-Inorganic Interface in Biominerals, in Quantitative approaches towards biogeochemistry: processes, scaling and interfaces, Am. J. Science **305**, 673-686 (2005).

2005EL& D. Ercolani, M. Lazzarino, G. Mori, B. Ressel, L. Sorba, A. Locatelli, S. Cherifi, A. Ballestrazzi, S. Heun, *GaAs oxide desorption under extreme ultraviolet photon flux,* Adv. Funct. Mater. **15**, 587-592 (2005)

2005FA& S. Fujii, S. P. Armes, T. Araki, and H. Ade, "Direct Imaging and Spectroscopic Characterization of Stimulus-Responsive Microgels", J. Am. Chem. Soc. **127**, 16808 (2005)

2005FF& J. Feng, E. Forest, A. A. MacDowell, M. Marcus, H. Padmore, S. Raoux, D. Robin, A. Scholl, R. Schlueter, P. Schmid, J. Stöhr, W. Wan, D. H. Wei and Y. Wu, *An x-ray photoemission electron microscope using an electron mirror aberration corrector for the study of complex materials*, J. Phys.: Condens. Matter **17,** S1339-S1350 (2005)

2005FI& P. Fischer, M. Im, T. Eimuller, G. Schutz, and S.C. Shin, "Magnetization reversal behaviour of nanogranular CoCrPt alloy thin films studied with magnetic transmission X-ray microscopy," J. Magn. Magn. Mater. **286**, 311-314 (2005).

2005FU J. Fu and S.G. Urquhart, "*Linear Dichroism in the X-ray Absorption Spectra of Linear n-Alkanes,*" Journal of Physical Chemistry A **109**(51), 11724-11732 (2005).

2005GFA P.U.P.A. Gilbert, B.H. Frazer and M. Abrecht. The organic-mineral interface in biominerals. Reviews in Mineralogy and Geochemistry. In: Molecular Geomicrobiology. (JF Banfield, KH Nealson, J. Cervini-Silva, eds) **59**, 157-185 (2005).

2005GML M.A. Le Gros G. McDermott and C.A. Larabell *X-ray tomography of whole cells.* Current Opinion in Structural Biology. **15** 593-600 (2005)

2005GS& D. Guay, J. Stewart-Ornstein, X. R. Zhang, and A. P. Hitchcock, "*In situ spatial and time-resolved studies of electrochemical reactions by scanning transmission X-ray microscop*y", Analytical Chemistry **77**, 3479 (2005)

2005GT& JK. Grepstad, Y. Takamura, A. Scholl, I. Hole, Y. Suzuki, and T. Tybell, "Effects of thermal annealing in oxygen on the antiferromagnetic order and domain structure of epitaxial LaFeO(3) thin films,*"* Thin Solid Films **486**, 108-112 (2005).

2005HF& R. Hertel, O. Fruchart, S. Cherifi, P.-O. Jubert, S. Heun, A. Locatelli, and J. Kirschner, *Three-dimensional magnetic-flux-closure patterns in mesoscopic Fe islands,* Phys. Rev. B **72**, 214409 (2005)

2005HLZ U. Lev, S. Heun, A. Locatelli and E. Zolotoyabko, *Imaging of ferroelectric thin films by X-ray photoemission electron microscopy (XPEEM),* Ultramicroscopy **104**, 169-175 (2005).

2005HK&a S.E. Harton, T. Koga, F.A. Stevie, T. Araki, and H.W. Ade, "*Investigation of blend miscibility of a ternary PS/PCHMA/PMMA system using SIMS and mean-field theory*," Macromolecules **38**(25), 10511-10515 (2005)

2005HK&b S. Heun, S. Kremmer, D. Ercolani, H. Wurmbauer, and C. Teichert, *Behavior of SiO_2 nanostructures under intense extreme ultraviolet illumination,* J. Appl. Phys. **97**, 104333 (2005)

2005HM& Hitchcock, A.P., C. Morin, X. Zhang, T. Araki, J.J. Dynes, H. Stover, J. Brash, J.R. Lawrence, and G.G. Leppard, "Soft X-ray Spectromicroscopy of Biological and Synthetic Polymer Systems," *Journal of Electron Spectroscopy and Related Phenomena* **144-147**(SI), 259-269 (2005).

2005HS& A. P. Hitchcock, H. D. H. Stover, L. M. Croll, and R. F. Childs, "Chemical mapping of polymer microstructure using soft X-ray spectromicroscopy", Australian Journal of Chemistry **58**, 423 (2005)

2005JM& M.C.G. Juenger, P.J.M. Monteiro, E.M. Gartner, G.P. Denbeau, *A soft X-ray microscope investigation into the effects of calcium chloride on tricalcium silicate hydration.* Cement and Concrete Research, **35** 19-25 (2005).

2005KK& B.S. Kang, D.-H. Kim, E. Anderson, P. Fischer, and G. Cho, "Polarization-modulated magnetic soft-x-ray transmission microscopy," J. Appl. Phys. **98**(9), 093907 (2005).

2005KK& D.H. Kim, B. Kang, W. Chao, P. Fischer, E. Anderson, S.B. Choe, M. Im, and S.C. Shin, "Direct spatial-temporal Observation of Barkhausen Avalanche in Low Dimensional Ferromagnetic System," in Proceedings of SPIE-Proc. **5843** 40-51 (2005).

2005KS R. Kretzschmar and T. Schäfer, "Metal retention and transport on colloidal particles in the environment," Elements **1**, 205-210 (2005).

2005LB& A Locatelli, A Barinov, L Gregoratti, L Aballe, S Heun and M Kiskinova, "Spectroscopic identification and imaging of surface processes occurring at microscopic and mesoscopic scales", J Electron Spectrosc Rel. Phen. 144, 361-366 (2005)

2005LJ& M. Lerotic, C. Jacobsen, J. B. Gillow, A. J. Francis, S. Wirick, S. Vogt, and J. Maser, *Cluster analysis in soft X-ray spectromicroscopy: Finding the patterns in complex specimens*, J. El. Spec. Rel. Phen. **144**, 1137 (2005)

2005LL& J. Lehmann, B. Liang, D. Solomon, M. Lerotic, F. Luizão, J. Kinyangi, T. Schäfer, S. Wirick, and C. Jacobsen, "Near-edge X-ray absorption fine structure (NEXAFS) spectroscopy for mapping nanoscale distribution of organic carbon forms in soil: application to black carbon particles", Global Biogeochemical Cycles **19**, 1013 (2005).

2005LS& A Locatelli, C Sbraccia, S Heun, S Baroni and M Kiskinova, "Energetically driven reorganization of a modified catalytic surface under reaction conditions", J Am Chem Soc, **127**, 2351-2358 (2005)

2005MB& Melpignano, A Baron-Toaldo, V Biondo, S Priante, R Zamboni, M Murgia, S Caria, L Gregoratti, A Barinov and M Kiskinova, "Mechanism of dark-spot degradation of organic light-emitting devices", Appl Phys Lett, **86**, 041105 (2005)

2005MF& A.M. Mulders, A. Fraile Rodriguez, and D. Arvanitis, C. Hofer and C. Teichert, M.Á. Niño, J. Camarero, J.J. de Miguel, R. Miranda, K. Lyutovich, E. Kasper, S. Heun and A. Locatelli, *Imaging of magnetic nanodots on self-organized semiconductor substrates,* Phys. Rev. B **71**, 214422 (2005).

2005ML&a D.G. Mancosky, L.A. Lucia, H. Nanko, S. Wirick, A.W. Rudie and R. Braun, "Novel visualization studies of lignocellulosic oxidation chemistry by application of C-near edge X-ray absorption fine structure spectroscopy", Cellulose **12**, 35 (2005).

2005ML&b G**.** Mori, M. Lazzarino, D. Ercolani, G. Biasiol, L. Sorba, S. Heun, and A. Locatelli, *Evidence of material mixing during local anodic oxidation nanolithography, J*. Appl. Phys. **98**, 114303 (2005).

2005ML&c G. Mori, M. Lazzarino, D. Ercolani, L. Sorba, S. Heun, and A. Locatelli, *Desorption dynamics of oxide nanostructures fabricated by local anodic oxidation nanolithography,* J. Appl. Phys. **97**, 114324 (2005).

2005MP& L. Muntean, R. Planques, A.L.D. Kilcoyne, S.R. Leone, M.K. Gilles, and W.D. Hinsberg, *Chemical mapping of polymer photoresists by scanning transmission x-ray microscopy*, J.V.S.T. B **23**, 1630-1636 (2005).

2005NB& M.A. Nicholls, G. M. Bancroft, M. Kasrai, P.R. Norton, B.H. Frazer, G. De Stasio. *Improvement of PEEM images from thick inhomogeneous antiwear films using a thin Pt coating*. Tribology Letters **18**, 453-462 (2005).

2005NN& M.A. Nicholls, P.R. Norton, G. M. Bancroft, M. Kasrai, G. De Stasio, L.M. Wiese. *Spatially resolved nanoscale chemical and mechanical characterization of ZDDP antiwear films on aluminum-silicon alloys under cylinder/bore wear conditions*. Trib. Letts **18**, 261 (2005).

2005NT& H.J. Nilsson, T. Tyliszczak, RE Wilson, L Werme and D.K. Shuh, *Soft X-ray scanning transmission X-ray microscopy (STXM) of actinide particles***.** Anal Bioanal Chem. **383,** 41-7 (2005).

2005OK& A. Oelsner, A. Krasyuk, S. Nepijko, C.M. Schneider and G. Schönhense, S*patially resolved observation of dynamics in electrical and magnetic field distributions by means of a delayline detector and PEEM*, J. El. Spec. **144-147**, 771-776 (2005)

2005PL& G. Pereira, A. Lachenwitzer, M.A. Nicholls, M. Kasrai, P.R. Norton, G. De Stasio. Chemical characterization and nanomechanical properties of antiwear films fabricated from ZDDP on a near hypereutectic Al-Si alloy. Tribology Letters **18**, 411 (2005).

2005PM& AW Potts, GR Morrison, A Barinov, L Gregoratti and M Kiskinova, *Photoemission microscopy study of the temperature evolution of a Pd film deposited on a polycrystalline Ni substrate*, Phys Rev B, **72**,193403 (2005)

2005PR& M Plaschke, J Rothe, M Altmaier, M Denecke, T Fanghaenel. Near Edge X-ray Absorption Fine Structure (NEXAFS) of model compounds for the humic acid / actinide ion interaction. J. Electron. Spectrosc. Relat. Phenom.. **148**, 151 (2005)

2005PS& Puzic, A., H. Stoll, P. Fischer, B. Van Waeyenberge, J.M. Raabe, G. Denbeaux, T. Haug, D. Weiss, and G. Schutz, "Implementing Subns time resolution into magnetic Xray microscopies," Physica Scripta **T115**(Special Is), 1029 (2005).

2005PW& A. Puzic, B. Van Wayenberge, K.W. Chou, P. Fischer, H. Stoll, G. Schutz, T. Tyliszczak, K. Rott, H. Bruckl, G. Reiss, I. Neudecker, T. Haug, M. Buess, and C.H. Back, *Spatially resolved ferromagnetic resonance: Imaging of ferromagnetic eigenmodes,* J. Appl. Phys. **97**(10), 10E704-10E706 (2005).

2005RR& F. Ratto, F. Rosei, A. Locatelli, S. Cherifi, S. Fontana, S. Heun, P.-D. Szkutnik, A. Sgarlata, M. De Crescenzi, and N. Motta, *Composition of Ge(Si) islands in the growth of Ge on Si(111) by x-ray spectromicroscopy,* J. Appl. Phys. **97**, 043516 (2005).

2005SB& T. Schäfer, G. Buckau, R. Artinger, J.I. Kim, S. Geyer, M. Wolf, W.F. Bleam, S. Wirick and C. Jacobsen*, Origin and mobility of fulvic acids in the Gorleben aquifer system: implications from isotopic data and carbon/sulfur XANES*, Organic Geochemistry **36**, 567 (2005).

2005SC& A.P.J. Stampfl, C.-H. Chen, S.-C. Wang, M.-L. Huang and R. Klauser, A scanning photoemission microprobe study of the adsorption of cysteine on Pt{111} J. El. Spec. **144-147**, 417-420 (2005)

2005SC&a M. Schumacher, I. Christl, A. C. Scheinost, C. Jacobsen, and R. Kretzschmar, "Chemical heterogeneity of organic soil colloids investigated by scanning transmission X-ray microscopy and C-1s NEXAFS microspectroscopy", Env. Sci. Tech. **39**, 9094 (2005)

2005SC&b T Schäfer, F Claret, M Lerotic, G Buckau, T Rabung, A Bauer, C Jacobsen. Source Identification and Characterization of Humic and Fulvic Acids Isolated from Oxfordian Argillite and Opalinus Clay. Humic Substances: Molecular Details and Applications in Land and Water Conservation, (Taylor and Francis, Inc., New York) 43 (2005)

2005SG Th. Schmidt and S. Gangopadhyay and J. Flege and T. Clausen and A. Locatelli and S. Heun and J. Falta, *Self-organized 2D nanopatterns after low-coverage Ga adsorption on Si(111),* New J. Phys., **7**, 193, 2005.

2005SF& Schmid, P., J. Feng, H.A. Padmore, D. Robin, H. Rose, R. Schlueter, W. Wan, E. Forest, and Y. Wu, "*Correction and alignment strategies for the beam separator of the photoemission electron microscope PEEM3*," Review of Scientific Instruments 76(2), 023302 (2005)

2005SK& C.M. Schneider, A. Kuksov, A. Krasyuk, A. Oelsner, S.A. Nepijko and G. Schönhense, Time-resolved X-ray photoemission electron microscopy: imaging magnetodynamics on the 100 ps scale and below, J. El. Spec. **144-147**, 967-971 (2005)

2005SL& D. Solomon, J. Lehmann, J. Kinyangi, B. Liang and T. Schäfer, "Carbon K-Edge NEXAFS and FTIR-ATR Spectroscopic Investigation of Organic Carbon Speciation in Soils", Soil Science Society of America Journal **69**, 107 (2005).

2005SMa Silva, D.A. and P.J.M. Monteiro, *Analysis of C(3)A hydration using soft X-rays transmission microscopy: Effect of EVA copolymer.* Cement and Concrete Research,**35,** 2026-2032 (2005).

2005SMb Silva, D.A., and P.J.M. Monteiro, "Hydration evolution of C(3)A, EVA composites analyzed by soft X-ray microscopy," Cement Concrete Res. **35**(2), 351-357 (2005).

2005SMc Silva, D.A., and P.J.M. Monteiro, "ESEM analysis of polymeric film in EVA-modified cement paste," Cement Concrete Res. **35**(10), 2047-2050 (2005).

2005SO& A. Scholl,, H. Ohldag, F. Nolting, S. Anders, and J. Stoehr, "Magnetic Structures and Coupling at Ferromagnet-Antiferromagnet Interfaces: Studies with Polarization Dependent PEEM," in *Magnetic Microscopies of Nanostructures*, H. Hopster and H. P. Oepen, (Springer Berlin, 2005).

2005SR&a G. Schneider, S. Rudolph, A.M. Meyer, E. Zschech, P. Guttmann*:, X-ray microscopy: A powerful tool for electromigration studies in modern ICs*, Future Fab International **19** 115-117 (2005)

2005SR&b G. De Stasio, , D. Rajesh, P. Casalbore, M.J. Daniels, R.J. Erhardt, B.H. Frazer, L.M. Wiese, K.L. Richter, B.R. Sonderegger, B. Gilbert, S. Schuab, R.J. Cannara, J.F. Crawford, M.K. Gilles, T. Tyliszczak, et al ., *Are Gadolinium Contrast Agents Suitable for Gadolinium Neutron Capture Therapy?*, Neurological Research **27**, 387-398 (2005).

2005SS& G. De Stasio, M.A. Schmitt, S.H. Gellman, “Spectromicroscopy at the organic-inorganic interface in biominerals”, Am. J. Sci. **305**, 673-686 (2005)

2005SW& S. Suzuki, Y. Watanabe, Y. Homma, S.-Y. Fukuba, A. Locatelli, S. Heun, *Photoemission electron microscopy of individual single-walled carbon nanotubes,* J. Electr. Spectr. Relat. Phenom. **144-147**, 357-360 (2005)

2005TF& B.Toner, S. Fakra, M. Villalobos, T. Warwick, and Garrison Sposito, *Spatially Resolved Characterization of Biogenic Manganese Oxide Production within a Bacterial Biofilm*, App. Env. Microbiology, **71**, 1300-1310 (2005)

2005TK& D. Tulumello, I. Koprinarov, A.P. Hitchcock, E.G. Rightor, G.E. Mitchell, S. Rozeveld, G.F. Meyers, and T.M. Stokich, “Inner-Shell Excitation Spectroscopy and X-ray Photoemission Electron Microscopy of Adhesion Promoters,” J. Physical Chemistry B **109**, 6343-6354 (2005).

2005TO& R. Takekoh, M. Okubo, T. Araki, H. D. H. Stover, and A. P. Hitchcock, "Quantitative chemical mapping of nanostructured "onionlike" poly(methyl methacrylate)/polystyrene composite particles by soft X-ray microscopy", Macromolecules **38**, 542 (2005).

2005TR& L. Thomas, C. Rettner, M. Hayashi, M.G. Samant, S.S. Parkin, A. Doran, and A. Scholl, “Observation of injection and pinning of domain walls in magnetic nanowires using photoemission electron microscopy,” Applied Physics Letters **87**, 262501 (2005).

2005WW&a Won, C., Y.Z. Wu, H.W. Hao, A. Scholl, A. Doran, W. Kim, T.L. Owens, X.F. Jin, and Z.Q. Qiu, “Studies of FeMn/Co/Cu(001) films using photoemission electron microscopy and surface magneto-optic Kerr effect,” Physical Review B **71**, 24406-24411 (2005).

2005WW&b Won, C., Y. Z. Wu, J. Choi, W. Kim, A. Scholl, A. Doran, T.L. Owens, J. Wu, X. F. Jin, H. W. Zhao, and Z. Q. Qiu, “Magnetic stripe melting at the spin reorientation transition in Fe/Ni/Cu(001),” Physical Review B **71**, 224429-224434 (2005).

2005ZL& R. Zdyb, A. Locatelli, S. Heun, S. Cherifi, R. Belkhou and E. Bauer, *Nanomagnetism Studies with Spin-Polarized Low Energy Electron Microscopy and X-ray Magnetic Circular Dichroism Photo Emission Electron Microscopy,* Surf. Interface Anal. **37** (2005) 239.

2005ZP& R. Zdyb, A. Pavlovska, A. Locatelli, S. Heun, S. Cherifi, R. Belkhou, E. Bauer, *Imaging low-dimensional magnetism with slow electrons, A*ppl. Surf. Sci. **249**, 38-44 (2005).

2005ZS& M. Zharnikov, A. Shaporenko, A. Paul, A. Golzhauser, and A. Scholl, “X-ray absorption spectromicroscopy studies for the development of lithography with a monomolecular resist,” J. Physical Chemistry B **109**(11), 5168-5174 (2005).

2006A Attwood, D.T., “Nanotomography comes of age,” *Nature* **442**, 642-643 (2006). **(HI)**

2006AC& D. Attwood, W. Chao, E. Anderson, J.A. Liddle, B. Harteneck, P. Fischer, G. Schneider, M. LeGros, C. Larabell, *Imaging at High Spatial Resolution: Soft X-Ray Microscopy to 15 nm*, J. Biomed. Nanotechnology **2** 75-78 (2006)

2006AH& M. Anderson, T. Haraszti, G. Peterson, S. Wirick, C. Jacobsen, S. John and M. Grunze, "Scanning Tranmission X-ray Microscopic Analysis of Purifed Melanosomes of the Mouse Iris," Micron **37**, 689 (2006)

2006AS& Y. Acremann, J. P. Strachan, V. Chembrolu, S. D. Andrews, T. Tyliszczak, J.A. Katine, M. J. Carey, B. M. Clemens, H. C. Siegmann, J. Stöhr, Time resolved imaging of spin transfer switching: beyond the macrospin approximation, Phys. Rev. Lett. **96**, 217202 (2006) **(HI)**

2006BA& H. Bluhm, K. Andersson, T. Araki, K. Benzerara, G.E. Brown, J.J. Dynes, S. Ghosal, M.K. Gilles, H.-Ch. Hansen, J.C. Hemminger, A.P. Hitchcock, G. Ketteler, A.L.D. Kilcoyne, E. Kneedler, J.R. Lawrence, G.G. Leppard, J. Majzlam, B.S. Mun, S.C.B. Myneni, A. Nilsson, H. Ogasawara, D.F. Ogletree, K. Pecher, M. Salmeron, D.K. Shuh, B. Tonner, T. Tyliszczak, T. Warwick and T.H. Yoon, *Soft X-ray Microscopy and Spectroscopy at the Molecular Environmental Science Beamline at the Advanced Light Source*, J. El. Spec. Rel. Phen. **150**, 86 (2006)

2006BB& E. Bauer, R. Belkhou, S. Cherifi, R. Hertel, S. Heun, A. Locatelli, A. Pavlovska, R. Zdyb, N. Agarwal, H. Wang, *Microscopy of mesoscopic ferromagnetic systems with slow electrons,* Surf. Interface Anal. **38**, 1622-1627 (2006).

2006BE& M.A.Bolte, R. Eiselt, G. Meier, D.-H. Kim, and P. Fischer, “Real space observation of dipolar interaction in arrays of Fe microelements ,” J. Appl. Phys. **99**(8), 08H301-1-08H301-3 (2006).

2006BM&a K Benzerara, VM Miller, G Barell, V Kumar, J Miot, GE Brown Jr and JC Lieske, *Search for microbial signatures within human and microbial calcifications using soft x-ray spectromicroscopy*. J Investig Med; **54** 367-379 (2006)

2006BM&b K. Benzerara, N. Menguy,, P. Lopez-Garcia, T.H. Yoon, J. Kazmierczak, T. Tyliszczak, F. Guyot, and G.E. Brown, *Nanoscale detection of organic signatures in carbonate microbialites* , Proc. Natl. Acad. Sci. USA **103**, 9440 (2006). **(HI)**

2006BT& D Brownlee, P Tsou, J Aléon, C Alexander, T Araki, S Bajt, G Baratta, R Bastien, P Bland, et al.. Comet 81P/Wild 2 Under a Microscope. Science **314** 1711 (2006) **(HI)**

2006BW& A. Braun, S. Wirick, A. Kubatova, B. Mun and F. Huggins, "Photochemically induced decarboxylation in diesel soot extracts," Atmospheric Environment **40** 5837 (2006).

2006CH&a C.H. Chen, M.-L. Huang, S.-C. Wang, R. Klauser, A. Shaporenko and M. Zharnikov, "*Advanced Surface engineering with a focused X-ray beam*", Proc. 8th Int. Conf X-ray microscopy, IPAP Conf. Ser. **7** 282-284 (2006)

2006CH&b C.H. Chen, Y.J. Hsu, H.F. Hsiao, S.C. Wang, W.H. Hung, D.H. Wei and Y.L. Chan, "*Study of surface orientation of carbon alignment layers by polarized PEEM*", Proc. 8th Int. Conf X-ray microscopy, IPAP Conf. Ser. **7** 285-287 (2006)

2006CP& K.W. Chou, A. Puzic, H. Stoll, G. Schuetz, B. Van Waeyenberge, T. Tyliszczak, K. Rott, G. Reiss, H. Brueckl, I. Neudecker, D. Weiss, and C.H. Back, *Vortex dynamcs in coupled ferromagnetc multilayer structures*, J. Appl. Phys. **99**, 08F305 (2006).

2006CR& D. H. Cruz, M. E. Rousseau, M. M. West, M. Pezolet, and A. P. Hitchcock, "Quantitative mapping of the orientation of fibroin beta-sheets in B. mori cocoon fibers by scanning transmission X-ray microscopy", Biomacromolecules **7**, 836 (2006).

2006CS& C. Chang, , A.E. Sakdinawat, P. Fischer, E. Anderson, and D.T. Attwood, "Single-element objective lens for soft-x-ray differential interference contrast microscopy," Optics Express **31**(10), 1564-1566 (2006).

2006CZ& S. Caria, R. Zamboni, M. Murgia, P. Melpignano, V. Biondo, L. Aballe, A. Barinov, S. Gardonio, L. Gregoratti and M. Kiskinova, 'Degradation of organic light-emitting diodes' in Organic Optoelectronics and Photonics II Editor(s): Paul L. Heremans; Michele Muccini; Eric A. Meulenkamp , Proceedings of SPIE **6192** 61922D (2006)

2006D M. Denecke, "Actinide Speciation using X-ray Spectroscopic Methods," Coordin. Chem. Rev. **250**, 730 (2006)

2006DA& C. Dri, C. Africh, F. Esch, G. Comelli, O. Dubay, L. Kohler, F. Mittendorfer, G. Kresse, P. Dudin and M. Kiskinova, Initial oxidation of the Rh(110) surface: ordered adsorption and surface oxide structures, J Chem Phys, **125**,094701-094709 (2006)

2006DK& L. Däweritz, D. Kolovos-Vellianitis, A. Trampert, C. Herrmann, K.H. Ploog, E. Bauer, A. Locatelli, S. Cherifi, and S. Heun, *Orientation and interface effects on the structural and magnetic properties of MnAs-on-GaAs hybrid structures,* J. Phys. IV **132,** 159 - 162 (2006).

2006DL& J.J. Dynes, J.R. Lawrence, D.R. Korber, G. D.W. Swerhone, G.G. Leppard and A.P. Hitchcock, *Quantitative mapping of chlorhexidine in diatoms in natural river biofilms*, Science of the Total Environment **369**, 369 (2006)

2006DR& G. De Stasio, D. Rajesh, J.M. Ford, M.J. Daniels, R.J. Erhardt, B.H. Frazer, T. Tyliszczak, M.K. Gilles, R.L. Conhaim, S.P. Howard, J.F. Fowler, F. Estève, and M. P. Mehta. *Motexafin-Gadolinium Taken Up in Vitro by at Least 90% of Glioblastoma Cell Nuclei,* Clinical Cancer Research **12**, 206 (2006).

2006DT& J. J. Dynes, T. Tyliszczak, T. Araki, J. R. Lawrence, G. D. W. Swerhone, G. G. Leppard, and A. P. Hitchcock, *Speciation and quantitative mapping of metal species in microbial biofilms using scanning transmission X-ray microscopy*, Environmental Science & Technology **40**, 1556 (2006)

2006DZ& I.J. Drake, Y. Zhang, M.K. Gilles, C.N.T. Liu, P. Nachimuthu, R.C.C. Perera, H. Wakita, and A.T. Bell, *An In Situ Al K-Edge XAS Investigation of the Local Environment of H^+- and Cu^+- Exhchanged USY and ZSM-5 Zeolite*s," J. Phys. Chem. B **110**, 11665-11676 (2006).

2006EL& R. Engel-Herbert, A. Locatelli, S. Cherifi, D. M. Schaadt, J. Mohanty, K. H. Ploog, E. Bauer, R. Belkhou, S. Heun, A. Pavlovska, T. Leo, and T. Hesjedal, *Investigation of magnetically coupled ferromagnetic stripe arrays,* Appl. Phys. A **84**, 231 - 236 (2006).

2006EO& T. Eguchi, T. . Okuda, T. Matsushima, A. Kataoka, A. Harasawa, K. Akiyama, , T. Kinoshita Y. Hasegawa, M. Kawamori, Y. Harujama and S. Matsui. *Element specific imaging by scanning tunneling microscopy combined with synchrotron radiation light* Appl. Phys. Lett. **89**, 243119 (2006)

2006ES& R. Engel-Herbert, D. M. Schaadt, S. Cherifi, E. Bauer, R. Belkhou, A. Locatelli, S. Heun, A. Pavlovska, J. Mohanty, K. H. Ploog, and T. Hesjedal, *The nature of charged zig-zag domains in MnAs thin films,* J. Magn. Magn. Mat. **305**, 457 - 463 (2006).

2006F P. Fischer, "Studies of Magnetic Microstructures with Soft X-ray Transmission Microscopy," Journal of Quantum Electronics **42**(1), 36-43 (2006).

2006FB&a J. Fassbender, L. Bischoff, R.M. Mattheis, and P. Fischer, "Magnetic domains and magnetization reversal of ion-induced magnetically patterned Ruderman-Kittel-Kasuya-Yoshida-coupled $Ni_{81}Fe_{19}$/Ru/$Co_{90}Fe_{10}$ films," J. Appl. Phys. **99**(8), 08G301 (2006).

2006FB&b Finazzi, M., A. Brambilla, P. Biagioni, J. Graf, G. Gweon, A. Scholl, A. Lanzara, and L. Du, "Interface Coupling Transition in a Thin Epitaxial Antiferromagnetic Film Interacting with a Ferromagnetic Substrate," Physical Review Letters **97**, 097202 (2006). **(HI)**

2006FH&a A. Felten, H. Hody, C. Bittencourt, J.-J. Pireaux, D. Hernández Cruz and A.P. Hitchcock, *Scanning transmission X-ray microscopy of isolated multi-wall carbon nanotubes,* Applied Physics Letters **89**, 093123 (2006)

2006FH&b M. Feser, B. Hornberger, C. Jacobsen, G. De Geronimo, P. Rehak, P. Holl, and L. Strüder, *Integrating Silicon detector with segmentation for scanning transmission X-ray microscop*", NIM Phys. Res. A **565**, 841-854 (2006)

2006FK&a G.J. Flynn, L.P. Keller, S. Wirick and C. Jacobsen, Organic Analysis of Extraterrestrial Materials at the Sub-micron Scale, in S. Aoki *et al.*, eds., X-ray Microscopy: Proceedings of the 8th International Conference, IPAP Conference Series **7**, 315 (2006)

2006FK&b P. Fischer, D.H. Kim, W. Chao, J.A. Liddle, E.H. Anderson, and D.T. Attwood, "Soft X-ray microscopy of nanomagnetism," Materials Today **9**(1-2), 26-33 (2006).

2006FK&c P. Fischer, D.-H. Kim, B. Kang, W. Chao, and E.H. Anderson, "Magnetic microstructures and their dynamics studied by X-ray microscopy," Micron **37**(4), 296-300 (2006).

2006GH& S Gunther, R Hoyer, H Marbach, R Imbihl, F Esch, C Africh, G Comelli and M Kiskinova, K and mixed K+O adlayers on Rh(110), J Chem Phys. **124** , 014706 (2006)

2006GM& A. Gianoncelli, G.R. Morrison, B. Kaulich, D. Bacescu, J Kovac, *Scanning transmission x-ray microscopy with a configurable detector*, Appl. Phys. Lett. **89**, 251117 (2006)

2006GR& P. Guttmann, S. Rudolph, S. Heim, S. Rehbein, M.A. Meyer, G. Schneider, E. Zschech, *X-Ray Microscopy Studies of Electromigration in Integrated Circuits*, Proc.8th International Conference on X-ray Microscopy (Eds.: S. Aoki, Y. Kagoshima, Y. Suzuki), IPAP Conference Series **7** 243-245 (2006)

2006HB& P Haberstroh, J Brandes, Y Gelinas, A Dickens, S Wirick, G Cody. *Chemical Composition of the Graphitic Black Carbon Fraction in Riverine and Marine Sediments at Submicron Scales using Carbon X-ray Spectromicroscopy*. Geochim. Cosmochim. Acta. **70**, 1483 (2006)

2006HC& M.-L. Huang, C.H. Chen, S.-C. Wang, R. Klauser, A. Shaporenko and M. Zharnikov, "*Spectromicroscopic Characterization of Monomolecular Lithographic Patters: the effect of the Substrate*", Proc. 8th Int. Conf X-ray microscopy, IPAP Conf. Ser. **7** 303-305 (2006)

2006HH&a D. Hernández Cruz, A. P. Hitchcock, M. M. West, M.-E. Rousseau and M. Pézolet, *Quantitative mapping of the orientation of fibroin β-sheets in B. mori cocoon fibers by scanning transmission X-ray microscopy*, Biomacromolecules, **7,** 836 (2006)

2006HH&b AP Hitchcock D Hernández-Cruz JJ Dynes M-E Rousseau M Pézolet, *Chemical Imaging by Soft X-ray Scanning Transmission X-ray Microscopy, Microscopy and Microanalysis*, **12**,S02, 1396-1397 (2006).

2006HH&c Y.J. Hsu, W.S. Hu, Y.T. Tao, D.H. Wei, J.H. Sun, C.H. Chen and S.C. Wang, "*X-ray absorption spectromicrosopic analysis of SAM-functionalized surface*", Proc. 8th Int. Conf X-ray microscopy, IPAP Conf. Ser. **7** 246-248 (2006)

2006HLH A. Holmberg, M. Lindblom and H. M. Hertz, *"Controlled electroplating for high-aspect-ratio zone plate fabrication"*, JVST B **24**, 2592 (2006).

2006HN& Heyderman, J., F. Nolting, D. Backes, S. Czekaj, L. Lopez-Diaz, M. Kläui, U. Rudiger, C.A.F. Vaz, J. Bland, R.J. Matelon, U.G. Volkmann, and P. Fischer, "Magnetization reversal in cobalt antidot arrays," Physical Review B: Condensed Matter and Materials Physics **73**, 214429-12 (2006).

2006HS&a Hoink, V., M.D. Sacher, J. Schmalhorst, G. Reiss, D. Engel, T. Weis, and A. Ehresmann, "Thermal stability of magnetic nanostructures in ion-bombardment-modified exchange-bias systems," Physical Review B: **73**, 224428-224432 (2006)

2006HS&b Huetten, A., J. Schmalhorst, A. Thomas, S. Kammerer, M.D. Sacher, D. Ebke, N.-N. Liu, X. Kou, and G. Reiss, "Spin-electronic devices with half-metallic Heusler alloys," J. Alloys Cmpd. **423**, 148-152 (2006)

2006IT&a N. Iwata, K. Tani, A. Watada, H. Ikeura-Sekiguchi, T. Araki, and A. P. Hitchcock, *Chemical component mapping of pulverized toner by scanning transmission X-ray microscopy*, Micron **37**, 290 (2006).

2006IT&b N. Iwata, K. Tani, A.Watada, H. Ikeura-Sekiguchi, T. Araki, A.P. Hitchcock, *Mapping Very Similar Chemical Components in Micron-Scale Organic Rods by Scanning Transmission X-ray Microscopy*, Proc.XRM05, IPAP Conf. Proc. 7 255-257 (2006)

2006JD&a G.A. Johansson J.J. Dynes A.P. Hitchcock T. Tyliszczak G.D. Swerhone and J.R. Lawrence, *Chemically Sensitive Tomography at 50 nm Spatial Resolution using a Soft X-ray Scanning Transmission X-Ray Microscope,* Microscopy and Microanalysis, **12**, S02, 1412-1413 (2006)

2006JD&b Göran A. Johansson, James J. Dynes, Adam P. Hitchcock, Tolek Tyliszczak, George D. W. Swerhone, and John R. Lawrence, *Chemically sensitive 3D imaging at sub 100 nm spatial resolution using tomography in a scanning transmission x-ray microscope*, in Developments in X-Ray Tomography V, U. Bonse, ed. Proc. SPIE Vol. **6318**, 6318-1I (2006)

2006JMG M.G. Juenger, P.J.M. Monteiro, and E.M. Gartner, " In situ imaging of ground granulated blast furnace slag hydration," J. Mater. Sci. **41**(21), 7074-7081 (2006).

2006KF&a D.H. Kim, P. Fischer, W. Chao, E. Anderson, Mi.Y. Im, S.C. Shin and S.B. Choe, *Magnetic soft x-ray microscopy at 15 nm resolution probing nanoscale local magnetic hysteresis*, J. Appl. Phys. **99**, 08H303, 1-3 (2006)

2006KF&b B.-S. Kang, P. Fischer, D.-H. Kim, D.T. Attwood, E. Anderson, and G. Cho, "*Bending Magnet X-ray Polarization Modulation for Magnetic Full-field Soft X-ray Transmission Microscopy*," in Proceedings of the 8th International Conference on X-ray Microscopy, Conf. Proc. Series IPAP **7**, 288-290 (2006).

2006KL& M. Kläui, M. Laufenberg, L. Heyne, D. Backes, U. Rüdiger, C.A.F. Vaz, J.A.C. Bland, L. J. Heyderman, S. Cherifi, A. Locatelli, T.O. Menteş, and L. Aballe, *Current-induced vortex nucleation and annihilation in vortex domain walls,* Appl. Phys. Lett. **88**, 232507 (2006).

2006KR& M. Kläui, U. Rüdiger, C. A. F. Vaz, J. A. C. Bland, S. Cherifi, A. Locatelli, S. Heun, A. Pavlovska, E. Bauer, and L. J. Heyderman, *Magnetic states in wide annular structures,* J. Appl. Phys. **99**, 08G308 (2006).

2006KS& B. Kaulich, J. Susini, C. David, E. Di Fabrizio, G. Morrison, P. Charalambous, J. Thieme, T. Wilhein, J. Kovac, D. Bacescu, M. Salome, O. Dhez, T. Weitkamp, S. Cabrini, D. Cojoc, A. Gianoncelli, U. Vogt, M. Podnar, M. Zangrando, M. Zacchigna, and M. Kiskinova, *A European twin X-ray microscopy station commissioned at ELETTRA*. In Proc. 8th Int. Conf. X-ray microscopy (eds S. Aoki, Y.Kagoshima & Y. Suzuki), Conf. Proc. Series IPAP **7**, 22–25 (2006)

2006KS& J. Kinyangi, D. Solomon, B. Liang, M. Lerotic, S. Wirick, and J. Lehmann, *Nanoscale Biogeocomplexity of the Organomineral Assemblage in Soil: Application of STXM and C 1s-NEXAFS Spectroscopy*, Soil Sci Soc. Am. J. **70**, 170-17188 (2006).

2006L L. Li, *X-ray Spectromicroscopy Study of Protein Adsorption onto a chemically patterned surfaces*, McMaster, Chemistry, PhD thesis (Oct 2006)

2006LA& A. Locatelli, L. Aballe, T.O. Mentes, M. Kiskinova and E. Bauer, *Photoemission electron microscopy with chemical sensitivity: SPELEEM methods and application*", Surf Interface Anal, **38**, 1554-1558 (2006)

2006LB&a M. Laufenberg, D. Bedau, H. Ehrke, M. Kläui, and U. Rüdiger, D. Backes, L. J. Heyderman, and F. Nolting, C.A.F. Vaz, J.A.C. Bland, T. Kasama, R. E. Dunin-Borkowski, S. Cherifi, A. Locatelli, and S. Heun, *Quantitative determination of domain wall coupling energetics,* Appl. Phys. Lett. **88**, 212510 (2006).

2006LB&b M. Laufenberg, D. Backes, W. Bährer, D. Bedau, M. Kläui, U. Rüdiger, C.A.F. Vaz, J.A.C. Bland, L. J. Heyderman, F. Nolting, S. Cherifi, A. Locatelli, R. Belkhou, and S. Heun, E. Bauer, *Observation of thermally activated domain wall transformations,* Appl. Phys. Lett. **88**, 052507 (2006)

2006LH&a L. Li, A. P. Hitchcock, N. Robar, R. Cornelius, J. L. Brash, A. Scholl, and A. Doran, *X-ray microscopy studies of protein adsorption on a phase-segregated polystyrene/polymethyl methacrylate surface. 1. Concentration and exposure-time dependence for albumin adsorption*, Journal of Physical Chemistry B **110**, 16763 (2006)

2006LH&b U.D. Lanke, A.P. Hitchcock, P. Hitchcock, J. Stewart – Ornstein, K.Kaznatcheev, A. Kolmakov, I. Annelsey, A. McCready and S.G. Urquhart **,** *CaPeRS and LOX: Prospects for Photoemission Electron Spectromicroscopy at the Canadian Light Source***,** Proc.XRM05, IPAP Conf. Proc. **7,** 85-88 (2006)

2006LK A. Locatelli and M. Kiskinova, *Imaging with Chemical Analysis: Adsorbed Structures Formed During Surface Chemical Reactions*, Chemistry - A European Journal, **12**, 8890-8896 (2006)

2006LL& B Liang, J Lehmann, D Solomon, J Kinyangi, J Grossman, B O'Neill, J Skjemstad, J Thies, F Luizão, et al.. *Black Carbon Increases Cation Exchange Capcity in Soils*. Soil Sci. Soc. Am. J.. **70,** 1719 (2006)

2006LM&a A. Locatelli, T.O. Mentes, L. Aballe, A.S. Mikhailov and M. Kiskinova, *Formation of Regular Surface-Supported Mesostructures with Periodicity Controlled by Chemical Reaction Rate*, J Phys Chem B, **110**, 19108-19111 (2006)

2006LM&b M. Lazzarino, G. Mori, L. Sorba, D. Ercolani, G. Biasiol, S. Heun, and A. Locatelli, *Chemistry and formation process of Ga(Al)As oxide during local anodic oxidation nanolithography,* Surf. Sci. **600**, 3739 - 3743 (2006).

2006MG& G R Morrison, A Gianoncelli, B Kaulich, D Bacescu, J Kovac, *A fast-readout CCD system for configured-detector imaging in STXM* Proc. 8th Int. Conf. X-ray Microscopy IPAP Conf. **7** 377-379 (2006)

2006ML&c G. Mori, M. Lazzarino, D. Ercolani, G. Biasiol, A. Locatelli, L. Sorba, and S. Heun, *X-ray induced variation of the chemistry of GaAs/AlAs oxide nanostructures,* Nucl. Instr. and Meth. in Phys. Res. B **246,** 39-44 (2006).

2006MW&a C. R. McNeill, B. Watts, L. Thomsen, W.J. Belcher, N. C. Greenham, and P. C. Dastoor, *Nanoscale Quantitative Chemical Mapping of Conjugated Polymer Blends*, Nano Letters **6**, 1202-1206 (2006).

2006MW&b C. R. McNeill, B. Watts, L. Thomsen, W. J. Belcher, A. L. David Kilcoyne, N. C. Greenham, and P. C. Dastoor, *X-ray Spectromicroscopy of Polymer/Fullerene Composites: Quantitative Chemical Mapping*, Small, **12**, 1432-1435 (2006)

2006NP& A. Naber, M. Plaschke, J. Rothe, H. Hofmann and T. Fanghanel, "*Scanning Transmission X-ray and Laser Scanning Luminescence Microscopy of the Carboxyl Group and Eu(III) Distribution in Humic Acid Aggregates*," J. El. Spec. Rel. Phen.. **153** 714 (2006).

2006NT& H.J. Nilsson, T. Tyliszczak, R.E. Wilson, L. Werme, and D.K. Shuh, "*Soft X-ray Spectromicroscopy of Actinide Particulates*," in *Recent Advances in Actinide Chemistry*, R. Alvarez, (Cambridge Cambridge), pp.56-58 (2006).

2006OL& D.L.Olynick, J.A. Liddle, A.V. Tivanski, M.K. Gilles, T. Tyliszaczak, F. Salmassi, K. Liang, and S. Leone, *Scanning X-ray Microscopy Investigations into the Electron Beam Exposure Mechanism of Hydrogen Silsesquioxane Resists*, *J.V.S.T. B* **24**, 3048-3054 (2006).

2006OS& H. Ohldag, H. Shi, E. Arenholz, D. Lederman and J. Stöhr, P*arallel versus antiparallel interfacial coupling in exchange biased Co/FeF_2*, Phys. Rev. Lett. **96**, 027203 (2006) **(HI)**

2006OU Otero, E., and S.G. Urquhart, "*Nitrogen 1s Near-Edge X-ray Absorption Fine Structure Spectroscopy of Amino Acids: Resolving Zwitterionic Effects*," Journal of Physical Chemistry A **110**(44), 12121-12128 (2006).

2006PL& G. Pereira, A. Lachenwitzer, D. Munoz-Paniagua, M. Kasrai, P.R. Norton, M. Abrecht, P.U.P.A Gilbert. T*he role of the cation in antiwear films formed from ZDDP on 52100 Steel.* Tribology Letters **23**, 109-119 (2006).

2006RL&a F. Ratto, A. Locatelli, S. Fontana, S. Kharrazi, S. Ashtaputre, S.K. Kulkarni, S. Heun, and F. Rosei, *Diffusion Dynamics during the Nucleation and Growth of Ge/Si Nanostructures on Si(111),* Phys. Rev. Lett. **96**, 096103 (2006).

2006RL&b F. Ratto, A. Locatelli, S. Fontana, S. Kharrazi, S. Ashtaputre, S.K. Kulkarni, S. Heun, and F. Rosei, *Chemical Mapping of Individual Semiconductor Nanostructures,* Small **2**, 401 - 405 (2006).

2006SA&a M. Si, T. Araki, H. Ade, A. L. D. Kilcoyne, R. Fisher, J. C. Sokolov, and M. H. Rafailovich, "*Compatibilizing bulk polymer blends by using organoclays*", Macromolecules **39**, 4793 (2006)

2006SA&b S Sandford, J Aleon, C Alexander, T Araki, S Bajt, G Baratts, J Borg, J Bradley, D Brownlee, et al.. *Organics Captured from Comet 81P/Wild2 by the Stardust Spacecraft*. Science. **314** 1720 (2006) **(HI)**

2006SC& M Schumacher, I Christl, R Vogt, K Barmettler, C Jacobsen, R Kretzschmar. *Chemical Composition of Aquatic Dissolved Organic Matter in Five Boreal Forest Catchments Sampled in Spring and Fall Seasons*. Biogeochemistry. **80** 263 (2006)

2006SM Silva, D.A., and P.J. M. Monteiro, "*The influence of polymers on the hydration of portland cement phases analyzed by soft X-ray transmission microscopy*," Cement Concrete Res. **36**(8), 1501-1507 (2006).

2006SR& G. De Stasio, D. Rajesh, J.M. Ford, M.J. Daniels, R.J. Erhardt, B.H. Frazer, T. Tyliszczak, M.K. Gilles, R.L. Conhaim, S.P. Howard, J.F. Fowler, F. Esteve, and M.P. Mehta, *Motexafin-Gadolinium Taken Up in Vitro by at Least 90% of Glioblastoma Cell Nuclei*, Clinical Cancer Research 12, 206-213 (2006).

2006SW J. Stöhr and H.C. Siegmann, *Magnetism. From Fundamentals to Nanoscale Dynamics*. Spinrger Series in Solid State Science, Vol 152 (2006)

2006TC& Y.Takamura, R.V. Chopdekar, A. Scholl, A. Doran, J.A. Liddle, B. Harteneck, and Y. Suzuki, "Tuning Magnetic Domain Structure in Nanoscale $La_{0.7}Sr_{0.3}MnO_3$ Islands," Nano Letters **6**, 1287-1291 (2006).

2006TE& P. Thibault, V. Elser, C. Jacobsen, D. Sayre, D. Shapiro, *Reconstruction of a yeast cell from x-ray diffraction data,*Acta Crystallogr. A **62**, 248–261 (2006)

2006TO& K. Takemoto, K. Okuno, J. Minemoto, A. Yammamoto, B. Niemann, M. Hettwer, D. Rudolph, E. Anderson, D. Attwood, D.P. Kern, T. Okamoto and H. Kihara, "*Recent Observations of biospecimens by Soft X-ray Microscopyat Ritsumekeb Univ. SOR*", Proc.XRM05, IPAP Conf. Proc. **7,** 219-221 (2006)

2006TVH P.A.C. Takman, U. Vogt and H.M. Hertz, *"Towards compact x-ray microscopy with liquid-nitrogen-jet laser-plasma source"*, Proc. 8th Int. Conf. X-ray Microscopy, IPAP Conf. Series **7**, 12-14 (2006)

2006VL&A U.Vogt, M. Lindblom, P.A.C. Jansson, T. Tuohimaa, A. Holmberg, H.M. Hertz, Marek Wieland and Thomas Wilhein, *"Towards Soft X-Ray Phase-Sensitive Imaging with Diffractive Optical Elements"*, Proc. 8th Int. Conf. X-ray Microscopy, IPAP Conf. Series **7,** pp.91-93 (2006)

2006VL&b U Vogt, M Lindblom, P Charalambous, B Kaulich, T Wilhein, *Condenser for Koehler-like illumination in transmission x-ray microscopes at undulator sources*, Opt. Lett. **31** 1465-1468 (2006)

2006WF& Wan, W., J. Feng, and H.A. Padmore, "*A new separation design for aberration corrected photoemission electron microscopes*," Nuclear Instruments & Methods in Physics Research, Section A: Accelerators, **564**(1), 537-543 (2006).

2006WP& B. Van Waeyenberge, A. Puzic, H. Stoll, K.W. Chou, T. Tyliszczak, R. Hertel, M. Fähnle1, H. Brükl, K. Rott, G. Reiss, I. Neudecker, D. Weiss, C. H. Back and G. Schütz, *Magnetic vortex core reversal by excitation with short bursts of an alternating field*, Nature **444**, 461-464 (2006). **(HI)**

2006WR& Y. Wang, M. Rafailovich, J. Sokolov, D. Gersappe, T. Araki, Y. Zou, A. D. L. Kilcoyne, H. Ade, G. Marom, and A. Lustiger, *Substrate effect on the melting temperature of thin polyethylene films*, Phys. Review Letters **96**, 028303 (2006) **(HI)**

2006WS& Y. Wang, J. Sokolov, D. Gersappe, T. Araki, Y. Zou, A.L. Kilcoyne, H.W. Ade, G. Marom, and A. Lustiger, "Substrate Effect on the Melting Temperature of Thin Tolyethylene Films," Physical Review Letters **96**(2), 028303 (2006). **(HI)**

2006WW& M. Wieland, T Wilhein, C. Spielmann, U. Kleinberg, T. Westerwalbesloh and U. Heinzmann, *Toward table-top Time-resolved Soft X-ray Microscopy Imaging with a Laboratory High-Harmonic Source at 100 eV*, Proc.XRM05, IPAP Conf. Proc. **7** 369-371 (2006)

2006YB& T. H. Yoon, K. Benzerara, S. Ahn, R.G. Luthy, T. Tyliszczak, and G.E. Brown, Jr. *Nanometer-Scale Chemical Heterogeneities of Black Carbon Materials and Their Impacts on PCB Sorption Properties: Soft X-ray Spectromicroscopy Study*, Environ. Sci. Technol **40** 5923 – 5929 (2006)

2006ZA& Zou, Y., T. Araki, G. Appel, A.L.D. Kilcoyne, and H. Ade, *Solid state effects in the NEXAFS spectra of alkane-based van der Waals crystals: Breakdown of molecular model,* Chemical Physics Letters **430**, 287-292 (2006)

2006ZS& T. Zhao, A. Scholl, F. Zavaliche, K. Lee, M. Barry, A. Doran, M.P. Cruz, Y.H. Chu, C. Ederer, N.A. Spaldin, R.R. Das, D.M. Kim, S. Baek, C.B. Eom, and R. Ramesh, "Electrical control of antiferromagnetic domains in multiferroic BiFeO3 films at room temperature," Nature Materials **5** 823-829 (2006). **(HI)**

2006ZZ& M Zolensky, T Zega, H Yano, S Wirick, A Westphal, M Weisberg, I Weber, J Warren, M Velbel, et al.. *Mineralogy and Petrology of Comet 81P/Wild 2 Nucleus Samples*. Science **314**, 1735 (2006) **(HI)**

2007AB&a L. Aballe, A. Barinov, M. Bertolo, L. Gregoratti, B. Kaulich, A. Locatelli, TO. Mentes, L. Quaroni, S. La Rosa and M. Kiskinova, *Recent advances in imaging with spectroscopic analysis at ELETTRA* in *Brilliant Light in Life and Material Science* Springer, Series B: Physics and Biophysics, 2007 (edts V. Tsakanov and H. Wiedermann), 301-316 (2007)

2007AB&b L Aballe, A Barinov, A Locatelli, T.O. Mentes, M Kiskinova, *Initial stages of heteroepitaxial Mg growth on W(110): Early condensation, anisotropic strain, and self-organized patterns*, Phys Rev B, **75**,115411 (2006)

2007AC& Y. Acremann, V. Chembrolu, J. P. Strachan, T. Tyliszczak, and J. Stöhr. *Software defined photon counting system for time resolved x-ray experiments*. Rev. Scientific Instruments, **78** 014702 (2007).

2007AL& E.P. Amaladass, B. Ludescher, G. Schutz, T. Tyliszczak, and T. Eimuller, *Size dependence in the magnetization reversal of Fe/Gd multilayers on self-assembled arrays of nanosphere*, Applied Physics Letters **91**, 172514-172516 (007).

2007BB& Bauer E, Belkhou R, Cherifi S, Locatelli A, Pavlovska A, Rougemaille N *Magnetostructure of MnAs on GaAs revisited* J. Vac. Sci. Tech. B **25**1470-1475 (2007)

2007BC& Bettinger, J.S., R.V. Chopdekar, M. Liberati, J.R. Neulinger, M. Chshiev, Y. Takamura, L. Alldredge, E. Arenholz, Y.U. Idzerda, A.M. Stacy, W.H. Butler, and Y. Suzuki, "*Magnetism and transport of CuCr2Se4 thin films,*" J. Magn. Magn. Mater. **318**(1-2), 65-73 (2007).

2007BE& Bedanta, S., T. Eimuller, W. Kleemann, J.P. Rhensius, F. Stromberg, E.P. Amaladass, S. Cardoso, and P.P. Freitas, "*Overcoming the Dipolar Disorder in Dense CoFe Nanoparticle Ensembles: Superferromagnetism,*" Physical Review Letters **98**, 176601 (2007). **HI**

2007BH& G. Biasiol, S. Heun, G.B. Golinelli, A. Locatelli, T.O. Menteş, F.Z. Guo, and L. Sorba, *Surface Concentration Mapping of InAs/GaAs Quantum Dots,* AIP Conf. Proc. **893**, 49 (2007).

2007BM& K. Benzerara, N. Menguy, N.R. Banerjee, T. Tyliszczak, F. Guyot, and G.E. Brown, *Alteration of submarine basaltic glass from the Ontong Java Plateau: a STXM and TEM study,* Earth and Planetary Science Letters **260**, 187-200 (2007).

2007BT& M.C. Bertilson, P.A.C. Takman, A. Holmberg, U. Vogt and H.M. Hertz, *Laboratory arrangement for soft x-ray zone plate efficiency measurements*, Rev. Sci. Instrum. **78**, 026103 (2007)

2007BV& A. Baraldi, E. Vesselli, L. Bianchettin, G. Comelli, S. Lizzit, L. Petaccia, S. de Gironcoli, A. Locatelli, T. O. Menteş, L. Aballe, J. Weissenrieder and J. N. Andresen, *The (1x1) --> hexagonal structural transition on Pt(100) studied by high-energy resolution core level photoemission,* J. Chem. Phys. **127**, 164702 (2007).

2007C D. Covelli, "*X-ray Microscopy of Hydrocarbon-Clay Interactions,*" masters thesis, University of Saskatchewan, Saskatoon, SK, 2007, advisor Stephen G. Urquhart.

2007CH& S. Cherifi, R. Hertel, A. Locatelli, Y. Watanabe, G. Potdevin, A. Ballestrazzi, M. Balboni, and S. Heun, *Tuning the domain wall orientation in thin magnetic strips using induced anisotropy,* Appl. Phys. Lett. **91**, 092502 (2007).

2007CK I. Christl and R. Kretzscmzr, *C1s NEXAFS Spectroscopy reveals chemical fractionation of humic acid by cation-induced coagulation*, Env. Sci. Tech. **41**, 1915-1920, (2007)

2007CM& Chu, Y.H., L.W. Martin, M.B. Holcomb, and R. Ramesh, "*Controlling magnetism with multiferroics*," Materials Today **10**(10), 16-23 (2007).

2007CO& Y.S. Chun, H. Ohldag, and K.M. Krishnan, "*Spin Reorientation Transitions in Perpendicularly Exchange-Coupled Thin Films Studied Using Element Specific Imaging*," IEEE Transactions on Magnetics **43**, 3004-3006 (2007).

2007CP& Chou, K.W. A. Puzic, H. Stoll, D. Dolgos, B. Van Waeyenberge, A. Vansteenkiste, T. Tyliszczak, G. Woltersdorf, and C.H Back, *Direct observation of the vortex core magnetization and its dynamics*. Appl. Phys. Lett., **90** 202505 (2007).

2007CW&a Choi, J., J. Wu, C. Won, Y.Z. Wu, A. Scholl, A. Doran, T.L. Owens, and Z.Q. Qiu, "*Magnetic Bubble Domain Phase at the Spin Reorientation Transition of Ultrathin Fe/Ni/Cu(001) Film*," Physical Review Letters **98**(20), 207205 (2007) **HI**

2007CW&b Choi, J., J. Wu, Y.Z. Wu, C. Won, A. Scholl, A. Doran, T.L. Owens, and Z.Q. Qiu, "*Effect of atomic steps on the interfacial interaction of FeMn/Co films grown on vicinal Cu(001)*," Physical Review B: **76**, 054407-054412 (2007).

2007DK& C. Déjugnat, K. Köhler, M. Dubois, G.B. Sukhorukov, H. Möhwald, T. Zemb and P. Guttmann, *Membrane densification of heated polyelectrolyte multilayer capsules characterized by soft X-Ray microscopy*, Advanced Materials **19** (2007), 1331-1336

2007EG& D. Eichert, L. Gregoratti, B. Kaulich, A. Marcello, P. Melpignano, L. Quaroni and M. Kiskinova, *Imaging with spectroscopic micro-analysis using synchrotron radiation*, Analytical and Bioanalytical Chemistry **389** 1121-1132 (20070

2007ES& Eimüller, T., A. Scholl, B. Ludescher, G. Schütz, and J.-U. Thiele, "Slow recovery of magnetic anisotropy following ultrafast optical excitation," Applied Physics Letters **91**, 042508-1-042508-3 (2007).

2007F P. Fischer, "Towards a deeper insight into stronly correlated electron systems - the symbiosis between experiment and theory," Journal of Physics Condensed Matter **19**, 181002-1-181002-3 (2007).

2007FA& S. Fujii, S.P. Armes, T. Araki and H. Ade, *Direct imaging and spectroscopic characterization of stimulus-responsive microgels*, J. Am. Chem. Soc. Com. **127**, 16808-16809 (2007)

2007FB&a A. Felten, C. Bittencourt J.-J. Pireaux, D. Hernández Cruz and A. P. Hitchcock *Probe of an Individual multi-wall carbon nano-tube (MWCNT) by Scanning Transmission X-ray Microscopy: Structural and Electronic properties*, Nanoletters**7**, 2435-2440 (2007)

2007FB&b C. Fillaux, J-C. Berthet, S. D. Conradson, P. Guilbaud, D. Guillaumont, C. Hennig, P. Moisy, J. Roques, E. Simoni, D.K. Shuh, T. Tyliszczak, I. Castro-Rodriguez, and C. Den Auwer, *Combining theoretical chemistry and XANES multi-edge experiments to probe actinide valence states*, Comptes rendus chimie **10**(11), 859-871 (2007).

2007FD& C. Fillaux, C. Den Amer, D. Guillaumont, D.K. Shuh, and T. Tyliszczak, *Investigation of actinide compounds by coupling X-ray absorption spectroscopy and quantum chemistry*, J. Alloys Cmpd. **444**, 443-446 (October 2007)

2007FK&a P. Fischer, .D.-H. Kim, B.L. Mesler, W. Chao and E.H. Anderson**,** *Magnetic soft X-ray microscopy: Imaging spin dynamics at the nanoscale, J. Magnetism and Magnetic Materials***, 310**, 2689-2692 (2007)

2007FK&b P. Fischer, D.-H. Kim, B.M. Lai, W. Chao, A.E. Sakdinawat, and E.H. Anderson, "Exploring nanomagnetism with soft X-ray microscopy," Surf. Sci. **601**(20), 4680-4685 (2007).

2007FS& Frechet, J., I. Suez, M. Rolandi, S.A. Backer, A. Scholl, A. Doran, D.C. Okawa, and A. Zettl, "High-field scanning probe lithography in hexadecane: transitioning from field induced oxidation to solvent decomposition through surface modification," Advanced Materials **19**(21), 3570-3573 (2007).

2007FU J. Fu, and S.G. Urquhart, *Effect of Chain Length and Substrate Temperature on the Growth and Morphology of n-Alkane Thin Films,* Langmuir **23**, 2615-2622 (2007).

2007GD& I.L.Guhr, S. van Dijken, G. Malinowski, P. Fischer, F. Springer, O. Hellwig, and M. Albrecht, " Magnetization Reversal in Exchange Biased Nanocap Arrays," Journal of Physics D: Applied Physics **40**(10), 3005-3010 (2007).

2007GE& W.i Gu, D.E. Laurence , M.A Le Gros, C.A Larabell. *X-ray tomography of Schizosaccharomyces pombe*. Differentiation. **75** 529-535 (2007)

2007GG& S. Gardonio, L. Gregoratti, P. Melpignano, L. Aballe, V. Biondo, R. Zamboni, M. Murgia and Kiiskinova, *Degradation of organic light-emitting diodes under different environment at high drive conditions*, Organic Electronics **8**, 37-43 (2007)

2007GGL W.Gu, M.A. Le Gros, and C.A. Larabell, "X-ray tomography of Schizosaccharomyces pombe," Differentiation **75**(6), 529-535 (2007).

2007GS& D. S. Grierson, A. V. Sumant, A. R. Konicek, M. Abrecht, J.Birrell, O. Auciello, J. A. Carlisle, T. W. Scharf, M. T. Dugger, P. U. P. A. Gilbert & R. W. Carpick. "*Tribochemistry and material transfer for the ultrananocrystalline diamond-silicon nitride interface revealed by x-ray photoelectron emission spectromicroscopy*". J. Vac. Sci. Technol. B **25**, 1700-1705 (2007).

2007GS&b De Gregorio, B.T., R.M. Stroud, T.J. Zega, H. Busemann, L.R. Nittler, G.D. Cody, C.M. O'D Alexander, A.L. D Kilcoyne, and D.S. Ebel, *Structure and bonding of primitive organic matter in carbonaceous chondrite meteorites and comet 81P/Wild 2 particles collected by Stardust,* Geological Society of America Abstracts **39**, 209-2 (2007) Proc. Geological Society of America Annual Meeting, (Denver, CO, 10/28/2007)

2007GS& Grierson, D., A.V. Sumant, A.R. Konicek, M. Abrecht, J. Birrel, O. Auciello, J.A. Carlisle, T.W. Scharf, M.T. Dugger, and P.U.P.A. Gilbert, "Tribochemistry and material transfer for the ultrananocrystalline diamond-silicon nitride interface revealed by x-ray photoelectron emission spectromicroscopy," J. Vacuum Science and Technology Bs **25**, 1700-1705 (2007)

2007GT& A. Glisovic, J. Thieme, P. Guttman and T. Salsitt, "*Transmission X-ray microscopy of spider dragline silk*", Int. J. Biol. Macromole. **40**, 87-95 (2007)

2007HB& S. Heun, G. Biasiol, V. Grillo, E. Carlino, L. Sorba, G. B. Golinelli, A. Locatelli, T.O. Menteş, and F.Z. Guo, *Morphology and Composition of InAs/GaAs Quantum Dots,* J. Nanosci. Nanotechnol. **7,** 1721-1725 (2007).

2007HGJ B. Hornberger, M. Feser and C. Jacobsen, *Quantitative amplitude and phase contrast imaging in a scanning transmission X-ray microscope*, Ultramicroscopy **107**, 644-655 (2007),

2007HH&b D. Hernández-Cruz, A.P. Hitchcock, T. Tyliszczak, Marie-Eve Rousseau and Michel Pézolet, *Development and characterization of an in situ azimuthal rotation device for measuring linear dichroism in a Scanning Transmission X-ray Microscope*, Rev.Sci. Inst., **78**, 033703 (2007)

2007HJW Malcolm Howells, Chris Jacobsen and Tony Warwick, *Principles And Applications of Zone Plate X-Ray Microscopes* in *Science of Microscopy*, Peter W. Hawkes and John C. H. Spence, eds, (Springer, NY, 2007)

2007HL&a A.P. Hitchcock, J. Li, S. Reijerkerk, P. Foley, H.D.H. Stöver and I. Shirley, *X-ray absorption spectroscopy of polyureas and polyurethanes and their use in characterizing chemical gradients in thin-walled polyurea capsules,* J. El. Spectrosc. Rel. Phen. **156-158** 467-471 (2007)

2007HL&b R.J.Hopkins, K. Lewis, Y. Desyaterik, Z. Wang, A.V. Tivanski, W.P. Arnot, A. Laskin, and M.K. Gilles, *Correlations between optical, chemical and physical properties of biomass burn aerosols*, Geophysical Research Letters **34**, L18806 (2007).

2007HN& L.J. Heyderman, F. Nolting, S. Czekaj, D.-H. Kim, and P. Fischer, "Cobalt antidot arrays on membranes: Fabrication and investigation with transmission X-ray microscopy ," J. Magn. Magn. Mater. **316**(2), 99-102 (2007).

2007HT& R.J. Hopkins, A.V. Tivanski, B.D. Marten and M.K. Gilles, "*Chemical bonding and structural information of Black carbon reference materials and individual carbonaceous atmospheric aerosol*s", J. Aerosol Science **38**, 573-591 (2007)

2007HTV O. von Hofsten, P.A.C. Takman, and U. Vogt, *"Simulation of partially coherent image formation in a compact soft x-ray microscope",* Ultramicroscopy **107**, 604 (2007).

2007IJ& N. Iwata, A. Watada, K. Tani, H. Ikeura-Sekiguchi, T. Araki, A.P. Hitchcock, *Application of Scanning Transmission X-ray microscopy for observation of organic compounds in toner particle*s, Proc. 23rd Int. Conf on Digital Printing Technologies, (2007)

2007JT& G.A. Johansson, T. Tyliszczak, G.E. Mitchell, M. Keefe and A. P. Hitchcock, *Three dimensional chemical mapping by scanning transmission X-ray spectromicroscopy*, J. Synchrotron Radiation **14,** 395-402 (2007).

2007KB& K. Kuepper, L. Bischoff, Ch. Akhmadaliev, J. Fassbender, H. Stoll, K.W. Chou, A. Puzic, K. Fauth, D. Dolgos, G. Schutz, B. Van Waeyenberge, T. Tyliszczak, I. Neudecker, G. Woltersdorf, and C.H. Back, *Vortex dynamics in Permalloy disks with artificial defects: Suppression of the gyrotropic mode*, Applied Physics Letters **90**, 062506 (2007).

2007KD&a K.V. Kaznatcheev, P. Dudin, A.P. Hitchcock and O.D. Lavrentovich, *An x-ray microscopy study of chromonic liquid crystal texture*, Phys. Rev. E **76**, 061703:1-14 **(**2007)

2007KD&b K. Köhler, C. Déjugnat, M. Dubois, T. Zemb, G.B. Sukhorukov, P. Guttmann, H. Möhwald, *Soft x-ray microscopy to characterize polyelectrolyte assemblies*, J. Phys. Chem. B **111** 8388-8393 (2007).

2007KH K. Kaznacheev and T. Hegmann, *Molecular ordering in a biaxial smectic-A phase studied by scanning transmission X-ray microscopy (STXM)*, Phys. Chem. Chem. Phys. **9**, 1705-1712 (2007)

2007KK& K.V. Kaznatcheev, Ch. Karunakaran, U.D. Lanke, S.G. Urquhart, M. Obst and A.P. Hitchcock, *Soft X-ray Spectromicroscopy Beamline at the CLS: commissioning results*, US Synchrotron Radiation Instrumentation, April 2007, Baton Rouge, LA, Nucl. Inst. Meth. A**582** 96-99 (2007)

2007KOC Kelekar, R.D., H. Ohldag, and B.M. Clemens, "*X-ray magnetic circular dichroism of Heusler alloy $Co_2Cr_{1-x}Fe_xAl$ epitaxial thin films*," Physical Review B: Condensed Matter and Materials Physics **75**(1), 014429-1-014429-8 (2007).

2007KV& Kade, A., D.V. Vyalikh, S. Danzenbaecher, K. Kurmmer, A. Bluher, M. Mertig, A. Lanzara, A. Scholl, A. Doran, and S. Molodtsov, "*X-ray absorption microscopy of bacterial surface protein layers: X-ray damage* ", J. Physical Chemistry B **111**, 13491-13498 (2007).

2007LA& A. Locatelli, L. Aballe, T.O. Menteş, F.Z. Guo and M. Kiskinova, *A spectro-microscopic study of the reactive phase separation of Au + Pd and O on Rh(110),* Surf. Sci. **60**1, 4663-4668 (2007).

2007LF& B.M. Lai, P. Fischer, W. Chao, E.H. Anderson, and D.-H. Kim, "*Soft X-ray imaging of spin dynamics at high spatial and temporal resolution*," Journal of Vacuum Science and Technology B: Microelect. & Nanometer Structures **25**(6), 2598-2602 (2007).

2007LHH M. Lindblom, H. M. Hertz, and A. Holmberg, *"SU-8 plating mold for high-aspect-ratio nickel zone plates"*, Microel. Engin. **84**, 1136 (2007).

2007LK& M. Laufenberg, M. Kläui, D. Backes, W. Buehrer, H. Ehrke, D. Bedau, U. Rüdiger, F. Nolting, L. J. Heyderman, S. Cherifi, A. Locatelli, R. Belkhou, S. Heun, C. A. F. Vaz, J. A. C. Bland, T. Kasama, R. E. Dunin-Borkowski, A. Pavlovska, and E. Bauer, *Domain wall spin structures in 3d metal ferromagnetic nanostructures,* Advances in Solid State Physics **46**, 281-293 (2007).

2007LR& A. Locatelli, T. Pabisiak, A. Pavlovska, T.O. Menteş, L. Aballe, A. Kiejna and E. Bauer, *One-dimensional Au on TiO_2,* J. Phys.: Condens. Matter **19**, 082202 (2007).

2007LT& M. Lindblom, T. Tuohimaa, A. Holmberg, T. Wilhein, H. M. Hertz, and U. Vogt, *"High-resolution differential-interference-contrast x-ray zone plates: Design and Fabrication"*, Spectrochimica Acta **B62**, 539 (2007)

2007MA& R.A. Metzler, M. Abrecht, R.M. Olabisi, D. Ariosi, C.J. Johnson, B.H. Frazer, S.N. Coppersmith and PUPA Gilbert, *Architecture of columnar nacre and impoications for its formation mechanism*, Phys Rev Lett. **98**, 268102 (2007) **HI**

2007MB&a R.M. Montereali, F. Bonfigli, L. Gregoratti, M. Kiskinova, R. Larciprete, M. Montecch and E. Nichelatti, *Advanced optical characterization of active micro-strips induced on Lithium Fluoride crystals by a monochromatic soft X-ray beam*, J Non-Cryst Solids, **353**,456-460 (2007)

2007MB&b G.Meier, M. Bolte, R. Eiselt, B. Krüger, D.-H. Kim and P. Fischer, *Direct Imaging of Stochastic Domain-Wall Motion Driven by Nanosecond Current Pulses*, Phys. Rev. Lett. **98**, 187202 (2007) **(HI)**

2007ML& T.O. Menteş, A. Locatelli, L. Aballe, A. Pavlovska, E. Bauer, T. Pabisiak and A. Kiejna, *Surface modification of oxides by electron-stimulated desorption for growth-mode control of metal films: Experiment and density-functional calculations,* Phys. Rev. B **76**, 155413 (2007).

2007MS& Müller, A., S.E. Schippers, R.A. Phaneuf, M. Habibi, D.A. Macaluso, J.C. Wang, A.L. Kilcoyne, A. Aguilar, S. Yang, and L. Dunsch, "*Photoionization of the endohedral fullerene ions $Sc_3N@C^+_{80}$ and $Ce@C^+_{82}$ by synchrotron radiation*," **88**, 012038-1-012038-7 (July 2007).

2007MT& H.A. Michelsen, A.V. Tivanski, M.K. Gilles, L.H. van Poppel, M.A. Dansson, and P. Buseck, *Particle formation from pulsed laser irradiation of soot aggregates studied with a scanning mobility particle sizer, a transmission electron microscope, and a scanning transmission x-ray microscope* Applied Optics **46**, 959-977 (2007).

2007MW& McNeill, C.R., B. Watts, L. Thomsen, H. Ade, N.C. Greenham, and P.C. Dastoor, *X-ray Microscopy of Photovoltaic Polyfluorene Blends: Relating Nanomorphology to Device Performance*, Macromolecules **40**, 3263-3270 (2007)

2007OT& H. Ohldag,, T. Tyliszczak, R. Hoehne, D. Spemann, P. Esquinazi, M. Ungureanu, and T. Butz, *Pi-Electron Ferromagnetism in Metal-Free Carbon Probed by Soft X-Ray Dichroism,* Physical Review Letters **98**(18), 187204-1-187204-4 (2007) **(HI)**

2007PB& Pierce, M.S., C.R. Buechler, L.B. Sorensen, S.D. Kevan, E.A. Jagla, J.M. Deutsch, T. Mai, O. Narayan, J.E. Davies, K. Liu, G.T. Zimanyi, H.G. Katzgraber, O. Hellwig, E.E. Fullerton, P. Fischer, J.B. Kortright, et al ., "Disorder-induced magnetic memory: Experiments and theories," Physical Review B **75**(14), 144406 (2007).

2007PL&a G. Pereira, A. Lachenwitzer, M. Kasrai, G. M. Bancroft, P. R. Norton, M. Abrecht, P. U. P. A. Gilbert, T. Regier, R. I. R. Blyth and J. Thompson. *Chemical and mechanical analysis of tribofilms from fully formulated oils. Part 1 - Films on 52100 steel.* Tribology **1**, 48-61 (2007).

2007PL&b G. Pereira, A. Lachenwitzer, Y. R. Li, M. Kasrai, G. M. Bancroft, P. R. Norton, M. Abrecht, P. U. P. A. Gilbert, T. Regier, Y. F. Hu and L. Zuin. *Chemical and mechanical analysis of tribofilms formed from fully formulated oils. Part 2 - Films on Al-Si alloy (A383).* Tribology **1**, 105-112, (2007).

2007PL&c G. Pereira, A. Lachenwitzer, M. Kasrai, P.R. Norton, T.W. Capehart, T.A. Perry, Y.-T. Cheng, B. Frazer and P.U.P.A Gilbert. *A multi-technique characterization of ZDDP antiwear films formed on Al (Si) alloy (A383) under various conditions*. Tribology Letters **26**, 103-117 (2007).

2007RH& M.E.Rousseau, D. Hernández Cruz, M.M. West, A.P. Hitchcock and M. Pézolet, *Spider Dragline Silk Microstructure Studied by Scanning Transmission X-Ray Microscopy*, J. American Chemical Society, **129**, 3897-3905 (2007)

2007RR& J.T. Robinson, F. Ratto, O. Moutanabbir, S. Heun, A. Locatelli, T.O. Menteş, L. Aballe, and O. D. Dubon, *Gold-Catalyzed Oxide Nanopatterns for the Directed Assembly of Ge Island Arrays on Si,* Nano lett. **7**, 2655-2659 (2007).

2007SA& P. Soukiassian, F. Amy, C. Brylinski, T.O. Menteş, and A. Locatelli, *Atomic Crack Defects Developing at Silicon Carbide Surfaces Studied by STM, Synchrotron Radiation-based micro-spot XPS and LEEM,* Materials Science Forum **556-557**, 481-486 (2007).

2007SC&a T . Schaefer, V. Chanudet, F. Claret and M. Filella, *Spectromicroscopy Mapping of Colloidal/Particulate Organic Matter in Lake Brienz, Switzerland*, Env. Sci. Tech. **41**, 7864-7869 (2007)

2007SC&b J. Strachan, V.H. Chembrolu, X.W. Yu, T. Tyliszczak, and Y.M. Acremann, *Synchronized and configurable source of electrical pulses for x-ray pump-probe experiments*, Rev. Sci. Instrum. **78**(5), 054703 (2007).

2007SC&c Th. Schmidt, T. Clausen, J.I. Flege, S. Gangopadhyay, A. Locatelli and T.O. Menteş, F.Z. Guo, S. Heun and J. Falta, *Adsorbate induced self-ordering of germanium nanoislands on Si(113),* New J. Phys. **9**, 392 (2007).

2007AF& Th. Schmidt, J.I. Flege, S. Gangopadhyay, T. Clausen, A. Locatelli, S. Heun, and J. Falta, *Alignment of Ge Nanoislands on Si(111) by Ga-Induced Substrate Self-Patterning,* Phys. Rev. Lett., **98**, 066104 (2007). (**HI**)

2007SG&a A. V. Sumant, P. U. P. A. Gilbert, D. S. Grierson, A. R. Konicek, M. Abrecht, J. E. Butler, T. Feygelson, S. S. Rotter & R. W. Carpick. "*Surface composition, bonding, and morphology in the nucleation and growth of ultra-thin, high quality nanocrystalline diamond films*". Diam. Relat. Mater. **16**, 718-724 (2007).

2007SG&b H. Stollberg, P. Guttmann, P. A. C. Takman And H. M. Hertz, *Size-selective colloidal-gold localization in transmission X-ray microscopy* J. Microscopy **225**, 80–87 (2007).

2007SH& J. Stewart-Ornstein, A.P. Hitchcock, Daniel Hernàndez-Cruz, P. Henklein, J. Overhage, K. Hilpert, J. Hale and R.E.W. Hancock, "*Using intrinsic X-ray absorption spectral differences to identify and map peptides and proteins*", J. Phys. Chem. B**111,** 7691-7699, (2007)

2007SM Silva, D.A., and P.J. M. Monteiro, "Early Formation of Ettringite in Tricalcium Aluminate , Calcium Hydroxide , Gypsum Dispersions," Journal of the American Ceramic Society **90**(2), 614-617 (2007).

2007SPH H. Stollberg, M. Pokorny and H.M. Hertz, *A vacuum-compatible wet-specimen chamber for compact X-ray microscopy,* J. Microscopy, **225**, 71-73 (2007)

2007SW& Shao, R., C. Wang, D.E. McCready, T.C. Droubay, and S.A. Chambers, "Growth and structure of MBE grown TiO2 anatase films with rutile nano-crystallites," *Surf. Sci.* **601**, 1582-1589 (2007)

2007TG&a G. Tzvetkov, B. Graf, R. Wiegner, J. Raabe, C. Quittmann and R. Fink R. *Soft X-ray spectromicroscopy of phase-change microcapsule*s, Micron **91**, 074104 (2007)

2007TG&b S. Takahama, S. Gilardoni, L.M. Russell, and A.L. Kilcoyne, "*Classification of Multiple Types of Organic Carbon Composition in Atmospheric Particles by Scanning Transmission X-Ray Microscopy Analysis,*" Atmospheric Enviroment **41**, 9435-9451 (2007).

2007TH& A.V. Tivanski, , R.J. Hopkins, T. Tyliszczak, and M.K. Gilles, "*Oxygenated Interface on Biomass Burn Tar Balls Determined by Single Particle Scanning Transmission X-ray Microscopy*," J. Phys. Chem. A **111**, 5448-5458 (2007).

2007TOH T. Tuohima, M. Otendal, and H. M. Hertz, *"Phase-contrast x-ray imaging with a liquid-metal-jet-anode microfocus source"*, Appl. Phys. Lett. **91**, 074104 (2007).

2007TS& P.A.C Takman, H. Stollberg, G.A. Johansson, A. Holmberg, M. Lindblom, H.M. Hertz *"High-resolution compact X-ray microscopy"*, Journal of Microscopy **226**, 175–181 (2007)

2007ULF S.G. Urquhart, U. Lanke and J. Fu, "*Characterization of molecular orientation in organic nanomaterials by X-ray linear dichroism*", Int. J. Nanotech. **5** 1138-1170 (2007).

2007VC& J. Vogel, S. Cherifi, S. Pizzini, F. Romanens, J. Camarero, F. Petroff, S. Heun and A. Locatelli, *Layer-resolved imaging of domain wall interactions in magnetic tunnel junction-like trilayers,* J. Phys.: Condens. Matter **19**, 476204 (2007).

2007VH& C. A. F. Vaz, T. J. Hayward, J. Llandro, F. Schackert, D. Morecroft, J. A. C. Bland, M. Kläui, M. Laufenberg, D. Backes, U. Rüdiger, F. J. Castano, C. A. Ross, L. J. Heyderman, F. Nolting, A. Locatelli, G. Faini, S. Cherifi and W. Wernsdorfer, *Ferromagnetic nanorings,* J. Phys.: Condens. Matter **19,** 255207 (2007).

2007W P.J. Wallis, "*Abiotic Catalysis: The Nexus between Soil Chemistry and Catalysis in Organic Chemistry*," doctoral dissertation, Monash University, Melbourne, Australia, 2007, advisor Antonio F. Patti, Janet L. Scott, Will P. Gates

2007WB& Westphal, A.J., S. Bajt, A.L. Butterworth, S. Fakra, Z. Gainsforth, M.A. Marcus, M.C. Martin, C.J. Snead, and T. Tyliszczak, *Synchrotron-Based Organics and Mineralogical Survey of Three Stardust Tracks,* Meteoritics & Planetary Science **42**, A163 (2007).

2007WS& J. Wang, H.D.H. Stöver, A.P. Hitchcock and T. Tyliszczak. *Chemically selective soft X-ray patterning of polymers*, J. Synchrotron Radiation, **14**, 181-190 (2007)

2007WSH J.Wang, H.D. H. Stöver and A.P. Hitchcock, *Chemically selective soft X-ray direct-write patterning of multilayer polymer films*, J. Phys. Chem. C **111,** 16330-16338 (2007)

2007WT Winesett, D.A., and A.H. Tsou, *Scanning Transmission X-ray Microscopy of Curative and Filler Migration of Inner Liner Compounds*, Rubber Chemistry and Technology **80**, 14-23 (2007)

2007WTT J. Wan, T. Tyliszczak and T.K. Tokunaka *Organic carbon distribution, speciation, and elemental correlations within soil microaggregates: Applications of STXM and NEXAFS spectroscopy*. Geochim. Cosmochim. Acta, **71,**:5439–5449 (2007)

2007ZB& H. Zega, Busemann, L. Nittler, G.D. Cody, C.M. O'D Alexander, A.L. Kilcoyne, and D.S. Ebel, "*Structure and bonding of primitive organic matter in carbonaceous chondrite meteorites and comet 81P/Wild 2 particles collected by Stardust*," **JOURNAL** **39**(6), 209-2 (2007). [Proceedings of Geological Society of America Annual Meeting, (Denver, CO,)

2007ZS& T. Zhao, A. Scholl, F. Zavaliche, H. Zheng, M. Barry, A. Doran, K. Lee, M.P. Cruz, and R. Ramesh, "Nanoscale x-ray magnetic circular dichroism probing of electric-field-induced magnetic switching in multiferroic nanostructures," Applied Physics Letters **90**, 3104 (2007).

2008AA& D.T.L. Alexander, J.R. Anderson, L. Forro and P.A. Crozier, *The real carbon edge*, Microscopy & Microanalysis **14** S-2 674-675 (2008).

2008AG& J.M. Ashcroft , W. Gu, T. Zhang, S.M. Hughes, K.B. Hartman, C. Hofmann, A.G. Kanaras, A.L.D. Kilcoyne, M. Le Gros , Y. Yin, A.P Alivisatos and C.A. Larabell *TiO2 nanoparticles as a soft X-ray molecular probe.* Chemical Communications. **7** 2471-2473 (2008)

2008AH H. Ade and A.P. Hitchcock, *NEXAFS microscopy and resonant scattering: Composition and orientation probed in real and reciprocal space,* Polymer **49,** 643-675 (2008)

2008AL& R. Alberti, A. Longoni, T. Klatka, C. Guazzoni, A. Gianoncelli, D. Bacescu and B. Kaulich, *A Low Energy X-Ray Fluorescence Spectrometer for Elemental Mapping X-Ray Microscopy,* 2008 IEEE Nucl. Sci. Symp. Conf. Record N**14** 3 (2008)

2008B A. Bell, *Microscopy: Watching catalysts at work,* Nature **456**, 185-186 (2008) **HI**

2008BB& K.B. Burke, T. Warwick, J. Belcher, L.s Thomsen, B. Watts, C.R. McNeill, H. Ade and P.C. Dastoor, *Role of Solvent Trapping Effects in Determining the Structure and Morphology of Ternary Blend Organic Devices*, Macromolecules **42**, 3098-3103 (2009)

2008BC&a J.A. Brandes, G.D. Cody, D. Rumble, P. Haberstroh, S. Wirick and Y. Gelinas, *Carbon K-edge XANES spectromicroscopy of natural graphite*, Carbon **46**, 1424 –1434 (2008).

2008BC&a N. Ballav, C. H. Chen, and M. Zharnikov, "*Electron Beam and Soft X-ray Lithography with a Monomolecular Resist*", J. Photopolym. Sci. Tec. **21** , 511 (2008)

2008BF& M.T. Bryan, P.W. Fry, P. Fischer, and D.T. Attwood, "Observation of field-induced domain wall propagation in magnetic nanowires by magnetic transmission x-ray microscopy," J. Appl. Phys. **103**, 07D909 (2008).

2008BG& Bassim, N.D., B.T. De Gregorio, R.M. Stroud, and P.E. Fischione, *Study of FIB damage in carbonaceous materials using XANES*, Microscopy and Microanalysis **14**(S2), 1008-1009 (2008).

2008BH&a B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl, A. Doran, P. Henklein, J. Overhage, K. Hilpert, J.D. Hale and R.E.W. Hancock, *An X-ray spectromicroscopy study of competitive adsorption of protein and peptide onto polystyrene-poly(methyl methacrylate)*, Biointerphases **3,** F27-F35 (2008).

2008BH&b M. Bertilson, O. von Hofsten, M. Lindblom, T. Wilhein, H.M. Hertz, and U. Vogt, *Compact high-resolution differential interference contrast soft x-ray microscopy*, Appl. Phys. Lett. **92**, 064104 (2008)

2008BH&c A. Braun, E. Huggins, A Kubatova, S. Wirick, M.M. Maricq B.S. Mun, J.D. Mcdonald, K.E. Kelly, N. Shah and G. Huffman, *Toward Distinguishing Woodsmoke and Diesel Exhaust in Ambient Particulate Matter*, Environ. Sci. Technol.**42** 374–380 (2008)

2008BH&d Binns, C., Howes, P.B., Baker, S.H., Marchetto, H., Potenza, A., Steadman, P., Dhesi, S.S., Roy, M., Everard, M.J., Rushforth, A., 2008. *Loss of long-range magnetic order in a nanoparticle assembly due to random anisotrop*y. J. Phys.: Condens. Matter 20, 055213.

2008BK& L Bocklage,., B. Krüger, R. Eiselt, M.A. Bolte, P. Fischer, and G. Meier, "Time-resolved imaging of current-induced domain-wall oscillations," Physical Review B: Condensed Matter and Materials Physics **78**, 180405(R) (2008).

2008BM&a K. Benzerara, G. Morin, T.H. Yoon, J. Miot, T. Tyliszczak, C. Casiot, O. Bruneel, F. Farges, G.E. Brown Jr., *Nanoscale study of As biomineralization in an acid mine drainage system,* Geochimica et Cosmochimica Acta, Volume **72**, 949-3963 (2008)

2008BM&b M. Bolte, G. Meier, B. Kruger, A. Drews, R. Eiselt, L. Bocklage, S. Bohlens, T. Tyliszczak, A. Vansteenkiste, B. Van Waeyenberge, KW. Chou, A. Puzic, and H. Stoll, *Time-Resolved X-Ray Microscopy of Spin-Torque-Induced Magnetic Vortex Gyration*, Phys. Rev. Letts **100**, 176601-1-4 (2008). **HI**

2008BT& A.L. Butterworth, T. Tyliszczak, A.J. Westphal, D. Frank, Z. Gainsforth, and R.C. Ogliore, *STXM analysis of NASA Stardust returned samples in low-density silica aerogel,* Geochim. Cosmochim. Acta **72**, A125 (2008).

2008BU& B Bozzini, L D'Urzo, A Gianoncelli, B Kaulich, M Kiskinova, M Prasciolu, A Tadjeddine, *In situ soft X-ray dynamic microscopy of electrochemical processes,* Electrochemistry Communications **10** 1680–1683 (2008).

2008CA&a G.D. Cody, H.W. Ade, C.M. Alexander, T. Araki, A.L. Butterworth, H. Fleckenstein, G.J. Flynn, M.K. Gilles, C.J. Jacobsen, A.L. Kilcoyne, K. Messenger, S.A. Sandford, T. Tyliszczak, A.J. Westphal, S. Wirick, et al ., *Quantitative organic and light element analyses of Comet Wild 2 particles using C-, N-, and O- micro-XANES*, Meteoritics & Planetary Science **43**, 353-365 (2008)

2008CA&b G.D. Cody, C.M O'D. Alexander, H. Yabuta, A.L. Kilcoyne, T. Araki, H.W. Ade, P.K. Dera, M. Fogel, B. Militzer, and B.O. Mysen, "*Organic thermometry for chondritic parent bodies,*" Earth and Planetary Science Letters **272**(1-2), 446-455 (2008).

2008CC& C. Y. Chiu, Y. L. Chan, Y. J. Hsu, and D. H. Wei, "*Collecting Photoelectrons with a Scanning Tunneling Microscope Nanotip*", Appl. Phys. Lett. **92** , 103101 (2008)

2008CL& S. Christensen, U.D. Lanke, B. Haines, S..E. Qaqish, M.F. Paige, S.G. Urquhart, *Structural and Compositional Mapping of a Phase-Separated Langmuir-Blodgett Monolayer by X-ray Photoelectron Emission Microscopy,* J. Elect. Spectrosc. Rel. Phen. **162,** 107-114 (2008)

2008CM& Chu, Y-H., L.W. Martin, M.B. Holcomb, M. Gajek, S-J. Han, Q. He, N. Balke, C-H. Yang, D. Lee, W. Hu, Q. Zhan, P-L. Yang, A. Fraile-Rodriguez, A. Scholl, S.X. Wang, et al ., "Electric-field control of local ferromagnetism using a magnetoelectric multiferroic," Nature Materials **7**, 478-482 (2008) **(HI)**

2008CR& Cheynis F, Rougemaille N, Belkhou R, Toussaint JC, Fruchart O *X-ray photoelectron emission microscopy in combination with x-ray magnetic circular dichroism investigation of size effects on field-induced Neel-cap reversal* Proceedings of the 52nd Annual Conference on Magnetism and Magnetic Materials, **1**, 78915-3 (2008)

2008CW& M. Curcic, B. Van Waeyenberge, A. Vansteenkiste, M. Weigand, V. Sackmann, H. Stoll, M. Fähnle, T. Tyliszczak, G. Woltersdorf, C.H. Back, and G. Schütz, *Polarization Selective Magnetic Vortex Dynamics and Core Reversal in Rotating Magnetic Fields*, *Physical Review Letters* **101**, 197204-1-197204-4 (2008) **(HI)**

2008DF& Doran, J.C., J.D. Fast, J.C. Barnard, A. Laskin, Y. Desyaterik, and M.K. Gilles, *Applications of Lagrangian dispersion modeling to the analysis of changes in the specific absorption of elemental carbon*, Atmospheric Chemistry and Physics Discussions , **8**(5), 1377-1389 (2008).

2008DR& Degueldre C, Raabe J, Kuri G, Abolhassani S, *Zircaloy-2 secondary phase precipitate analysis by X-ray microspectroscopy,* Talanta. **75,** 402-406 (2008).

2008DSE B.T. De Gregorio, R.M. Stroud, and D.S. Ebel, "*Pre- and post-accretionary carbonates in the Renazzo CR chondrite,*" Geochim. Cosmochim. Acta **72**(12 Suppl.), A280-A280 (2008).

2008DV& N. Vigier,, C. Den Auwer, C. Fillaux, A. Mas:ennikov, H. Noel, J. Roques, D.K. Shuh, E. Simoni, T. Tyliszczak, and P. Moisy, *New Data on the Structure of Uranium Monocarbide*, Chem. Mater. **20**, 3199-3204 (2008).

2008EGG T. Eimüller, P. Guttmann, S.N. Gorb, *Terminal contact elements of insect attachment devices studied by transmission X-ray microscopy*, The Journal of Experimental Biology **211**, 1958-1963 (2008)

2008EU& T. Eimüller, T. Ulbrich, E. Amaladass, I. Guhr, T. Tyliszczak & M. Albrecht . *Spin-reorientation transition in Co/Pt multilayers on nanospheres*. Phys. Rev. B, **77**, 134415 (2008).

2008F P. Fischer, "Studying Nanoscale Magnetism and Its Dynamics With Soft X-Ray Microscopy," IEEE Transactions on Magnetics **44**(7), 1900 (2008).

2008FT& PA Fernandes, G Tzvetkov, RH Fink, G Paradossi and A Fery, *Quantitative analysis of scanning transmission X-ray microscopy images of gas-filled PVA-based microballoons*. Langmuir **24,** 13677-13682 (2008)

2008GA& De Gregorio, B.T., C.M. Alexander, N. Bassim, G.D. Cody, A.L. Kilcoyne, L. Nittler, R.M. Stroud, and T. Zega, "*Isotopically anomalous carbonaceous nanoglobules in meteorites and comets*," Eos, T. Am. Geophys. Un. **90**(52), P14A-02 (2009

2008GB& De Gregorio, B.T., N. Bassim, G.D. Cody, L. Nittler, R.M. Stroud, and T. Zega, "T*EM and STXM observations of organic (and some inorganic) Stardust particles from comet 81P/Wild 2*," **JOURNAL** **39**, 2139 (March 2008). [Proceedings of Lunar and Planetary Science Conference, (Houston, TX,)]

2008GF& S.M. Glasauer, S. Fakra, T. Tyliszczak, and D.K. Shuh, *Defining biomineralization from the bacterial cell wall to the bulk solution*, Geochim. Cosmochim. Acta **72**, A312 (2008).

2008GFK M.T. Greiner, M. Festin and P. Kruse, *Investigation of Corrosion-Inhibiting Aniline Oligomer Thin Films on Iron Using Photoelectron Spectroscopy*, J. Phys. Chem. C **112,** 18991- 19004 (2008)

2008GG& Gao JH, Girard Y, Repain V, Tejeda A, Belkhou R, Rougemaille N, Chacon C, Rodary G, Rousset S *Spin reorientation transition and magnetic domain structure of Co ultrathin films grown on a faceted Au(455) surface* ,Physical Review B, **77** 134429 (2008)

2008GK& A. Konicek, D. Grierson, P. Gilbert, W. Sawyer, A. Sumant, and R. Carpick, *Origin of Ultralow Friction and Wear in Ultrananocrystalline Diamond*, Phys. Rev. Letts **100**, 235502-1-4 (2008). **HI**

2008GM&a C. Graf, M. Meinke, Q. Cao, S. Hadam, J. Raabe, W. Sherry, U. Blume-Peytavi J. Leadmann, E. Rühl and A. Vogt, *High Reoslution detection of single nanoparticles in human skin by STXM*, J. Biomedical Optics **14**, 021015 (2008)

2008GM&b P. U. P. A. Gilbert R.A. Metzler, D Zhou, Andreas Scholl, Andrew Doran, Anthony Young, Martin Kunz, Nobumichi Tamura and Susan N. Coppersmith "*Gradual Ordering in Red Abalone Nacre.*" J. American Chemical Society **130**, 17519-17527 (2008)

2008GP& L. Gridneva, A. Persson, M.Á. Niño, J. Camarero, J. J. de Miguel, R. Miranda, C. Hofer, C. Teichert, T. Bobek, A. Locatelli, S. Heun, S. Carlsson, and D. Arvanitis, *Experimental investigation of the spin reorientation of Co/Au based magnetic nanodot arrays,* Phys. Rev. B **77**, 104425 (2008).

2008GR& S. Gunther, R. Reichelt, J. Wintterlin, A. Barinov, T.O. Menteş, M.Á. Niño, and A. Locatelli, *Chemical patterning of Ag(111): Spatially confined oxide formation induced by electron beam irradiation,* Appl. Phys. Lett. **93**, 233117 (2008).

2008GS& De Gregorio, B.T., R.M. Stroud, L.R. Nittler, A.L. D Kilcoyne, and G.D. Cody, "*Cometary "everything cookie": a unique carbonaceous Stardust particle containing various nanoscale particles*," Astrobiology **8**(2), 445 (2008).

2008HBV O. von Hofsten, M. Bertilson, and U. Vogt *"Theoretical development of a high-resolution differential-interference-contrast optic for x-ray microscopy"*, Opt. Express **16**, 1132-1141 (2008)

2008HB& O. von Hofsten, M. Bertilson, M. Lindblom. A. Holmberg, and U. Vogt *"Compact Zernike phase contrast x-ray microscopy using a single-element optic"*, Opt. Lett. **33**, 932-934 (2008)\

2008HD&a A.P. Hitchcock, J.J. Dynes, G.A. Johansson, J. Wang and G. Botton, *Comparison of NEXAFS microscopy and TEM-EELS for studies of soft matter,* Micron **39**, 311-319 (2008) (also 741-748)

2008HD&b R.J. Hopkins, Y. Desyaterik, A.V. Tivanski, R.A. Zaveri, C.M. Berkowitz, T. Tyliszczak, M.K. Gilles, and A. Laskin, *Chemical Speciation of Sulfur in Marine Cloud Droplets and Particles: Analysis of Individual Particles from Marine Boundary Layer over the California Current,* Journal of Geophysical Research - Atmospheres **113**, D04209 (2008)

2008HF& J.A. Hunt, B. Frazer, P.A.C. Takman, B.C. Gundrum, A. Abbott, C. Lee and C.R. Booth, *Laboratory Sources for Soft X-ray Imaging of Hydrated Biological Material*, Microscopy & Microanalysis **14** S-2 664-665 (2008).

2008HG&a T. Hauet, C.M. Gunther, O. Hovorka, A. Berger, M. Im, P. Fischer, T. Eimuller, and O. Hellwig, "Field driven ferromagnetic phase nucleation and propagation in antiferromagnetically coupled multilayer films with perpendicular anisotropy," Applied Physics Letters **93**, 042505 (2008).

2008HG&b T. Hauet, C.M. Gunther, B. Pfau, M.E. Schabes, J.U. Thiele, R.L. Rick, P. Fischer, S.M. Eisebitt, and O. Hellwig, "Direct observation of field and temperature induced domain replication in dipolar coupled perpendicular anisotropy films," Physical Review B: Condensed Matter and Materials Physics **77**(18), 184421 (2008).

2008HH& R.C. Hunter, A.P. Hitchcock, J.J. Dynes, M. Obst and T.J. Beveridge, *Mapping the speciation of iron minerals in Pseudomonas aeruginosa biofilms using scanning transmission x-ray microscopy*, Environmental Science and Technology **42,** 8766–8772 (2008)

2008HJ&a A.P. Hitchcock, G.A. Johansson, G.E. Mitchell, M. Keefe and T. Tyliszcak, *3-d chemical imaging using angle-scan tomography in a soft X-ray scanning transmission X-ray microscope*, Applied Physics A **92**, 447-452 (2008)

2008HK& L. Heyne, M. Kläui, D. Backes, T. A. Moore, S. Krzyk, U. Rüdiger, L. J. Heyderman, A. Fraile Rodriguez, F. Nolting, T. O. Menteş, M.Á. Niño, A. Locatelli, K. Kirsch, and R. Mattheis;, *Relationship between Nonadiabaticity and Damping in Permalloy Studied by Current Induced Spin Structure Transformations,* Phys. Rev. Lett. **100**, 066603 (2008) **(HI)**

2008HL& M. Hehn, Lacour D, Montaigne F, Briones J, Belkhou R, El Moussaoui S, Maccherozzi F, Rougemaille N *360^{o} domain wall generation in the soft layer of magnetic tunnel junctions* Applied Physics Letters, **92** 72501-3 (2008)

2008HN& A.P. Hitchcock, E.Najafi, D. Hernández Cruz M. Obst A. Felten, B. Douhard, J.-J. Pireaux, *Scanning Transmission X-ray Microscopy of Individual Multi-Walled Carbon Nanotubes: Linear Dichroism and Functionalization Chemistry*, Microscopy and Microanalysis **14** S-2 (2008) 190-191

2008HT& P. Hale, S. Turgeon, P. Horny, F. Lewis, N. Brack, G.Van Riessen, P. Pigram and D. Mantovan, *X-ray Photoelectron Emission Microscopy and Time-of-Flight Secondary Ion Mass Spectrometry Analysis of Ultrathin Fluoropolymer Coatings for Stent Applications,* Langmuir **24** 7897–7905, (2008)

2008HU& L. Hong, H. Uecker, M. Hinz, L. Qiao, I.G. Kevrekidis, S. Gunther, T. O. Menteş, A. Locatelli, and R. Imbihl, *Mass transport of alkali metal with pulses in a surface reaction,* Phys. Rev. E **78**, 055203 (2008).

2008II& M. Im, S.-H. Lee, D.-H. Kim, P. Fischer, and S.-C. Shin, "Scaling behavior of the first arrical time of a random-walking magnetic domain," Physical Review Letters **100**, 167204 (2008). **(HI)**

2008IK& M. Im, D.-H. Kim, K.-D. Lee, S.H. Lee, P. Fischer, and S.-C. Shin, "Direct Real-Space Observation of Stochastic Behavior in Domain Nucleation Process on a Nanoscale," Advanced Materials **20**(9), 1750 (2008).

2008JS& Jia C-J, Sun L-D, Luo F, Han X-D, Heyderman LJ, Yan Z-G, et al., *Large-scale synthesis of single-crystalline iron oxide magnetic nanorings*, Journal of the American Chemical Society. **130**, 16968-16977 (2008).

2008JV& K Jefimovs, J Vila Comamala, M Stampanoni, B Kaulich, C David, *Beam-shaping condenser lenses for full-field transmission X-ray Microscopy*, J. Syn. Rad. **15** 106-109 (2008)

2008KF& S. Kasai, P. Fischer, M-Y. Im, K. Yamada, Y. Nakatani, K. Kobayashi1, H. Kohnoand T, Ono, *Probing the Spin Polarization of Current by Soft X-Ray Imaging of Current-Induced Magnetic Vortex Dynamics* Phys. Rev. Lett. **101**, 237203 -1-4, (2008) **(HI)**

2008KG& Konicek, A.R., D. Grierson, P.U.P.A Gilbert, W.G. Sawyer, A.V. Sumant, and R.W. Carpick, "Origin of Ultralow Friction and Wear in Ultrananocrystalline Diamond," Physical Review Letters **100**, 235502-1-235502-4 (2008). **(HI)**

2008KO& F. Kronast, R. Ovsyannikov, A. Kaiser, C. Wiemann, S.H-. Yang, A. Locatelli, D.E. Burgler, R. Schreiber, F. Salmassi, P. Fischer, H.A. Burr, C.M. Schneier, W. Eberhardt, and C.S. Fadley, "*Depth-resolved soft x-ray photoelectron emission microscopy in nanostructures via standing-wave excited photoemission*," Applied Physics Letters **93**, 243116 (2008).

2008KP& A. Kolmakov, S. Potluri, T.O. Menteş, L. Gregoratti, M.Á. Niño, A. Locatelli and M. Kiskinova, *Spectromicroscopy for Addressing the Surface and Electron Transport Properties of Individual 1-D Nanostructures and Their Networks,* ACS Nano **2**, 1993-2000 (2008).

2008KW&a R Kaegi, T Wagner, B Hetzer, B Sinnet, G Tzvetkov and M Boller, *Size, number and chemical composition of nanosized particles in drinking water determined by analytical microscopy and LIBD*. Water Res **42** 2778-2786 (2008)

2008KW&b K.R. Knox, S. Wang, A. Morgante, D. Cvetko, A. Locatelli, T.O. Menteş, M.Á. Niño, P. Kim, and R.M. Osgood Jr., *Spectromicroscopy of single and multilayer graphene supported by a weakly interacting substrate,* Phys. Rev. B **78**, 201408 (2008).

2008LB A. Locatelli and E. Bauer, *Recent advances in chemical and magnetic imaging of surfaces and interfaces by XPEEM,* J. Phys.: Condens. Matter **20,** 093002 (2008)

2008LB& L.Li, J. Brash, R. Cornelius and A. P. Hitchcock, *X-ray microscopy studies of protein adsorption on a phase segregated polystyrene/ polymethylmethacrylate surface*, II *pH dependence of albumin adsorption* J. Phys. Chem B **112**, 2150-2158 (2008)

2008LG&a C. Lepiller, V. Gauthier, J. Gaudet, A. Pereira, M. Lefebvre, D. Guay and A.P. Hitchcock, *Ionic conductivity of Nafion® - RuO_2:xH_2O composite membranes* J. Electrochemical Society **155**, B70-B78 (2008)

2008LG&b K. W. Lin, J. Y. Guo, H. Y. Liu, H. Ouyang, Y. L. Chan, D. H. Wei, and J. van Lierop, "*Anomalous Exchange Bias Behavior in Ion-beam Bombarded NiCo/(Ni, Co)O Bilayers*", J. Appl. Phys. **103** , 07C105 (2008)

2008LH& B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl, A. Doran, P. Henklein, J. Overhage, K. Hilpert, J.D. Hale and R.E.W. Hancock, *An X-ray spectromicroscopy study of competitive adsorption of protein and peptide onto polystyrene-poly(methyl methacrylate)*, Biointerphases **3** F27-F35 (2008)

2008LK& Lee, K.-S., S.-K. Kim, Y.-S. Yu, Y.-S. Choi, K.-Y. Guslienko, H. Jung, and P. Fischer, "*The universal criterion for switching a magnetic vortex core in soft magnetic nanodots*," Physical Review Letters **101**, 267206 (2008). **(HI)**

2008LM& Leaitch, W.R., A.M. Macdonald, K.G. Nlauf, P.SK. Liu, D. Toom-Sauntry, S.M. Li, J. Liggio, K. Hayden, M.A. Wasey, L.M. Russell, S. Takahama, S. Liu, A. vanDonkelaar, T. Duck, R.V. Martin, et al ., *Evidence for Asian dust effects from aerosol plume measurements during INTEX-B 2006 near Whistler, BC*" Atmospheric Chemistry and Physics Discussions **8**, 18531-18589 (2008)

2008LR& S. Larcheri, F. Rocca, D. Pailharey, F. Jandard, R. Graziola, A. Kuzmin, R. Kalendarev, J. Purans, *A new tool for nanoscale X-ray absorption spectroscopy and element-specific SNOM microscopy*, Micron **40**, 61-65 (2008)

2008LS& J. Lehmann, D. Solomon, J. Kinyangi, L. Dathe S. Wirick and C. Jacobsen, *Spatial Complexity of soil organic matter forms at nanometere scales,* Nature Geoscience **1**, 238-242 (2008)

2008MC&a L.W. Martin,, S.P. Crane, Y-H. Chu, M.B. Holcomb, M. Gajek, M. Huijben, C-H. Yang, N. Balke, and R. Ramesh, "Multiferroics and magnetoelectrics: thin films and nanostructures," J. Phys. C **20**, 434220 (2008).

2008MC&b L.W. Martin, Y-H. Chu, M.B. Holcomb, M. Huijben, P. Yu, S-J. Han, D. Lee, S.X. Wang, and R. Ramesh, "*Nanoscale Control of Exchange Bias with BiFeO3 Thin Films*," Nano Letters **8**, 2050-2055 (2008).

2008MD& R.C. Moffet, Y. Desyaterik, R.J. Hopkins, A.V. Tivanski, M.K. Gilles, V. Shutthanandan, L.T. Molina, R.A. Gonzalez, K.S. Johnson, M.J. Molina, A. Laskin, and K.A. Prather, *Characterization of Aerosols Containing Zn, Pb, and Cl from an Industrial Region of Mexico City*, Environmental Science and Technology **41**, 7091-7097 (2008).

2008MH&a S. Mangin, T. Hauet, P. Fischer, D.H. Kim, J.B. Kortright, K. Chesnel, E. Arenholz, and E.E. Fullerton, *"Influence of antiferromagnetic interface exchange coupling in perpendicular anisotropy [Pt /Co]xn/TbFe bilayers*," Physical Review B: Condensed Matter and Materials Physics **78**, 024424 (2008).

2008MH&b S. Mangin, T. Hauet, P.J. Fischer, D.H. Kim, J.B. Kortright, K. Chesnel, E. Arenholz, and E.E. Fullerton, "I*nfluence of interface exchange coupling in perpendicular anisotropy [Pt/Co]TbFe bilayers*," Physical Review B **78**, 0224424 (2008).

2008MK& R.A. Metzler, I.W. Kim, K. Delak, J.S. Evans, D. Zhou, E. Beniash, F. Wilt, M. Abrecht, J.W. Chiou, J. Guo, S.N. Coppersmith, and P.U.P.A. Gilbert, *Probing the Organic-Mineral Interface at the Molecular Level in Model Biominerals,* Langmuir **24**, 2680-2687 (2008).

2008MK& P.JM. Monteiro, A. Kirchheim, R. Chae, P. Fischer, A.A. MacDowell, E.G. Schaible, and H. Wenk, "Characterizing the Nano and Micro Structure of Concrete to Improve its Durability," Cement and Concrete Composites **31**(8), 577-584 (2009).

2008ML&a L. MacLean, T. Tyliszczak, P.U.P.A. Gilbert, D. Zhou, T.J. Pray, T.C. Onstott, and G. Southam, *A high-resolution chemical and structural study of framboidal pyrite formed within a low-temperature bacterial biofilm*. Geobiology **6**, 471-480 (2008).

2008ML&b T.O. Menteş, A. Locatelli, L. Aballe, and E. Bauer, *Stress Induced Stripe Formation in Pd/W(110),* Phys. Rev. Lett. **101**, 085701 (2008). **HI**

2008MM& C. Mikutta, R. Mikutta, S. Bonneville, F. Wagner, A. Voegelin, I. Christl and R. Kretzschmar, *Synthetic coprecipitates of exopolysaccharides and ferrihydrite. Part I: Characterization*, Geochimica et Cosmochimica Acta, **72**, 1111-1127 (2008)

2008MS& T. O. Menteş, N. Stojić, N. Binggeli, M.Á. Niño, A. Locatelli, L. Aballe, M. Kiskinova, and E. Bauer, *Strain relaxation in small adsorbate islands: O on W(110),* Phys. Rev. B **77**, 155414 (2008).

2008MT&a G. Mitrea, J. Thieme, P. Guttmann, S. Heim, S. Gleber:, *X-ray spectromicroscopy of soil colloids with the scanning transmission x-ray microscope at BESSY II*, J. Synchrotron Rad. **15** 26-35 (2008)

2008MT&b L.C.W. MacLean, T. Tyliszczak, P.U.P.A. Gilbert, D. Zhou, T.J. Pray, T.C. Onstott, and G. Southam, *A high-resolution chemical and structural study of framboidal pyrite formed within a low-temperature bacterial biofilm*, Geobiology **6** 471-480 (2008)

2008MW& C.R. McNeill, B. Watts, S. Swaraj, H.W. Ade, L. Thomsen, W.J. Belcher, and P.C. Dastoor, *Evolution of the nanomorphology of photovoltaic polyfluorene blends: Sub-100 nm resolution with x-ray spectromicroscopy*" Nanotechnology **19**, 424015 (2008).

2008MZ& R.A. Metzler, D. Zhou, M. Abrecht, J.W. Chiou, J. Guo, D. Ariosa, S.N. Coppersmith, and P.U.P.A. Gilbert, *Polarization dependent imaging contrast in abalone shells*., Phy.Rev. B **77**, 064110-1-9 (2008).

2008NA& G. De Ninno, E. Allaria, M. Coreno, F. Curbis, M. B. Danailov, E. Karantzoulis, A. Locatelli, T.O. Menteş, M.Á. Niño, C. Spezzani, and M. Trovò, *Generation of Ultrashort Coherent Vacuum Ultraviolet Pulses Using Electron Storage Rings: A New Bright Light Source for Experiments,* Phys. Rev. Lett. **101**, 053902 (2008). **HI**

2008NH& E. Najafi, D. Hernández Cruz, M. Obst, A.P. Hitchcock, B. Douhard, J.-J. Pireaux and A. Felten, *Polarization dependence of the C 1s X-ray absorption spectra of individual multi-walled carbon nanotube*s, Small **4**, 2279-2285 (2008)

2008NM& E Novakova, G Mitrea, C Peth, J Thieme, K Mann and T Salditt , *Solid supported multicomponent lipid membranes studied by x-ray spectromicroscopy* Biointerphases **3** FB44 (2008)

2008O E. Otero, "*Soft X-ray Spectroscopy of Organic and Organometallic Molecules and Polymers,"* doctoral dissertation, University of Saskatchewan, Saskatoon, SK, 2008, advisor Stephen G. Urquhart

2008PM&a D.Y. Parkinson, G. McDermott, M.A. Le Gros and C.A. Larabel, *Quantitative 3-D imaging of eukaryotic cells using soft X-ray tomography*, Microscopy & Microanalysis **14** S-2 666-667 (2008).

2008PM&b Parkinson, D.Y., G. McDermott, M.A. Le Gros, and C.A. Larabell, "*Quantatitive 3-D imaging of eukaryotic cells using soft x-ray tomography*," J. Struct. Biol. **162**(3), 380-386 (2008).

2008PM&c Politi, Y., R.A. Metzler, M. Abrecht, B. Gilbert, F. Wilt, I. Sagi, L. Addadi, S. Weiner, and P.A. Gilbert, "*Transformation mechanism of amorphous calcium carbonate into calcite in the sea urchin larval spicule*," PNAS **105**, 17362-17366 (2008).

2008PP& D. Pacile, M. Papagno, A. F. Rodriguez, M. Grioni, L. Papagno C.O. Girit, J.C. Meyer, G.E. Begtrup and A. Zettl, *Near-Edge X-Ray Absorption Fine-Structure Investigation of Graphene* Phys. Rev. Lett. **101** (2008) 066806 **HI**

2008PT& J. Przewonik, T. Tyliszczak, D. Rybicki, J. Zukrowski, W. Szczerba, M. Szczerba, C.z. Kapusta, H. Stepankova, R.F. Pacheco, D. Serrate, and R. Ibarra, *Structural, Magnetic and Electronic Properties of Surface Oxidised Fe Nanoparticles,* Solid State Phenomena **140**, 47-54 (2008)

2008RB& A. Rosenhahn, R. Barth, F. Staier, T. Simpson, S. Mittler, S. Eisebitt, M. Grunze, *Digital In-line Soft X-ray Holography with chemical resolution*, J. Optical Society of America A **25** 416-422 (2008)

2008RT& J. Raabe, G. Tzvetkov, U. Flechsig, M. Böge1 A. Jaggi, B. Sarafimov, M. G. C. Vernooij, T. Huthwelker, H. Ade, D. Kilcoyne, T. Tyliszczak, R. H. Fink and C. Quitmann, *PolLux: A new facility for soft x-ray spectromicroscopy at the Swiss Light Source*, Rev. Sci. Inst. **79**, 113704-(1-10) (2008)

2008SC& J. Strachan, V.H. Chembrolu, Y.M. Acremann, X.W. Yu, A.A. Tulapurkar, T. Tyliszczak, J.A. Katine, M.J. Carey, M.R. Scheinfein, H.C. Siegmann, and J. Stohr, *Direct Observation of Spin-Torque Driven Magnetization Reversal through Nonuniform Modes*, Physical Review Letters **100**(24), 247201-1-247201-4 (2008). **(HI)**

2008SP& Shang, N.G., Papakonstantinou, P., McMullan, M., Chu, M., Stamboulis, A., Potenza, A., Dhesi, S.S., Marchetto, H., *Catalyst-Free Efficient Growth, Orientation and Biosensing Properties of Multilayer Graphene Nanoflake Films with Sharp Edge Plane*s. Advanced Functional Materials 18, 3506–3514 (2008).

2008SRW G. Schneider, S. Rehbein, S. Werner, *Volume Effects in Zone Plates* in: Modern Developments in X-Ray and Neutron Optics, Springer Series in Optical Sciences, Springer Berlin/Heidelberg **137**, 137-171 (2008)

2008SS&a E. de Smit, I. Swart, J. F. Creemer, G.H. Hoveling M.K. Gilles, T. Tyliszczak, P.J. Kooyman, H.W. Zandbergen, C. Morin, B.M. Weckhuysen and Frank M. F. de Groot*, Nanoscale chemical imaging of a working catalyst by scanning transmission X-ray microscopy*, Nature **456** 222-225 (2008). **(HI)**

2008SS&b P.F. Schofield, A.D. Smith, and A. Scholl, "Chemical and valence state imaging of mineral intergrowths using X-ray photo-emission electron microscopy," *Geochim. Cosmochim. Acta* **72**(12), A838 (2008)

2008TG&a G Tzvetkov, B Graf, R Wiegner, J Raabe, C Quitmann and R Fink, *Soft X-ray spectromicroscopy of phase-change microcapsules***.** Micron; **39** 275-279 (2008)

2008TG&b J. Thieme, S.-C. Gleber, P. Guttmann, J. Prietzel, I. McNulty, and J. Coates, *Microscopy and spectroscopy with X-rays for studies in the environmental sciences*, Mineralogical Magazine **72**, 211-216 (2008).

2008TG&c G Tzvetkov, B Graf, P. Fernandes, A. Fery, F., Cavalieri, G. Paradossi and RH Fink, *In Situ Characterization of Gas-Filled Microballoons using Soft X-ray Microspectroscopy* Soft Matter, **4** 510-514 (2008)*,*

2008TGR S. Takahama, S. Gilardoni, and L.M. Russell, *Single-Particle Oxidation-State and Morphology of Atmospheric Iron Aerosols,* Journal of Geophysical Research - Atmospheres **113**(D22202), 1 (2008).

2008TS& J. Thieme, S.C. Gleber, P. Guttmann, J. Prietzel, I. McNulty, and J. Coates, "*Microscopy and spectroscopy with X-rays for studies in the environmental science*s," Mineral.l Magazine **72**(1), 211 (2008).

2008ULF S. G. Urquhart, U.D. Lanke and J. Fu, *Characterization of Molecular Orientation in Organic Nanomaterials by X-ray Linear Dichroism Microscopy*, Int. J. Nanotechnology **5**, 1138-1170 (2008)

2008VB& A. Vansteenkiste, J. De Baerdemaeker, K.W. Chou, H. Stoll, M. Curcic, T. Tyliszczak, G. Woltersdorf, C.H. Back, G. Schütz, and B. Van Waeyenberge, *Influence of domain wall pinning on the dynamic behavior of magnetic vortex structures*, Phys. Rev. B **77**, 144420 (2008).

2008VJ& J Vila-Comamala, K Jefimovs, J Raabe, B Kaulich, C David, *Silicon Fresnel zone plates for high heat load X-ray microscopy*, Microelectronic Eng. **85** 1241-1245 (2008)

2008Wa J. Wang, *Radiation chemistry studied by Soft X-ray microscopy,* McMaster, Chemistry, PhD thesis (Feb, 2008)

2008Wb C. Wang, , "*Resonant Soft X-ray Reflectivity: A Tool for the Study of Polymer Thin Films* ," doctoral dissertation, North Carolina State Universtiy, Raleigh, NC, 2008, advisor Harald Ade.

2008WA B. Watts and H. Ade, *A simple method for determining linear polarization and energy calibration of focused soft X-ray beams*, J. El. Spect. Rel. Phen. **162** 49-55 (2008)

2008WL&a C. L. Wu, H. M. Lee, C. T. Kuo, C. H. Chen, and S. Gwo, "*Cross-sectional Scanning Photoelectron Microscopy and Spectroscopy of Wurtzite InN/GaN Heterojunction: Measurement of "Intrinsic" Band Lineup*", Appl. Phys. Lett. **92** , 162106 (2008)

2008WL&b C. L. Wu, H. M. Lee, C. T. Kuo, C. H. Chen, and S. Gwo, "*Absence of Fermi-level Pinning at Cleaved Nonpolar InN Surfaces*", Phys. Rev. Lett. **101** , 106803 (2008) **HI**

2008WS& A. Westphalen, A. Schumann, A. Remhof, H. Zabel, M. Karolak, B. Baxevanis, E.Y. Vedmedenko, T. Last, U. Kunze, and T. Eimuller, "Magnetization Reversal of Microstructured Kagomé Lattices," *Physical Review B* **77**, 174407 (May 2008).

2008ZG& E. Zschech, H. Geisler, J. Rinderknecht, G. Schneider, R. Spolenak, D. Schmeisser, *Nano-Scale Analysis Using Synchrotron-Radiation: Applications in the Semiconductor Industry*, Current Nanoscience **4**, 256 – 266 (2008)

2008ZM& D. Zhou, R.A. Metzler, T. Tyliszczak, J. Guo, M. Abrecht, S.N. Coppersmith, and P.U.P.A. Gilbert, *Assignment of polarization dependent peaks in carbon K-edge spectra from biogenic and geologic aragonite,* J. Phys. Chem. B **112** 13128–13135 (2008)

2008YA& Yabuta, H., T. Araki, H. Busemann, G.D. Cody, M. Fries, D.A. L. Kilcoyne, H. Mita, and A. Steele, "*Microscopic study of kerogen in Neogene sediments of the Shinjo basin, Japan*," Astrobiology, 330 (April 2008).

2008ZYS E. Zschech, W. Yun, G. Schneider, *High-resolution x-ray imaging - a powerful nondestructive technique for applications in semiconductor industry,* Appl. Phys. A **92** 423-429 (2008)

2009AF& Auernhammer GK, Fauth K, Ullrich B, Zhao J, Weigand M, Vollmer D, *Time-resolved X-ray microscopy of nanoparticle aggregates under oscillatory shear,* J. Synchrotron Radiation. **16,** 307-309 (2009).

2009AK& A Alberti, T Klatka, A Longoni, D Bacescu, A Marcello, A De Marco, A Gianoncelli, A Kaulich, *Development of a low-energy x-ray fluorescence system with sub-micrometer spatial resolution*, X-ray Spectrometry, **38** 205-210 (2009)

2009AS Ade, H., and H. Stoll, "*Near-edge X-ray absorption fine-structure microscopy of organic and magnetic materials*, Nature Materials **8**(4), 281-290 (2009) **(HI)**

2009AS& M.K. Armbruster, B. Schimmelpfennig, M. Plaschke, J. Rothe, M.A. Denecke, R. Klenze, *Metal-ion complexation effects in C 1s-NEXAFS spectra of carboxylic acids—Evidence by quantum chemical calculations*, J. El. Spectrosc. Rel. Phen. **169** 51-56 (2009)

2009AW& H Ade, B Watts, S Swaraj, C McNeill, L Thomsen, W Belcher and P C Dastoor, *NEXAFS microscopy of polymeric materials: Successes and challenges encountered when characterizing organic devices,* XRM-08, J. Phys. Conf. Ser. **186** 012100-3 (2009)

2009BB&a F Brizuela, C Brewer, S Fernandez, D Martz, M Marconi, W Chao, E H Anderson, A V Vinogradov, I A Artyukov, A G Ponomareko, V V Kondratenko, D T Attwood, K A Bertness, N A Sanford, J J Rocca and C S Menoni, *High resolution full-field imaging of nanostructures using compact extreme ultraviolet lasers*, XRM-08, J. Phys. Conf. Ser. **186** 012026-3 (2009)

2009BB&b Burke, K.B., W.J. Belcher, L. Thomsen, B. Watts, C.R. McNeill, H. Ade, and P.C. Dastoor, *Role of Solvent Trapping Effects in Determining the Structure and Morphology of Ternary Blend Organic Devices,* Macromolecules **42**(8), 3098-3103

2009BB&c S. Bernard , K. Benzerara, O. Beyssac, G.E. Brown Jr, L. Grauvogel Stamm and P. Duringer, *Ultrastructural and chemical study of modern and fossil sporoderms by Scanning Transmission X-ray Microscopy (STXM)*, Review of Palaeobotany and Palynology **156**, 248-261 (2009)

2009BB&d K.B. Burke, W.J. Belcher, L. Thomsen, B. Watts, C.R. McNeill, H.W. Ade, and P. Dastoor, "*Role of Solvent Trapping Effects in Determining the Structure and Morphology of Ternary Blend Organic Devices*," Macromolecules **42**(8), 3098-3103 (2009).

2009BB&e V. Baranwal, G. Biasiol, S. Heun, A. Locatelli, T.O. Menteş, M.Á. Niño Orti, L. Sorba, *Kinetics of the evolution of InAs/GaAs quantum dots to quantum rings: A combined x-ray, atomic force microscopy, and photoluminescence study,*Phys. Rev. B **80,** 155328 (2009).

2009BB&f Beale, T.A.W., Bland, S.R., Johnson, R.D., Hatton, P.D., Cezar, J.C., Dhesi, S.S., v. Zimmermann, M., Prabhakaran, D., Boothroyd, A.T., *Thermally induced rotation of $3d$ orbital stripes in Pr(Sr0.1Ca0.9)2Mn2O7* . Phys. Rev. B 79, 054433 (2009).

2009BD& A. Barinov, P. Dudin, L. Gregoratti, A. Locatelli, T.O. Menteş, M.Á. Niño, M. Kiskinova, *Synchrotron-based photoelectron microscopy,* Nuclear Instruments and Methods in Physics Research A, **601**, 195-202 (2009).

2009BH& M Bertilson, O von Hofsten, J Thieme, M Lindblom, A Holmberg, P Takman, U Vogt and H Hertz, *First application experiments with the Stockholm compact soft x-ray microscope*, XRM-08, J. Phys. Conf. Ser. **186** 012025-3 (2009)

2009BK& A. Brauna, A. Kubatova, S. Wirick, S.B. Mun, *Radiation damage from EELS and NEXAFS in diesel soot and diesel soot extracts*, J. Electron Spectroscopy and Related Phenomena 1**70** 42-48 (2009)

2009BM&a G. Biasiol, R. Magri, S. Heun, A. Locatelli, T.O. Menteş and L. Sorba, *Surface compositional mapping of self-assembled InAs/GaAs quantum rings,* Journal of Crystal Growth **311**, 1764-1766 (2009).

2009BM&b Beniash, E., R.A. Metzler, R.K. Lam, P.A. Gilbert, et al ., "*Transient amorphous calcium phosphate in forming enamel*," J. Structural Biology **166**, 133-134 (2009).

2009BN&a H. Busemann, A.N. Nguyen, G.D. Cody, P. Hoppe, A. Kilcoyne, R.M. Stroud, T.J. Zega, and L.R. Nittler, *Ultra-primitive interplanetary dust particles from the comet 26P/Grigg-Skjellerup dust stream collection*, Earth and Planetary Science Letters **288**, 44 (2009).

2009BN&b Bali, R., B. Nelson-Cheeseman, A. Scholl, E. Arenholz, Y. Suzuki, and M. Blamire, "*Competing magnetic anisotropies in an antiferromagnet-ferromagnet-antiferromagnet trilayer*," J. Appl. Phys. **106**, 113925 (2009)

2009BS& Brambilla A, Sessi P, Cantoni M, Finazzi M, Rougemaille N, Belkhou R, Vavassori P, Duo L, Ciccacci F *Frustration-driven micromagnetic structure in Fe/CoO/Fe thin film layered systems Physical Review B, 79. 172401-4 (2009)*

2009BU&a B Bozzini, L D'urzo, A Gianoncelli, B Kaulich, M Prasciolu, I Sgura, E Tondo, M Kiskinova, *An in Situ Synchrotron-Based Soft X-ray Microscopy Investigation of Ni Electrodeposition in a Thin-Layer Cell*, J Phys. Chem C, **113** 9783-9788 (2009)

2009BU&b B Bozzini, L D'urzo, A Gianoncelli, B Kaulich, M Kiskinova, M Prasciolu, A Tadjeddine, *Synchrotron-based in situ soft X-ray microscopy of Ag corrosion in aqueous chloride solution*, , XRM-08, J. Phys. Conf. Ser. **186** 012103-3 (2009)

2009CB& G. D. Codya, J. Brandes, C. Jacobsen, S. Wirick, *Soft X-ray induced chemical modification of polysaccharides in vascular plant cell walls*, J. Electron Spectroscopy and Related Phenomena **170** 57–64 (2009)

2009CC& J.L. Carrascosa, F. Javier Chichón, E. Pereiro, M.J. Rodríguez, J.J. Fernández, M. Esteban, S. Heim, P. Guttmann and G. Schneider, *Cryo-x-ray tomography of Vaccinia Virus membranes and inner compartments*, J. Struct. Biol. **168** 234-239 (2009)

2009CF& Chan, C.S., S.C. Fakra, D.C. Edwards, D. Emerson, and J.F. Banfield, *Iron oxyhydroxide mineralization on microbial extracellular polysaccharides,* Geochimica et Cosmochimica Acta 73(13), 3807-3818 (2009).

2009CGM Coppersmith, S.N., P.A. Gilbert, and R.A. Metzler, "*Theoretical characterization of a model of aragonite crystal orientation in red abalone nacre*," Journal of Physics A: Mathematical and Theoretical **42,** 125101 (2009).

2009CH&a D. Covelli, D. Hernandez-Cruz, B.M. Haines, V. Munoz, O. Omotoso, R. Mikula and S.G. Urquhart, *NEXAFS microscopy of the association of thydrocarbon thin films with fine clay particles*, J. Electron Spectrosc. Rel. Phen, **173**, 1-6 (2009)

2009CH&b C.-C. Li, J.-L. Huang, R.-J. Lin, D.-F. Lii, C.-H. Chen, L.-C. Chen, and K.-H. Chen, "*Characterization of Air-exposure/activation Cycles of Porous Ti-Zr-V Getter Film Using Synchrotron Radiation Photoemission Spectroscopy*", Thin Solid Films 5**17** , 3672 (2009)

2009CK&a Chao, W., J. Kim, S. Rekawa, P. Fischer, and E.H. Anderson, "Demonstration of 12 nm resolution Fresnel zone plate lens based soft x-ray microscopy," Optics Express, **28**, 17669 (2009).

2009CK&b W. Chao, K. Kim, P.J. Fischer, S. Rekawa, and E. Anderson, "Hydrogen silsesquioxane double patterning process for 12 nm resolution x-ray zone plates," Journal of Vacuum Science and Technology B: Microelect. & Nanometer Structures **27**, 2606-2611 (2009).

2009CM& Cheynis F, Masseboeuf A, Fruchart O, Rougemaille N, Toussaint JC, Belkhou R, Bayle-Guillemaud P, Marty A , *Controlled Switching of Néel Caps in Flux-Closure Magnetic Dots* , Physical Review Letters, **102** 107201-4 (2009) **HI**

2009CP A.P. Chandra, A.R. Gerson, *The mechanisms of pyrite oxidation and leaching: A fundamental perspective*, Surface Science Reports **65** 293-315 (2010)

2009CR& F.J. Chichón, M.J. Rodríguez, E. Pereiro, M. Chiappi, B. Perdiguero, P. Guttmann, S. Werner, S. Rehbein, G. Schneider, M. Esteban, J.L. Carrascosa, *Cryo X-ray tomography of vaccinia virus membranes and inner compartment*s, J. Structural Biology **168**, 234 (2009)

2009CS& Chembrolu, V.H., J. Strachan, X.W. Yu, A.A. Tulapurkar, T. Tyliszczak, J.A. Katine, M.J. Carey, J. Stohr, and Y.M. Acremann, *Time-resolved x-ray imaging of magnetization dynamics in spin-transfer torque devices*, Physical Review B **80**(2), 024417 (2009).

2009DD& G. Dupouy, T. Dumas, C. Fillaux, D. Guillaumont, P. Moisy, C. Den Auwer, C. Le Naour, E. Simoni, E.G. Fuster, R. Papalardo, E. Sanchez-Marcos, C. Hennig, A.C. Scheinost, S.D. Conradson, D.K. Shuh, and T. Tyliszczak, *Molecular Solids of Actinide Hexacyanoferrate: Structure and Bonding*, IOP Conf Proc **9**, 012026 (2009).

2009DG& Dumas, R.K., T. Gredig, C.P. Li, I.K. Schuller, and K. Liu, "*Angular Dependence of Vortex Annihilation Fields in Asymmetric Co Dots*," Physical Review B **80**, 014416 (2009).

2009DH& R. S. Devan, W.-D. Ho, C.-H. Chen, H.-W. Shiu, C.-H. Ho, C.-L. Cheng, S. Y. Wu, Y. Liou, and Y.-R. Ma, "*High Room-temperature Photoluminescence of One-dimensional Ta2O5 Nanorod Arrays*", Nanotechnology **20** , 445708 (2009)

2009DH&a J.E.Davies, , O. Hellwig, E.E. Fullerton, G. Denbeaux, J.B. Kortright, and K. Liu, "*Magnetization reversal of Co/Pt multilayers: microscopic origin of high field magnetic irreversibility*," Physical Review B **70**(22), 4434 (2004).

2009DH&b J.E.Davies, O. Hellwig, E.E. Fullerton, M. Winklhofer, R.D. Shull, and K. Liu, "Frustration Driven Stripe Domain Formation in Co/Pt Multilayer Films," Applied Physics Letters **95**(2), 022505 (2009).

2009DL&a J.J. Dynes, J.R. Lawrence, D.R. Korber, G.D.W. Swerhone, G.G. Leppard and A.P. Hitchcock, *Morphological and Biochemical Changes in Pseudomonas fluorescens Biofilms Induced by Sub-lethal Exposure to Antimicrobial Agents*, Can. J. Microbiology, **55** 163-178 (2009)

2009DL&b I. Demchenko, K. Lawniczak-Jablonska, T. Tyliszczak, N.R. Birkner, W.C. Stolte, M. Chernyshova, and O.A. Hemmers, *XANES studies of modified and newly synthesized nanostructured manganese oxides*, J. Electron Spectrosc. **171**(1-3), 24-29 (2009).

2009DR& Degueldre C, Raabe J, Wold S, *Investigations of clay colloid aggregates by scanning transmission X-ray microspectroscopy of suspensions*, Applied Geochemistry. **24**, 2015-2018 (2009).

2009DT& D.A. Day, S. Takahama, S. Gilardoni, and L.M. Russell, "*Regional differences in organic composition of submicron and single particles during INTEX-B 2006,* Atmospheric Chemistry and Physics Discussions **9**, 6657-6690 (2009)

2009FD& S. Fujii, D. Dupin, T. Araki, S.P. Armes and H. Ade, *The first direct imaging of electrolyte-induced deswelling behavior of pH-responsive microgels in aqueous media using scanning transmission x-ray microscopy*, Langmuir **25** 2588-2592 (2009)

2009GA&a B.T., De Gregorio, C.M. Alexander, N.D. Bassim, G.D. Cody, A.L. Kilcoyne, L.R. Nittler, R.M. Stroud, and T.J. Zega, *Isotopically anomalous carbonaceous nanoglobules in meteorites and comets*," EOS:Transaction of the American Geophysical Union **90**, 14A (2009)

2009GA&b Gilbert, P., L. Addadi, Y. Politi, R.A. Metzler, S. Weiner, P. Fratzl, A. Meibom, et al ., "*The grinding tip of the sea urchin tooth: exquisite control over calcite crystal orientation and Mg distribution*," PNAS **106**, 6048-6053 (2009). **HI**

2009GK&a A Gianoncelli, T Klatka, R Alberti, D Bacescu, A De Marco, A Marcello, A Longoni, B Kaulich, M Kiskinova, *Development of a low-energy X-ray fluorescence system combined with X-ray microscopy*, XRM-08, J. Phys. Conf. Ser. **186** 012007-3 (2009)

2009GK&b A Gianoncelli, B Kaulich, R Alberti, T Klatka, A Longoni, A De Marco, A Marcello, M Kiskinova, *Simultaneous soft X-ray transmission and emission microscopy*, Nucl. Inst. Meth. A **608** 195-199 (2009).

2009GK&c Grierson, D., A.Robert. Konicek, G.E. Wabiszewski, A.V. Sumant, M.P. deBoer, A.D. Corwin, and R.W. Carpick, "*Characterization of microscale wear in a polysilicon-based MEMS device using AFM and PEEM-NEXAFS Spectromicroscopy*," Tribology Letters 36, 233 (2009).

2009GM&a L. Gregoratti, T.O. Menteş, A. Locatelli, M. Kiskinova, *Beam-induced effects in soft x-ray photoelectron emission microscopy experiments,* Journal of Electron Spectroscopy and Related Phenomena, **170**, 13-18 (2009)

2009GM&b Graf C, Meinke M, Qi G, Hadam S, Raabe J, Sterry W, et al., *Qualitative detection of single submicron and nanoparticles in human skin by scanning transmission x-ray microscopy*, Journal of Biomedical Optics. **14**, 21015 (2009).

2009GS&a S-C Gleber, J Sedlmair, M Bertilson, O von Hofsten, S Heim, P Guttmann, H M Hertz, P Fischer and J Thieme, *X-ray stereo microscopy for investigation of dynamics in soils*, XRM-08, J. Phys. Conf. Ser. **186** 012104-3 (2009)

2009GS&b B.T. De Gregorio, R.M. Stroud, L.R. Nittler, G.D. Cody, and A.L. Kilcoyne, "*Isotopically anomalous organic globules from Comet 81P/Wild 2*," XL, 1130 (2009)

2009GT& S.C. Gleber, J. Thieme, W. Chao, and P.J. Fischer, *Stereo soft X-ray microscopy and elemental mapping of haematite and clay suspensions*, Journal of Microscopy – Oxford **235**, 199-208 (2009).

2009GZ& P. Guttmann, X. Zeng, M. Feser, S. Heim, W. Yun, G. Schneider, *Ellipsoidal capillary as condenser for the BESSY full-field x-ray microscope*, J. Physics: Conference Series **186** 012064-3 (2009)

2009HB&a H M Hertz, M Bertilson, E Chubarova, J Ewald, S-C Gleber, O Hemberg, M Henriksson, O v Hofsten, A Holmberg, M Lindblom, E Mudry, M Otendal, J Reinspach, M Schlie, P Skoglund, P Takman, J Thieme, J Sedlmair, R Tjörnhammar, T Tuohimaa, M Vita and U Vogt, *Laboratory x-ray micro imaging: Sources, optics, systems and applications*, XRM-08, J. Phys. Conf. Ser. **186** 012027-3 (2009)

2009HB&b O von Hofsten , M Bertilson , M Lindblom , A Holmberg , H M Hertz and U Vogt, *Compact phase-contrast soft X-ray microscopy*, XRM-08, J. Phys. Conf. Ser. **186** 012038-3 (2009)

2009HB&c M.R. Howells, T. Beetz, H.N. Chapman ,C. Cui, , J.M. Holtona, C.J. Jacobsen, J. Kirz, E. Lima, S. Marchesini, H. Miao, D. Sayre, D.A. Shapiro, J.C.H. Spence and D. Starodub, *An assessment of the resolution limitation due to radiation-damage in X-ray diffraction microscopy*, J. El. Spec. Rel.Phenom. **170** 4–12 (2009).

2009HC&a M. L. Huang, Y. C. Chang, Y. H. Chang, T. D. Lin, J. Kwo, and M. Hong, "*Energy-band Parameters of Atomic Layer Deposited Al2O3 and HfO2 on InxGa1-xAs*", Appl. Phys. Lett. **94** , 052106 (2009)

2009HC& Humphrey, D.S., Cabailh, G., Pang, C.L., Muryn, C.A., Cavill, S.A., Marchetto, H., Potenza, A., Dhesi, S.S., Thornton, G., *Self-Assembled Metallic Nanowires on a Dielectric Support: Pd on Rutile TiO2(110).* Nano Lett. 9, 155–159 (2009)

2009HD& A. P. Hitchcock, J.J. Dynes, J.R. Lawrence, M. Obst, G.D.W. Swerhone, D.R. Korber and G.G. Leppard, *Soft X-ray Spectromicroscopy of Nickel Sorption in a Natural River Biofilm*, Geobiology **7** 432-453 (2009)

2009HG& S. Heim, P Guttmann, S Rehbein, S Werner and G Schneider, *Energy-tunable full-field x-ray microscopy: Cryo-tomography and nano-spectroscopy with the new BESSY TXM*, XRM-08, J. Phys. Conf. Ser. **186** 012041-3 (2009)

2009HK& V. Harutyunyan, A. Kirchheim, P.M. Monteiro, A.P. Aivazyan, and P. Fischer, *Investigation of early growth of calcium hydroxide crystals in cement solution by soft X-ray transmission microscopy* ," J. Mater. Sci. **44**(4), 962-969 (2009).

2009HM& D. Hsu, A. Mani, C. H. Chuang, C. H. Chen, M.-T. Lin, and J. G. Lin, "*X-ray Photoemission Study in Re0.7Ca0.3MnO3 Epitaxial Films*", J. Appl. Phys. 105 , 07D505 (2009)

2009HN& X. Huang, J. Nelson, J. Kirz, E. Lima, S. Marchesini, H. Miao, A.M. Neiman, D. Shapiro, J. Steinbrener, A. Stewart, J. J. Turner and C.J. Jacobsen, *Soft X-Ray Diffraction Microscopy of a Frozen Hydrated Yeast Cell*, Phys. Rev. Lett. **103**, 198101-1-4 (2009).) **(HI)**

2009HS& S. Hanhan, A.M. Smith, M. Obst and A.P. Hitchcock, *Optimization of analysis of Ca 2p soft X-ray spectromicroscopy*, J. Electron Spectrosc. Rel. Phenom. **173** 44-49 (2009)

2009HSH S F Horne, J Silterra, W Holber, *A Compact Soft X-Ray Microscope using an Electrode-less ZPinch Source*, XRM-08, J. Phys. Conf. Ser. **186** 012128-3 (2009)

2009IB& M. Im, M L. Bocklage, P. Fischer, and G. Meier, "Direct observation of stochastic domain-wall depinning in magnetic nanowires," Physical Review Letters **102**, 147204 (2009). **(HI)**

2009IF& M. Im, P. Fischer, D.-H. Kim, and S.-C. Shin, "Direct observation of individual Barkausen avalanches in the nucleation-mediated magnetization reversal process," Applied Physics Letters **95**(18), 182504 (2009).

2009JS& S.H. Jun, J.H. Shim, S.K. Oh, S.C. Yu, D.H. Kim, B. Mesler, and P.J. Fischer, "Nonlinear motion of coupled magnetic vortices in ferromagnetic/nonmagnetic/ferromagnetic trilayer," Applied Physics Letters **95**(14), 142509 (2009).

2009KG& B Kaulich, A Gianoncelli, A Beran, D Eichert, I Kreft, P Pongrac, M Regvar, K Vogel-Mikus, M Kiskinova, *Low-energy X-ray fluorescence microscopy opening new opportunities for bio-related research*, J. Roy. Soc. Interface **6** S641-647 (2009)

2009KI&a M. Koike, M. Ishino, T. Imazono, K. Sano, H. Sasai, M. Hatayama, H. Takenaka, P.A. Heimann, and E.M. Gullikson, "*Development of soft X-ray multilayer laminar-type plane gratings and VLS spherical grating for flat-field spectrograph in the 1-8 keV region,"* Spectrochimica Acta Part B: Atomic Spectroscopy **64**, 756-760 (2009). [Proceedings of 19th International Congress on X-Ray Optics and Microanalysis, (Kyoto,Japan, 9/17/07)

2009KI&b *Concepts for Domain Wall Motion in Nanoscale Ferromagnetic Elements due to Spin Torque and in Particular Oersted Fields***,** M. Kläui, D. Ilgaz, L. Heyne, J.-S. Kim, O. Boulle, Ch. Schieback, F. Zinser, S. Krzyk, M. Fonin, U. Rüdiger, D. Backes, L.J. Heyderman, T.O. Menteş, A. Locatelli, Journal of Magnetics **14**(2), 53-61 (2009).

2009KJ J Kirz and C Jacobsen, *The History and Future of X-ray Microscopy*, J. Physics: Conference Series **186** 012001 (2009).

2009KL& C.-T. Kuo, H.-M. Lee, H.-W. Shiu, C.-H. Chen, and S. Gwo, "*Direct Imaging of GaN p-n Junction by Cross-sectional Scanning Photoelectron Microscopy and Spectroscopy*", Appl. Phys. Lett. **94** , 122110 (2009)

2009KJ& J. Kim J, Je J, Kaviany M, Son S, Kim M. *Visualization of Water Distribution in Operating PEMFC Using X-Ray Microscopy. ASME. International Conference on Nanochannels, Microchannels, and Minichannels,* ASME 7th International Conference on Nanochannels, Microchannels and Minichannels, 337-340 (2009)

2009KM& C. E. Killian, R. A. Metzler, Y. U. T. Gong, I. C. Olson, J. Aizenberg, Y. Politi, F. H. Wilt, A. Scholl, A. Young, A. Doran, M. Kunz, N. Tamura, S. N. Coppersmith, and P.U.P.A. Gilbert. *Mechanism of calcite co-orientation in the sea urchin tooth* J. Am. Chem. Soc., **131**, 18404-18409 (2009).

2009LB& K.N Lepot, K. Benzerara, N. Rividi, M. Cotte, G.E. Brown Jr., P. Philippot, *Organic matter heterogeneities in 2.72 Ga stromatolites: Alteration versus preservation by sulfur incorporation*, Geochimica Cosmochimca Acta **73** 6579-6599 (2009)

2009LC&a M.-H. Lin, C.-F. Chen, H.-W. Shiu, C.-H. Chen, and S. Gwo, "*Multilength-scale Chemical Patterning of Self-assembled Monolayers by Spatially Controlled Plasma Exposure: Nanometer to Centimeter Range*", J. Am. Chem. Soc. **131** , 10984 (2009)

2009LC&b K.-W. Lin, T.-J. Chen, J.-Y. Guo, H. Ouyang, D.-H. Wei, and J. V. Lierop, "*Correlating Antiferromagnetic Spin Structures with Ion-beam Bombardment in Exchange-biased NiFe/Mn Bilayers*", J. Appl. Phys. **105** , 07D710 (2009)

2009LH&a J. Li, A.P. Hitchcock, H.D.H. Stöver and I.Shirley, *A new approach to experimentally studying microcapsule wall growth mechanisms*, Macromolecules **42** 2428-2432 (2009)

2009LH&b B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl and A. Doran, *Phase segregation in polystyrene-polylactide blends*, Macromolecules 42 1679–1684 (2009)

2009LH&c C.-C. Li, J.-L. Huang, R.-J. Lin, D. F. Lii, and C.-H. Chen, Activation Characterization of Non-evaporable Ti-Zr-V Getter Films by Synchrotron Radiation Photoemission Spectroscopy, Thin Solid Films **517 ,** 5876 (2009)

2009LH&d Lepadatu, S., Hickey, M.C., Potenza, A., Marchetto, H., Charlton, T.R., Langridge, S., Dhesi, S.S., Marrows, C.H., *Experimental determination of spin-transfer torque nonadiabaticity parameter and spin polarization in permalloy*. Phys. Rev. B **79**, 094402 (2009).

2009LK& H.-M. Lee, C.-T. Kuo, H.-W. Shiu, C.-H. Chen, and S. Gwo, "*Valence Band Offset and Interface Stoichiometry at Epitaxial Si3N4/Si(111) Heterojunctions Formed by Plasma Nitridation*", Appl. Phys. Lett. **95** , 222104 (2009)

2009LM& M A Le Gros ,McDermott, M.Uchida, C G Knoechel, Larabell C A**.**. *High numerical-aperture cryogenic light microscopy***.** J. Miroscopy-Oxford. **235** 1-8 (2009)

2009LM& W.R. Leaitch, A.M. Macdonald, K.G. Anlauf, P.SK. Liu, D. Toom-Sauntry, S.M. Li, J. Liggio, K. Hayden, M.A. Wasey, L.M. Russell, S. Takahama, S. Liu, A. van Donkellar, T. Duck, R.V. Martin, et al ., *Evidence for Asian dust effects from aerosol plume measurements during INTEX-B 2006 near Whistler, BC,* Atmospheric Chemistry and Physics **9**, 3523-3546 (2009)

2009LP& T. Lefevre, M. Pezolet, D. Hernandez Cruz, M.M. West, M. Obst, A.P. Hitchcock, C. Karunakaran, and K.V. Kaznatcheev, *Mapping molecular orientation in dry and wet dragline spider silk,* Proceedings of 9th Int. Conf. on X-ray Microscopy, (Zurich, Switzerland, 7/29/08, J. Phys. Conf **186**, 012089 (2009)

2009LP& T.Lefevre, M. Pézolet, D. Hernández Cruz, M.M. West, M. Obst, A.P. Hitchcock, C. Karunakaran and K.V. Kaznatcheev, *Mapping molecular orientation in dry and wet dragline spider silk* Proc. XRM-08, J. Phys. Conf. Ser. **186** 012089 (2009)

2009LT& S. Liu, S. Takahama, L.M. Russell, S. Gilardoni, and D. Baumgardner, *Oxygenated organic functional groups and their sources in single and submicron organic particles in MILAGRO 2006 campaign campaign*, Atmospheric Chemistry and Physics Discussions **9**, 4567-4607 (2009) (see also pp 6849-6863)

2009LW&a B.O. Leung, J. Wang, J.L. Brash, A.P. Hitchcock, R. Cornelius, A. Doran and A. Scholl, *An X-ray spectromicroscopy study of protein adsorption to a polystyrene-polylactide blend*, Biomacromolecules **10** 1838–1845 (2009)

2009LW&b B.O. Leung, J. Wang, J.L. Brash and A.P. Hitchcock, *Imaging Hydrated Albumin on a Polystyrene-Poly(methyl methacrylate) blend surface with X-ray Spectromicroscopy*, Langmuir (letters) **25** 13332–13335 (2009)

2009MA&a Y. Ma, B. Aichmayer, O. Paris, P. Fratzl, A. Meibom, R.A. Metzler, Y.l Politi, L. Addadi, P. U. P. A. Gilber and Steve Weiner. *The grinding tip of the sea urchin tooth exhibits exquisite control over calcite crystal orientation and Mg distribution* Proc. Nat. Acad. Sci. **106** 6048–6053 **HI**

2009MA&b A. Mascaraque, L. Aballe, J.F. Marco, T.O. Menteş, F. El Gabaly, C. Klein, A. K. Schmid, K.F. McCarty, A. Locatelli, and J. de la Figuera, *Measuring the magnetization of three monolayer thick Co islands and films by x-ray dichroism,* Phys. Rev. B **80**, 172401 (2009)

2009MB&a J. Miot,, K. Benzerara, G. Morin, A. Kappler, S. Bernard, M. Obst, C. Férard, F. Skouri-Panet, J.-M.l Guigner, N. Posth, M. Galvez, G.E. Brown Jr and F. Guyot, *Iron biomineralization by anaerobic neutrophilic iron-oxidizing bacteria*, Geochimica et Cosmochimica Acta **73**, 696–711 (2009).

2009MB&b J. Miot,, K. Benzerara, G. Morin, S. Bernard, O. Beyssac, E. Larquet, A. Kappler and F. Guyot, *Transformation of vivianite by anaerobic nitrate-reducing iron-oxidizing bacteria* Geobiology **7** 373-384 (2009)

2009MB&c Miot, J., K. Benzerara, M. Obst, A. Kappler, F. Hegler, J. Schdler, C. Bouchez, F. Guyot and G. Morin, E*xtracellular Iron Biomineralization by Photoautotrophic Iron-Oxidizing Bacteria*, Applied and Environmental Microbiology **75**, 5586-5591 (2009).

2009MG& G. McDermott, M.A. Le Gros, C.G. Knoechel, M. Uchida, and C.A. Larabell, *Soft X-ray tomography and cryogenic light microscopy: the cool combination in cellular imaging,* Trends in Cell Biology **19**(11), 587-595 (2009)

2009MGK G R Morrison, A Gianoncell and, B Kaulich, *Image reconstruction using a configurable detector in STXM*, XRM-08. J.Physics: Conf. Series, **186**, 012011 – 3 (2009)

2009MH& Moffet, R.C., T.R. Henn, A.V. Tivanski, R.J. Hopkins, Y. Desyaterik, A.L.D. Kilcoyne, T. Tyliszczak, J. Fast, J. Bar nard, V. Shutthanandan, S.S. Cliff, K.D. Perry, A. Laskin, and M.K. Gilles, *Microscopic characterization of carbonaceous aerosol particle aging in the outflow from Mexico City*," Atmospheric Chemistry and Physics Discussions **9**, 16993-17033 (2009).

2009MJ&a Z.I. Martin, Jimenez, M.A. Gomez, H.W. Ade, D.A. Kilcoyne, and D. Hernadez-Cruz, *Spectromicroscopy Study of Intercalation and Exfoliation in Polypropylene/Montmorillonite Nanocomposite,*" *J. Phys. Chem* **113**, 11160-11165 (2009).

2009MJ&b MacLaren, D.A., Johnston, J., Duncan, D.A., Marchetto, H., Dhesi, S.S., Gadegaard, N., Kadodwala, M., *Asymmetric photoelectron transmission through chirally-sculpted, polycrystalline gold.* Phys. Chem. Chem. Phys. **11**, 8413–8416 (2009).

2009MK&a SG Minasian, JL Krinsky, JD Rinehart, R Copping, T Tyliszczak, M Janousch, DK Shuh and J Arnold *A comparison of 4f vs 5f metal-metal bonds in* $(CpSiMe_3)_3M$*-ECp* (M = Nd, U; E = Al, Ga; Cp* =* C_5Me_5*): synthesis, thermodynamics, magnetism, and electronic structure*. J Am Chem Soc; **131** 13767-13783 (2009)

2009MK&b T. A. Moore, M. Kläui, L. Heyne, P. Mohrke, D. Backes, J. Rhensius, U. Rüdiger, L. J. Heyderman, J.-U. Thiele, G. Woltersdorf, C. H. Back, A. Fraile Rodriguez, F. Nolting, T.O. Menteş, M.Á. Niño, A. Locatelli, A. Potenza, H. Marchetto, S. Cavill, and S. S. Dhesi;, *Scaling of spin relaxation and angular momentum dissipation in permalloy nanowire,* Phys. Rev. B **80**, 132403 (2009).

2009ML&a G. McDermott, M.A. LeGros, C.G. Knoechel, M.Uchida, *Soft X-ray tomography and cryogenic light microscopy: the cool combination in cellular imaging*, Trends Cell Biology **19**, 587 - 595 (2009)

2009ML&b J. M. MacLeod, J. A. Lipton-Duffin, S.G. Urquhart and F. Rosei, *Shape Transition in Very Large Germanium Islands on Si(111)*, Applied Physics Letters **94** 103109 (2009)

2009ML&c E. Mutoro, B. Luerssen, S. Gunther and J. Janek, *The electrode model system Pt(O2)|YSZ: Influence of impurities and electrode morphology on cyclic voltammograms***,** Solid State Ionics, **180**, 1019-1033 (2009).

2009MM&a Mosendz, O., G. Mihajlovitch, J.E. Pearson, P. Fischer, M. Im, S.D. Bader, and A. Hoffmann, *Imaging of lateral spin valves with soft x-ray microscopy,* Physical Review B **80**(10), 104439 (2009).

2009MM&b Mandal S, Menon KSR, Maccherozzi F, Belkhou R *Strain-induced nonequilibrium magnetoelastic domain structure and spin reorientation of NiO(100)* Physical Review B, **80** 184408-6 (2009)

2009MP& AG Michette, C Phanopoulos, R J Newell, C McFaul, S J Pfauntsch, G Pans and S Wirick, *Soft X-Ray Spectromicroscopy of Wood Fibre Composites,* XRM-08, J. Phys. Conf. Ser. **186** 012091-3 (2009)

2009MW& C.R. McNeill, B. Watts, L. Thomsen, W.J. Belcher, P.C. Dastoor, and H. Ade, *Evolution of Laterally Phase-Separated Polyfluorene Blend Morphology Studied by X-ray Spectromicroscopy,* Macromolecules **42**, 3347-3352 (2009)

2009NA& L.R. Nittler, C.M. Alexander, G.D. Cody, B.T. De Gregorio, A.L. Kilcoyne, R.M. Stroud, and A. Tiwari, "*Micro-scale characteristics of insoluble organic matter in chondrites: A coordinated TEM, STXM, and SIMS study*," **XL**, 1145 (2009).

2009NH& E.Najafi, D. Hernández Cruz M. Obst A.P. Hitchcock, A. Felten, B. Douhard, J.-J. Pireaux,K. Kaznatcheev and Ch. Karunakaran, *Scanning Transmission X-ray Microscopy of multi-walled carbon nanotubes,* XRM-08, J. Phys. Conf. Ser. **186** 012106-3 (2009)

2009NS& K.L.I. Norlund, G. Southam, T. Tyliszczak, Y. Hu, C. Karunakaran, M. Obst, A.P. Hitchcock and L.A. Warren, *A novel syntrophic microbial sulphur metabolising consortia: new evidence for microbial global carbon cycling,* Environmental Science & Technology **43** 8781–8786 (2009). **COVER**

2009OD& M. Obst, J.J. Dynes, J.R. Lawrence, G.D.W. Swerhone, C. Karunakaran, K.V. Kaznatcheev, D. Bertwistle, K. Benzerara, T. Tyliszczak and A.P. Hitchcock, *Precipitation of amorphous* $CaCO_3$ *(aragonite) controlled by cyanobacteria: a multi-technique study of the influence of EPS on the nucleation process*, Geochimica et Cosmochimica Acta **73** 4180-4198, (2009)

2009OLA H. Ohldag, G. van der Laan, and E. Arenholz, "Correlation of crystallographic and magnetic domains at Co/NiO(001) interfaces," Physical Review B: **79**, 052403 (2009).

2009OKU Edwige Otero, Nobuhiro Kosugi, and Stephen G. Urquhart, *Strong double excitation and open-shell features in the near-edge x-ray absorption fine structure spectroscopy of ferrocene and ferrocenium compounds*, J. Chem. Phys. **131**114313-(1-8) (2009)

2009OWHa M. Obst, J. Wang and A.P. Hitchcock, *3-d chemical imaging with STXM tomography*, XRM08, J. Phys. Conf. Ser. **186** 012045 (2009)

2009OWHb M. Obst, J. Wang and A.P. Hitchcock, *Soft X-ray spectro-tomography study of cyanobacterial biomineral nucleation*, Geobiology **7** 577-591

2009PN& E. Pereiro, J. Nicolas, S. Ferrer, M. R. Howells, *A soft X-ray beamline for transmission X-ray microscopy at ALBA,* J. Synchr. Rad. **16,** 505 (2009)

2009PR& Plaschke, J Rothe, R Klenze, J Wissler and A Naber, *STXM and LSLM investigation of Eu(III) induced humic acid colloid aggregation,* XRM08, J. Phys. Conf. Ser. **186** 012094 (2009)

2009QU& S.E. Qaqish, S.G. Urquhart, U.D. Lanke, S.M. Brunet, and M. Paige, "Phase Separation of Palmitic Acid and Perfluorooctadecanoic Acid in Mixed Langmuir-Blodgett Monolayer Films," *Langmuir* **25**(13), 7401-7409 (2009).

2009RR& S. Rehbein, S. Heim, P. Guttmann, S. Werner, G. Schneider, *Ultrahigh-resolution soft-x-ray microscopy with zone plates in high orders of diffraction*, Phys. Rev. Lett. **103**, 110801 (2009) **HI**

2009RS& A. Rosenhahn, F. Staier, T. Nisius, D. Schäfer, R. Barth, C. Christophis, L.-M. Stadler, S. Streit-Nierobisch, C. Gutt , A. Mancuso, A. Schropp, J. Gulden, B. Reime, J. Feldhaus, E. Weckert, B. Pfau, C.M. Günther, R. Könnecke, S. Eisebitt, M. Martins, B. Faatz, N. Guerassimova, K. Honkavaara, R. Treusch, E. Saldin, S. Schreiber, E.A. Schneidmiller, M.V. Yurkov, I.A. Vartaniants, G. Grübel, M. Grunze, T. Wilhein, *Digital In-line Holography with femtosecond VUV radiation provided by the free-electron laser FLASH*, Optics Express 2009, **17** 8220-8228

2009RW& J Raabe, B Watts, G Tzvetkov, R H Fink and C Quitmann, *First differential phase contrast results from PolLux*, XRM-08, J. Phys. Conf. Ser. **186** 012012-3 (2009)

2009RY& Ramesh, R., C-H. Yang, J. Seidel, S.Y. Kim, P.B. Rossen, P. Yu, M. Gajek, Y-H. Chu, L.W. Martin, M.B. Holcomb, Q. He, P. Maksymovych, N. Balke, S.V. Kalinin, A.P. Baddorf, S. Basu, M.L. Scullin, et al ., "Electric modulation of conduction in multiferroic Ca-doped BiFeO3 films," Nature Materials **8**, 485-493 (2009) **HI**

2009SA& Stroud, R.M., C.M. Alexander, G.D. Cody, B.T. De Gregorio, A.L. Kilcoyne, L.R. Nittler, and T.J. Zega, *Correlated microanalysis of carbonaceous nanoglobules,* Meteoritics & Planetary Science **44**(Supplement), A196-A196 (2009)

2009SB& David Schäfer, Markus Benk, Klaus Bergmann, Thomas Nisius, Urs Wiesemann and Thomas Wilhein, *Optical setup for tabletop soft X-ray microscopy using electrical discharge sources*, XRM-08. J.Phy. Conf. Series, **186**, 012033 – 3 (2009)

2009SC Shiping Jiang and Liang Chen, *Implementation of soft x-ray microscopy with several tens nanometers spatial resolution at NSRL*, XRM-08, J. Phys. Conf. Ser. **186** 012108-3 (2009)

2009SF& Th. Schmidt, J.I. Flege, M. Speckmann, T. Clausen, S. Gangopadhyay, A. Locatelli, T.O. Menteş, S. Heun, F. Z. Guo, P. Sutter, J. Falta;, *From nanoislands to nanowires: Growth of germanium on gallium-terminated silicon surface,* Physica Status Solidi A **206**, 1718 - 1722 (2009).

2009SK& Salazar-Alvarez, G., Kavich, J.J., Sort, J., Mugarza, A., Stepanow, S., Potenza, A., Marchetto, H., Dhesi, S.S., Baltz, V., Dieny, B., Weber, A., Heyderman, L.J., Nogués, J., Gambardella, P., *Direct evidence of imprinted vortex states in the antiferromagnet of exchange biased microdisks.* Appl. Phys. Lett. 95, 012510 (2009).

2009SR& I Schmid, J Raabe, C Quitmann, S Vranjkovic, H J Hug and R.H Fink, *NanoXAS, a novel concept for high resolution microscopy* XRM-08, J. Phys. Conf. Ser. **186** 012015, 1-3 (2009)

2009SS&a E.de Smit, I. Swart, J.F. Creemer, C. Karunakaran, D. Bertwistle, H.W. Zandbergen, F.M.F. de Groot and B.M. Weckhuysen, *Nanoscale Chemical Imaging of the Reduction Behavior of a Single Catalyst Particle,* Ang. Chemie Int. Ed. **48** 1-6 (2009)

2009SS&b M. Speckmann, Th. Schmidt, A. Locatelli, T.O. Menteş, M.Á. Niño, J. Falta, *Silver: a novel growth catalyst for Ge nanoislands on Si(113),* Physica Status Solidi Rapid Research Letters, **3**, 305-307 (2009).

2009SY& J. Strachan, J.J. Yang, R. Munstermann, A. Scholl, G. Medeiros-Ribeiro, D.R. Stewart, and R.S. Williams, "Structural and chemical characterization of TiO2 memristive devices by spatially-resolved NEXAFS," *Nanotechnology* **20**, 485701 (2009).

2009TF&a G Tzvetkov, P Fernandes, S Wenzel, A Fery, G Paradoss and RH, Fink, *Soft X-ray induced modifications of PVA-based microbubbles in aqueous environment: a microspectroscopy study.* Phys Chem Chem Phys; **11,** 1098-1104 (2009)

2009TF&b Toner, B.M., S.C. Fakra, S.J. Manganini, C.M. Santelli, M.A. Marcus, J.W. Moffett, O. Rouxel, C.R. German, and K.J. Edwards, *Preservation of iron(II) by carbon-rich matrices in a hydrothermal plume,* Nature Geoscience **2**, 197-201 (2009). **HI**

2009TI& K Takemoto, S Ichise, M Ichikawa, H Namba and H Kihara*, X-ray imaging of picoplankton in Lake Biwa by soft X-ray microscope at Ritsumeikan University SR Center*, XRM-08. J.Phys. Conf. Series, **186**, 012097– 3 (2009)

2009TN& Takemoto, H Namba, M Mukai, K Okuno, T Ohta and H Kihara, *Development of an auto-focusing imaging system in the soft X-ray microscope beamline of the SR center in Ritsumeikan University*, XRM-08, J. Phys. Conf. Ser. **186** 012119-3 (2009)

2009TS& J Thieme, J Sedlmair, S-C Gleber, M Bertilson, O von Hofsten, P Takman and H Hertz, *High-resolution imaging of soil colloids in aqueous media with a compact soft X-ray microscope*, XRM-08, J. Phys. Conf. Ser. **186** 012107-3 (2009)

2009UM& M. Uchida, G. McDermott, M. Wetzler, M. A. Le Gros, M. Myllys, C. Knoechel, A.E. Barron, and C.A. Larabell, S*oft X-ray tomography of phenotypic switching and the cellular response to antifungal peptoids in Candida albicans* , PNAS **106** 19375-19380 (2009)

2009VB& D. Vantelon, R. Belkhou, I. Bihannic, L.J. Michot, E. Montarges-Pelletier, J.-L. Robert, *An XPEEM study of structural cation distribution in swelling clays. I. Synthetic trioctahedral smectites,* Physics and Chemistry of Minerals, **36**, 593-602 (2009).

2009VC& A. Vansteenkiste, K.W. Chou, M. Weigand, M. Curcic, V. Sackmann, H. Stoll, T. Tyliszczak, G. Woltersdorf, C.H. Back, G. Schütz, and B. Van Waeyenberge, *X-ray imaging of the dynamic magnetic vortex core deformation*, Nature Physics **5**(5), 332-334 (2009) **(HI)**

2009VJ&a Vila-Comamala J, Jefimovs K, Pilvi T, Ritala M, Sarkar SS, Solak HH, et al., *Advanced X-ray diffractive optics* In: Vol. 186. Journal of physics: conference series. Bristol: IOP Publishing; 2009.

2009VJ&a Vila-Comamala J, Jefimovs K, Raabe J, Pilvi T, Fink RH, Senoner M, et al., A*dvanced thin film technology for ultrahigh resolution X-ray microscopy*, Ultramicroscopy. **109**, 1360-1364 (2009).

2009VM& Vernooij MGC, Mohr M, Tzvetkov G, Zelenay V, Huthwelker T, Kaegi R, et al., O*n source identification and alteration of single diesel and wood smoke soot particles in the atmosphere; an X-ray microspectroscopy study*, Environmental Science and Technology **43,** 5339-5344 (2009).

2009WB&a J. Wang, G.A. Botton, M.M. West and A.P. Hitchcock, *Quantitative evaluation of radiation damage to polyethylene terephthalate by soft X-rays and high energy electrons,* J. Phys. Chem B **113** 1869–1876 (2009)

2009WB&b Watts, B., W.J. Belcher, L. Thomsen, H.W. Ade, and P.C. Dastoor, *A Quantitative Study of PCBM Diffusion during Annealing of P3HT:PCBM Blend Films*, Macromolecules **42**, 8392-8397 (2009).

2009WC& J. Wu, J. Choi, C. Won, Y.Z. Wu, A. Scholl, A. Doran, C.Y. Hwang, and Z.Q. Qiu, "Stripe-to-bubble transition of magnetic domains at the spin reorientation of (Fe/Ni)/Cu/Ni/Cu(001)," Physical Review B **79**, 014429 (2009).

2009WG& C. Wang , A. Garcia, H. Yan, K. Sohn, A. Hexemer, T.-Q. Nguyen, G.C. Bazan, E.J. Kramer, and H. Ade, *Interfacial Widths of Conjugated Polymer Bilayers,* Journal of the American Chemical Society , **131**, 12538-12539 (2009)

2009WL& C.-C. Weng, J.-D. Liao, Y.-T. Wu, S.-C. Tsai, C.-H. Chen, and M. Zharnikov, "*Patterning of Alkanethiolate Self-assembled Monolayers by Downstream Microwave Nitrogen Plasma: Negative and Positive Resist Behavior*", J. Vac. Sci. Technol. B **27** , 1949 (2009)

2009WM& J. Wang, C. Morin, A.P. Hitchcock, L. Li, X. Zhang, T. Araki, A. Doran and A. Scholl, *Radiation Damage in X-ray Photoelectron Emission Microscopy: Optimization for Studies of Radiation Sensitive materials*, J. El. Spectrosc. Rel. Phen. **170** 25-36 (2009)

2009WQ& B. Watts, D. Queen, A.L.D Kilcoyne, T. Tylizsczak, F. Hellman, and H. Ade, *Soft X-ray beam induced current technique"* Jap. J. Appl. Physics Part 2: Letters **186**, 12023 (2009).

2009WR& S. Werner, S. Rehbein, P. Guttmann, S. Heim, G. Schneider, *Towards stacked zone plates*, XRM-08, J. Phys. Conf. Ser. **186,** 012079 – 3 (2009)

2009WV& M. Weigand, B.Van Waeyenberge, A. Vansteenkiste, M. Curcic, V.Sackmann, H. Stoll, T. Tyliszczak, K. Kaznatcheev, D. Bertwistle, G. Woltersdorf, C.H. Back,. and . Schütz, *Vortex core switching by coherent excitation with single in-plane magnetic field pulses*. Phys. Rev. Lett.. **102** 077201 (2009) **(HI)**

2009YC& H. Yabuta, G.D. Cody, C.M. O'D Alexander, A.L. Kilcoyne, T. Araki, and S.A. Sandford, "*New development of the study on the early solar system history through ¬μ-XANES analyses of cometary and meteoritic organic matter using scanning transmission x-ray microscope*," Chikyukagaku （Geochemistry） **43**, 155-168 (2009)

2009YT&a A. Yamamoto, K Takemoto, I Komura, H Namba and H Kihara, *Imaging of chromosomes at nanometer-scale resolution using soft X-ray microscope at Ritsumeikan University SR Center*, *Observation of immuno-labeled cells at high resolution using soft X-ray microscope at Ritsumeikan University SR Center,* XRM-08, J. Phys. Conf. Ser. **186** 012098-3 (2009)

2009YT&b A Yamamoto, K Takemoto, T Fukui, Y Yoshimura, K Okuno, H Namba and H Kihara, XRM-08, J. Phys. Conf. Ser. **186** 012099-3 (2009)

2009ZH&a E. Zschech, R. Huebner, D. Chumakov, O. Aubel, D. Friedrich, P. Guttmann, S. Heim and G. Schneider, *Stress-induced phenomena in nanosized copper interconnect structures studied by x-ray and electron microscopy*, J. Appl. Phys. **106**, 093711 (2009)

2009ZH&b E. Zschech, P.S. Ho, D. Schmeisser, M.A. Meyer, A.V. Vairagar, G. Schneider, M. Hauschildt, M. Kraatz, V. Sukharev, *Geometry and Microstructure Effect on EM-Induced Copper Interconnect Degradation*, IEEE Transactions on Device and Materials Reliability **9**, 20-30 (2009)

2009ZM& R. Zdyb, T. O. Menteş, A. Locatelli, M. A. Niño, and E. Bauer, *Magnetization and structure of ultrathin Fe films,* Phys. Rev. B **80**, 184425 (2009).

2010AB& L. Aballe, A. Barinov, N. Stojić, N. Binggeli, T.O. Menteş, A. Locatelli, M. Kiskinova, *Electron density decay length effect on surface reactivity,* J. Phys.: Condens. Matter, **22**, 015001 (2010).

2010AE& E. Almadass, T. Eimueller, B. Ludescher, T. Tyliszczak, and G. Schuetz, "*Magnetization reversal of Fe/Gd multilayers on self-assembled arrays of nanospheres*," J .Physics: Conference Series **200**, 072003 (2010).

2010AH& R.G. Acres, S. L. Harmer, and D. A. Baeattie , *Synchrotron PEEM and ToF-SIMS Study of Oxidized Heterogeneous Pentlandite, Pyrrhotite and Chalcopyrite* , J. Synchrotron Radiat. **17**, 606 (2010)

2010AH& R. G. Acres, S. L. Harmer, and D. A. Baeattie, " *Synchrotron PEEM and ToF-SIMS Study of Oxidized Heterogeneous Pentlandite, Pyrrhotite and Chalcopyrite*", J. Synchrotron Radiat. **17 ,** 606 (2010)

2010AL& E.P. Amaladass, B. Ludescher, G. Schuetz,, T. Tyliszczak, M.D. Lee, and T.E. Eimueller, *Nanospheres generate out-of-plane magnetization*, J. Appl. Phys. **107**(5), 053911 (2010).

2010AL& E. Amaladass, B. Ludescher, G. Schuetz,, T. Tyliszczak, M.D. Lee, and T. Eimueller, "*Nanospheres generate out-of-plane magnetization,*" J. Applied Physics **107**, 053911 (2010).

2010BA& C. K. Boyce, M. Abrecht, D. Zhou and P.U.P.A. Gilbert, *X-ray photoelectron emission spectromicroscopic analysis of arborescent lycopsid cell wall composition and Carboniferous coal ball preservation*, Int. J. Coal Geology **83** (2009) 146-153.

2010BB& S.Bernard, K. Benzerara, O. Beyssac and G.E. Brown Jr., *Multiscale characterization of pyritized plant tissues in blueschist facies metamorphic rocks*, Geochimica et Cosmochimica Acta **74** 5054-5068 (2010)

2010BC&a D.A. Bugaris, R. Copping, T. Tyliszczak, D.K. Shuh, and J.A. Ibers, *La2U2Se9: An Ordered Lanthanide/Actinide Chalcogenide with a Novel Structure Type,* Inorganic Chemistry **49,** 2568-2575 (2010).

2010BC&b Bedanta, S., X. Chen, J.P. Rhensius, E. Kentzinger, U. Rucker, T. Bruckel, A. Doran, A. Scholl, S. Cardoso, P.P. Freitas, and W. Kleemann, "*Single-particle Blocking and Collective Magnetic States in Discontinuous CoFe/Al2O3 multilayers*," J.Physics D: Applied Physics **43** 474002 (2010)

2010BF& M.T.Bryan, P.W. Fry, T. Schrefl, M.R. Gibbs, D.A. Allwood, M. Im, and P. Fischer, "Transverse field-induced nucleation pad switching modes during domain wall injection," IEEE Transactions on Magnetics **46**(4), 963-967 (2010).

2010BG& B Bozzini, A Gianoncelli, B Kaulich, M Kiskinova, M Prasciolu, I Sgura, *Metallic Plate Corrosion and Uptake of Corrosion Products by Nafion in Polymer Electrolyte Membrane Fuel Cells*, Chemsuschem **3** 846-851 (2010)

2010BH& Bahadur, R., L.M. Russell, and K. Prather, *Composition and Morphology of Individual Combustion, Biomass Burning, and Secondary Organic Particle Types Obtained Using Urban and Coastal ATOFMS and STXM-NEXAFS Measurements, Aerosol Science and Technology* **44**, 1-12 (2010).

2010BK& L Bocklage, , B. Krueger, P.J. Fischer, G. Meier, et al ., "Analytical modeling and x-ray imaging of oscillations of a single magnetic domain wall," Physical Review B: Condensed Matter and Materials Physics **81**(5), 054404 (2010).

2010BM& K. Benzerara, J. Miot, M. Obst, A. Kappler, F. Hegler, F. Goyot, G. Morin, *Study at the nanoscale of iron biomineralization on organic fibres by a phototrophic iron-oxidizing bacterium,* Geochimica Et Cosmochimica Acta **74** A81-A81 (2010).

2010BRP R. Bahadur, L.M. Russell, and K. Prather, "*Composition and Morphology of Individual Combustion, Biomass Burning, and Secondary Organic Particle Types Obtained Using Urban and Coastal ATOFMS and STXM-NEXAFS Measurements*," Aerosol Science and Technology **44**, 551-562 (2010).

2010BR&a A. Bisig, J.P. Rhensius, M. Kammerer, M. Curcic, H. Stoll, G. Schuetz, B. Van Waeyenberge, K.W. Chou, T. Tyliszczak, L.J. Heyderman, S. Krzyk, A. von Bier, and M. Klaeui, *Direct imaging of current induced magnetic vortex gyration in an asymmetric potential well*, Applied Physics Letters **96**(15), 152506 (2010).

2010BR&b O. Branson, S. Redfern, T. Tyliszczak, A. Sadekov, G. Langer, K. Kimoto, and H. Elderfield, *The coordination of Mg in foraminiferal calcite*, Earth and Planetary Science Letters **383**, 134-141 (2013).

2010BRP R. Bahadur, L.M. Russell, and K. Prather, "*Composition and Morphology of Individual Combustion, Biomass Burning, and Secondary Organic Particle Types Obtained Using Urban and Coastal ATOFMS and STXM-NEXAFS Measurements,"* Aerosol Science and Technology **44**, 1-12 (2010).

2010BS& M.T., Bryan, , K.H. Smith, M.E. Real, M.A. Bashir, P.W. Fry, P. Fischer, M. Im, T. Schrefl, D.A. Allwood, and J. Haycock, "Switchable cell trapping superparamagnetic beads," IEEE Magnetics Letters **1**, 1500104 (2010).

2010BV&a B. Braeuer, A. Virkar, S.C.B. Mannsfeld, D. P. Bernstein, R. Kukreja, K. W. Chou, T. Tyliszczak, Z. Bao, and Y. Acremann, "*X-ray Microscopy Imaging of the Grain Orientation in a Pentacene Field-Effect Transistor,*" Chemistry of Materials **22**, 3693-3697 (2010).

2010BV&b B. Braeuer, A. Virkar, S. Mannsfeld, D. Bernstein, R. Kukreja, R. Chou, Z. Bao, and Y. Acremann, "*Scanning transmission X-ray microscopy imaging of the grain orientation in a pentacene field-effect transistor*," Organic Electronics, 1 (2010).

2010BW& B..O. Leung, J. Wang, J.L. Brash, and A.P. Hitchcock, "*An X-ray spectromicroscopy study of albumin adsorption to cross-linked polyethylene oxide films,*," Advanced Biomaterials, in Advanced Engineering Materials **12** B133-B138 (2010)

2010BY& J.A. Bradley, P. Yang, ER Batista, KS Boland, CJ Burns, DL Clark, SD Conradson, SA Kozimor, RL Martin, GT Seidler, BL Scott, DK Shuh, T Tyliszczak, MP Wilkerson and Wolfsberg, *Experimental and theoretical comparison of the O K-edge nonresonant inelastic X-ray scattering and X-ray absorption spectra of* $NaReO_4$. J Am Chem Soc; **132** 13914-13921 (2010)

2010C A.G. Caster, "*Investigating silicon-based photoresists with coherent anti-stokes Raman scattering and x-ray micro-spectroscopy,*" doctoral dissertation, University of California, Berkeley, CA, 2010, advisor S R Leone

2010CE& Cornish, A., Eralp, T., Shavorskiy, A., Bennett, R.A., Held, G., Cavill, S.A., Potenza, A., Marchetto, H., Dhesi, S.S., *Oxidation of polycrystalline Ni studied by spectromicroscopy: Phase separation in the early stages of crystallite growth.* Phys. Rev. B **81**, 085403 (2010).

2010CF& C.S. Chan, S.C Fakra, D. Emerson, E.J. Flemming, and K. Edwards, *Lithotrophic iron-oxidizing bacteria produce organic stalks to control mineral growth: implications for biosignature formation*, The ISME Journal **2010** 1-11 (2010).

2010CG A.P. Chandra, A.R. Gerson, *The mechanisms of pyrite oxidation and leaching: A fundamental perspective*, Surface Science Reports **65** , 293-315 (2010)

2010CG& B.A.Collins, L. Guignard, E. Gann, X. He, C.R. McNeill, and H.W. Ade, *Molecular miscibility of polymer-fullerene blends,* J. Phys Chem. Lett. **1**, 3160-3166 (2010).

2010CH&a P. Chevallier, S. Holvoet, S. Turgeon, P. Horny, J. J. Pireaux and D. Mantovani, *Annealing and Ultraviolet Treatment of Plasma Fluorocarbon Films for Enhanced Cohesion and Stability*, J. Applied Polymer Science **118** 3176–3186 (2010)

2010CH&b Y.-L. Chan, Y.-J. Hung, C.-H. Wang, Y.-C. Lin, C.-Y. Chiu, Y.-L. Lai, H.-T. Chang, C.-H. Lee, Y. J. Hsu, and D. H. Wei, "*Magnetic Response of an Ultrathin Cobalt Film in Contact with an Organic Pentacene Layer*", Phys. Rev. Lett. **104** , 177204 (2010) **(HI)**

2010CK& A.G. Caster, S. Kowaeik, A.M .Schwartzberg, S. Leone, A. Tivanski and M.K. Gilles, *Quantifying reaction spread and X-ray exposure sensitivity in hydrogen silsesquioxane latent resist patterns with X-ray spectromicroscopy*, J. Vac. Sci. Tech. B **28** 1304-1313 (2010)

2010CL& Chopdekar, R.V., M. Liberati, Y. Takamura, L.F. Kourkoutis, J.S. Bettinger, B. Nelson-Cheeseman, E. Arenholz, A. Doran, A. Scholl, D.A. Muller, and Y. Suzuki, "*Magnetism at spinel thin film interfaces probed through soft X-ray spectroscopy techniques*," *J. Magn. Magn. Mater.* **322**, 2915-2921 (2010).

2010DA& M. Dalmiglio, M. Amati, L. Gregoratti, T.O. Menteş, M.A. Niño, L. Felisari, M. Kiskinova, "*Oxidation of supported PtRh particles: Size and morphology effects*", J. Phys. Chem. C **114** 16885-16891 (2010)

2010DC& Dhesi, S.S., Cavill, S.A., Potenza, A., Marchetto, H., Mott, R.A., Steadman, P., Peach, A., Shepherd, E.L., Ren, X., Wagner, U.H., Reininger, R., *The Nanoscience Beamline (I06) at Diamond Light Source*. AIP Conference Proceedings **1234**, 311–314 (2010).

2010DK& Degueldre C, Kuri G, Martin M, Froideval A, Cammelli S, Orlov A, et al., *Nuclear material investigations by advanced analytical techniques*, NIM B **268,** 3364-3370 (2010).

2010DL& P Dudin, P Lacovig, C Fava, E Nicolini, A Bianco, G Cautero, A Barinov, *Angle-resolved photoemission spectroscopy and imaging with a submicrometre probe at the SPECTROMICROSCOPY-3.2L beamline of Elettra*, J. Synchrotron Rad., **17** 445-450 (2010)

2010DS& B.T. De Gregorio, R.M. Stroud, L. Nittler, C. Alexander, A.L. Kilcoyne, and T. Zega, "*Isotopic anomalies in organic nanoglobules from Comet 81P/Wild 2: Comparison to Murchison nanoglobules and isotopic anomalies induced in terrestrial organics by electron irradiation,*" Geochim. Cosmochim. Acta **74**, 4454 (2010).

2010DV& S. S. Dhesi, G. van der Laan, P. Bencok, N. B. Brookes, R. M. Galéra, and P. Ohresser, *Spin- and orbital-moment compensation in the zero-moment ferromagnet Sm0.974Gd0.026Al2* Physical Review B **82** , 180402 (2010).

2010Fa P. Fischer, *Viewing spin structures with soft X-ray microscopy*, Materials Today **13**, 14-22 (2010)

2010Fb P. Fischer, "Imaging nanoscale magnetism and its fast dynamics with soft X-ray microscopy," Arabian Journal for Science and Engineering **35** (1C), 7-17 (2010).

2010FG&a A. Felten, X. Gillon, M. Gulas, J.-J. Pireaux, X. Ke, G. Van Tendeloo, C. Bittencourt, A.L.D. Kilcoyne, E. Najafi and A.P. Hitchcock, *Measuring Point Defect Density in Individual Carbon Nanotubes Using Polarization-Dependent X-ray Microscopy,* ACSNano **4**, 4431–4436 (2010)

2010FG&b C. Fillaux, D. Guillaumont, J.C. Berthet, R. Copping, D.K. Shuh, T. Tyliszczak, and C. Den Auwer, *Investigating the electronic structure and bonding in uranyl compounds by combining NEXAFS spectroscopy and quantum chemistry*, Physical Chemistry Chemical Physics **12**, 14253-14262 (2010)

2010FI P. Fischer and M. Im, *Imaging nanoscale magnetic structures with polarized soft x-ray photons,* IEEE Photonics **2**(2), 253-257 (2010).

2010FR&a O. Fruchart , N Rougemaille, A Bendounan, JC Toussaint, R Belkhou, T Yuan, Y Hyeonseung, F Cheynis, A Masseboeuf, P Bayle-Guillemauda nad A Marty, *Asymmetric hysteresis of Neel caps in flux-closure magnetic dots* IEEE Transactions on Magnetics, **46** 1552-1555 (2010)

2010FR&b Frommherz U, Raabe J, Watts B, Stefani R, Ellenberger U, Higher Order Suppressor (HOS) for the PolLux microspectroscope beamline at the Swiss Light Source SLS In: SRI 2009: AIP conference proceedings. **1234,** 429, (2010).

2010FT& Folven, E., T. Tybell, A. Scholl, A. Young, S.T. Retterer, Y. Takamura, and J.K. Grepstad, "*Antiferromagnetic Domain Reconfiguration in Embedded LaFeO3 Thin Film Nanostructures*," Nano Letters 10, 4578-4583 (2010).

2010FW& Fliegel D, Wirth R, Simonetti A, Furnes H, Staudigel H, Hanski E, et al., Septate-tubular textures in 2.0-Ga pillow lavas from the Pechenga Greenstone Belt: A nano-spectroscopic approach to investigate their biogenicity, Geobiology. **8** 372-390 (2010).

2010G J. Guo, in *X-Rays in Nanoscience: Spectroscopy, Spectromicroscopy, and Scattering Techniques*, Jinghua Guo, (Wiley-VCH Verlag GmbH & Co. Weinheim, Germany, 2010).

2010GB& S. Gunther, S. Bocklein, R. Reichelt, J. Wintterlin, A. Barinov, T.O. Menteş, M.Á. Niño, A. Locatelli, *Surface Patterning of Silver using an Electron- or Photon-Assisted Oxidation Reaction,* Chem. Phys. Chem., **11** (7), 1525-1532 (2010).

2010GK& A.X Gray, F. Kronast, C. Papp, S.-H. Yang, S. Cramm, I.P. Krug, E.M. Gullikson, D.L. Hilken, E.H. Anderson, P. Fischer, H.A. Durr, C.M. Schneider, and C.S. Fadley, "Standing-Wave Excited Soft X-Ray Photoemission Microscopy: Application to Co Microdot Magnetic Arrays," Applied Physics Letters **97**(6), 62503 (2010).

2010GN& B.T. De Gregorio, L.R. Nittler, R.M. Stroud, C.M. Alexander, N.D. Bassim, G.D. Cody, A.L. Kilcoyne, S. Milam, M. Nuevo, S.A. Sandford, and T.J. Zega, "*Isotopic and chemical variation of organic nanoglobules in primitive meteorites* XLI, 2108 (2010).

2010GS&a F.M.F. de Groot, E. de Smit, M.M. van Schooneveld, L.R. Aramburo and B.M. Weckhuysen, *in Situ Scanning Transmission X-ray Microscopy of Catalytic solds and Related Nanomaterials*, ChemPhysChem **11** (2010) 951-962.

2010GS&b Glans, P., G. Szigethy, D.W. Demoin, T. Tyliszczak, J. Xu, K.N. Raymond, and D.K. Shuh, *Actinide Science with a Soft X-ray Scanning Transmission X-ray Microscope (STXM)*, Materials Research Society Symposium Proceedings **1264**, 1264-z01-1 (2010).

2010GT S. Ghorai and A.V. Tivanski, *Hygroscopic behavior of individual submicrometer particles studied by X-ray spectromicroscopy,* Analytical Chemistry **82**(22), 9289-9298 (2010).

2010HB& C. Hub, M. Burkhardt, M. Halik, G. Tzvetkov and R. Fink, *In situ STXM investigations of pentacene-based OFETs during operation*, J. Mater. Chem. **20** 4884-4887 (2010).

2010HB&a T.J. Hayward, M.T. Bryan, P.W. Fry, P.M. Fundi, M.R. Gibbs, M. Im, P.J. Fischer, and D.A. Allwood, "Pinning induced by inter-domain wall interactions in planar magnetic nanowires," Applied Physics Letters **96**(5), 052502 (2010).

2010HB&b T.J.Hayward, M.T. Bryan, P.W. Fry, P.M. Fundi, M.R. Gibbs, D.A. Allwood, M. Im, and P. Fischer, "Direct imaging of domain-wall interactions in Ni80Fe20 planar nanowires," Physical Review B: Condensed Matter and Materials Physics **81**(2), 020410(R) (2010).

2010HC&a J. Ha, S. Chae, K.W. Chang, T. Tyliszczak, and P.J.M. Monteiro, *Scanning Transmission X-Ray Microscopic Study of Carbonated Calcium Silicate Hydrate*,Transportation Research Record (2142), 83-88 (2010).

2010HC&b D. Hsu, Y. S. Chen, M. Y. Song, C. H. Chuang, M.-T. Lin, W. F. Wu, and J. G. Lin, "*Investigation of Jahn-teller Splitting with O 1s X-ray Absorption Spectroscopy in Strained Nd1−xCaxMnO3 Thin Films*", Appl. Phys. Lett. **96** , 041914 (2010)

2010HM& Holcomb, M.B., L.W. Martin, A. Scholl, Q. He, P. Yu, C.-H. Yang, S.Y. Yang, P. Glans, M. Valvidares, M. Huijben, J.B. Kortright, J. Guo, Y.-H. Chu, and R. Ramesh, "*Probing the evolution of antiferromagnetism in multiferroic*s," Physical Review B: **81**, 134406 (2010).

2010HO& C. Hohmann, M. Obst, A. Kappler, G. Morin, K. Benzerara, G. E. Brown Jr., *Molecular mechanisms of As-binding to biogenic iron(III) (hydr)oxides precipitated by the nitrate-reducing iron(II)-oxidizer Acidovorax sp strain BoFeN1*. Geochimica Et Cosmochimica Acta **74** A409-A409 (2010)

2010HR L.N. Hawkins and L.M. Russell, *Polysaccharides, Proteins, and Phytoplankton Fragments: Four Chemically Distinct Types of Marine Primary Organic Aerosol Classified by Single Particle Spectromicroscopy*" Advances in Meteorology **2010**, 612132-612146. (2010)

2010HR& L.N. Hawkins, L.M. Russell, D.S. Covert, P. Quinn, and T.S. Bates, "*Carboxylic acids, sulfates, and organosulfates in processed continental aerosol over the southeast Pacific Ocean during VOCALS-REx 2008*," J. Geophysical Research – Atmospheres **115**, D13201 (2010).

2010HS&a H.-H. Huang, W.-C. Shih, and C.-H. Lai, "*Nonpolar Resistive Switching in the Pt/MgO/Pt Nonvolatile Memory Device*", Appl. Phys. Lett. **96** , 193505 (2010)

2010HS&b Hakimi, A.M.H.R., Schoofs, F., Bali, R., Stelmashenko, N.A., Blamire, M.G., Langridge, S., Cavill, S.A., van der Laan, G., Dhesi, S.S., 2010. *Origin of magnetism in cobalt-doped indium tin oxide thin films*. Phys. Rev. B **82**, 144429 (2010).

2010HT& A.P. Hitchcock, T. Tyliszczak, M. Obst, G.D.W. Swerhone and J.R. Lawrence, I*mproving sensitivity in soft X-ray STXM using low energy X-ray fluorescence*, Microscopy and Microanalysis **16** S-2 924-925 (2010).

2010HW& C Hub, S Wenzel, J Raabe, H Ade and RH Fink, *Surface sensitivity in scanning transmission x-ray microspectroscopy using secondary electron detection*. Rev Sci Instrum; **81,** 033704 (2010)

2010HWO A.P. Hitchcock, J. Wang and M. Obst, *3-d chemical imaging with STXM spectro-tomograph*y, Microscopy and Microanalysis **16** S-2 850-851 (2010).

2010HZ& Huthwelker T, Zelenay V, Birrer M, Krepelova A, Raabe J, Tzvetkov G, et al., *An in situ cell to study phase transitions in individual aerosol particles on a substrate using scanning transmission x-ray microspectroscopy,* Review of Scientific Instruments. **81** 113706 (2010).

2010JR& F. Jabeen, S. Rubini, F. Martelli, F, A. Franciosi, A. Kolmakov, L. Gregoratti, M. Amati, A. Barinov, A. Goldoni, M. Kiskinova, "*Contactless monitoring of the diameter-dependent conductivity of GaAs nanowires*", Nano Research **3** 706- 713 (2010)

2010JY& H. Jung, Y.-S. Yu, K.-S. Lee, S.-K. Kim, M. Im, P. Fischer, L. Bocklage, A. Vogel, M.A. Bolte, G. Meier, and S.K. Kim, "*Observation of coupled vortex gyrations by 70-ps-time and 20-nm-space-resolved full-field magnetic transmission soft x-ray microscopy*," Applied Physics Letters **97**(22), 222502 (2010).

2010IN& D. Ilgaz, J. Nievendick, L. Heyne, D. Backes, J. Rhensius, T.A. Moore, M.Á. Niño, A. Locatelli, T.O. Menteş, A. V. Schmidsfeld, A. V. Bieren, S. Krzyk, L. J. Heyderman, and M. Kläui, *Domain-Wall Depinning Assisted by Pure Spin Currents*, Phys. Rev. Lett. **105**, 076601 (2010). **HI**

2010KA& A.L.D. Kilcoyne, H. Ade, D. Attwood, A.P. Hitchcock, P. McKean, G.E. Mitchell, P. Monteiro, T. Tyliszczak and T. Warwick, *Scanning Transmission X-ray Microscope at the ALS for operation up to 2500 eV,* Proceedings of Synchrotron Radiation International, Melbourne AU, Sep 12-16, 2009, AIP Conference Proceedings **1234**, 459-462 (2010)

2010KB&a S. Kowarik, K. Broch, A. Hinderhofer, A. Achwartzberg, J. Orio Osso, D. Kilcoyne, F. Schreiber and S.R. Leone, *Crystal grain orientation of pentacene and perfluor-pentacene studied with X-ray spectromicroscopy*, J. Phys. C **115**, 13061-13067 (2010)

2010KB&b I. Krug, N. Barrett, A. Petraru, A. Locatelli, T.O. Menteş, M.Á. Niño, K. Rahmanizadeh, G. Bihlmayer, C.M. Schneider, *Extrinsic screening of ferroelectric domains in* $Pb(Zr_{0.48}Ti_{0.52})O_3$,App. Phys. Lett., **97**, 222903 1-3 (2010).

2010KH& Křepelová A, Huthwelker T, Bluhm H, Ammann M, *Surface chemical properties of eutectic and frozen NaCl solutions probed by XPS and NEXAFS*, ChemPhysChem. 2010; 11(18): 3859-3866.

2010KJ& Kim, W.g., E. Jin, J. Wu, J. Park, E. Arenholz, A. Scholl, Y.Z. Wu, C. Hwang, and Z.Qiang. Qiu, "*Effect of NiO spin orientation on the Fe film magnetic anisotropy in epitaxially grown Fe/NiO/Ag(001) and Fe/NiO/MgO(001),"* Physical Review B: Condensed Matter and Materials Physics **81**, 174416 (2010)

2010KK& Kade, A., K. Kummer, D.V. Vyalikh, S. Danzenbächer, A. Bluher, M. Mertig, A. Lanzara, A. Scholl, A. Doran, and S. Molodtsov, "X-ray Damage in Protein-Metal Hybrid Structures: A Photoemission Electron Microscopy Study," J.Physical Chemistry B **114**, 8284-8289 (2010)

2010KM& T. Kamionka, M. Martens, K.W. Chou, M. Curcic, A. Drews, G. Schuetz, T. Tyliszczak, H. Stoll, B. Van Waeyenberge, and G. Meier, "*Magnetic Antivortex-Core Reversal by Circular-Rotational Spin Currents*," Physical Review Letters **105**, 137204 (2010). **HI**

2010KN& M.Keiluweit, P.S. Nico, M.G. Johnson, and M. Kleber, "*Dynamic Molecular Structure of Plant Biomass-Derived Black Carbon (Biochar),*" Environmental Science and Technology **44**, 1247-1253 (2010).

2010KW& D.A. Knopf,, B. Wang, A. Laskin, R.C. Moffet, and M.K. Gilles, *Heterogeneous nucleation of ice on anthropogenic organic particles collected in Mexico City,* Geophysical Research Letters **37**, L11803 (2010)

2010La Karen Lam, *X-Ray Magnetic Circular Dichroism of Individual Magnetosomes in Magnetotactic Bacteria by Scanning Transmission X-Ray Microscopy*, McMaster Chemistry MSc thesis (Apr 2010)

2010Lb Bonnie O. Leung, *Protein Adsorption to Polymer Blend Films*, McMaster Chemical Biology PhD thesis (May 2010)

2010Lc Li, J., "S*ynthesis, Characterization and Modification of Microcapsules,*" doctoral dissertation, McMaster University, Hamilton, ON / Canada, 2010, advisor Adam Hitchcock & Harald Stover.

2010LBH B.O. Leung, J.L. Brash and A.P. Hitchcock, *Characterization of biomaterials by soft X-ray spectromicroscopy*, Materials **3** 3911-3938 (2010)

2010Lc Jian (Jeffrey) Li, *Synthesis, Characterization and Modification of Microcapsules*, McMaster Chemistry PhD thesis (Dec 2010)

2010LC&a Lepadatu, S, Claydon, JS, Ciudad, D, Marrows, CH, Kinane, CJ, Langridge, S, Cavill, S & Dhesi, SS 2010, 'Determination of domain wall depinning and driving currents in doped permalloy structures', IEEE Transactions on Magnetics,**46**, 1759-1761 (2010).

2010LC&b Lepadatu, S., Claydon, J.S., Kinane, C.J., Charlton, T.R., Langridge, S., Potenza, A., Dhesi, S.S., Keatley, P.S., Hicken, R.J., Hickey, B.J., Marrows, C.H., *Domain-wall pinning, nonadiabatic spin-transfer torque, and spin-current polarization in permalloy wires doped with vanadium.* Phys. Rev. B **81**, 020413 (2010).

2010LC&c Lepadatu, S., Claydon, J., Ciudad, D., Naylor, A., Kinane, C., Langridge, S., Dhesi, S., Marrows, C., *Reduction of Threshold Current for Domain Wall Depinning Using Gd Doping of Permalloy.* Appl. Phys. Express **3**, 083002 (2010).

2010LH&a K.P. Lam, A.P. Hitchcock, M. Obst, J.R. Lawrence, G.D.W. Swerhone, G.G. Leppard, T. Tyliszczak, C.Karunakaran, J.Wang, K. Kaznatcheev, D. Bazylinski and U. Lins, *X-ray magnetic circular dichroism of individual magnetosomes by Scanning Transmission X-ray Microscopy*, Chemical Geology **270** 110-116 (2010)

2010LH&b B.O. Leung, A.P. Hitchcock, J.L. Brash, A. Scholl, and A. Doran, *An X-ray spectromicroscopy study of protein adsorption to polystyrene-polyethylene oxide blend,* Langmuir **26** 14759–14765 (2010)

2010LHS J. Li, A.P. Hitchcock and H.D.H. Stöver, *Pickering Emulsion Templated Interfacial Atom Transfer Radical Polymerization for Microencapsulation*, Langmuir **26,** 17926–17935 (2010)

2010LN Larabell, C.A., and Keith.A. Nugent, *Imaging cellular architecture with X-rays,* Curr. Opin. Struct. Biol. **20**, 623-631 (2010).

2010LS J. Lehmann and D. Solomon, *Organic carbon chemistry in soils observed by synchrotron-based spectroscopy*, in: B. Singh and M. Gräfe (Eds.), Developments in soil science, **34** 289-312 (**2010**).

2010LS& M. Lutecki, O. Solcova, S. Werner, C. Breitkopf, *Synthesis and characterization of nanostructured sulfated zirconias*, J. Sol-Gel Sci. Technol**. 53**, 13-20 (2010)

2010LT& F. Lewis, S. Turgeon, P. Chevallier, J.-J. Pireaux, M. Tatoulian and D. Mantovani *On the Growth of Fluorocarbon Thin Films Deposited on Plasma-Etched 316L Stainless Steel*, Plasma Processes and Polymers **7** 309-317 (2010)

2010LW&a B.O. Leung, J. Wang, J.L. Brash and A.P. Hitchcock, A. Scholl and A. Doran, *An X-ray spectromicroscopy study of albumin adsorption to cross-linked polyethylene oxide films*, Advanced Biomaterials, in Advanced Engineering Materials 12 (**2010**) B133-B138.

2010LW&b B.O. Leung, J. Wang, J.L. Brash and A.P. Hitchcock, A. Scholl and A. Doran, *An X-ray spectromicroscopy study of protein adsorption to a polystyrene-polyethylene oxide blend*, Langmuir **26** 14759–14765 (2010)

2010LW&c Lepadatu, S., Wessely, O., Vanhaverbeke, A., Allenspach, R., Potenza, A., Marchetto, H., Charlton, T.R., Langridge, S., Dhesi, S.S., Marrows, C.H., *Domain-wall spin-torque resonators for frequency-selective operation*. Phys. Rev. B 81, 060402 (2010).

2010Ma G. Margaritondo, *Photoelectron spectromicroscopy and spectronanoscopy at synchrotrons: Growing impact on life sciences and materials science*, J. Electron Spectrosc. Rel. Phen. **178-179** 273-291 (2010)

2010Mb KT Moore, *X-ray and electron microscopy of actinide materials* Micron **41** 336-358 (2010)

2010MA& Mcneill CR, Asadi K, Watts B, Blom PWM, De Leeuw DM, *Structure of phase-separated ferroelectric/ semiconducting polymer blends for organic non-volatile memories*, Small. **6,** 508-512 (2010).

2010MB& Magnan H, Bezencenet O, Stanescu D, Belkhou R, Barbier A *Beyond the Magnetic Domain Matching in Magnetic Exchange Coupling* Physical Review Letters, **105.** 097204 (2010) . **HI**

2010ME& R. A. Metzler, J. S. Evans, C. E. Killian, D. Zhou, T. H. Churchill, N. Appathurai, S. N. Coppersmith, P.U.P.A. Gilbert, *Nacre Protein Fragment Templates Lamellar Aragonite Growth*. J. Am. Chem. Soc. **132**, 6329-6334 (2010)

2010MG& A.P. Mancuso, T. Gorniak, F. Staier, O.M. Yefanov, R. Barth, C. Christophis, B. Reime, J. Gulden, A. Singer, M.E. Pettit, T. Nisius, T. Wilhein, C. Gutt, G. Grübel, N. Guerassimova, R. Treusch, J. Feldhaus, S. Eisebitt, E. Weckert, M. Grunze, A. Rosenhahn and I.A. Vartanyants, *Coherent imaging of biological samples with femtosecond pulses at the free electron laser FLASH*, New Journal of Physics **12** 035003-14 (2010)

2010MH&a RC Moffet, T Henn, A Laskin and MK Gilles, *Automated chemical analysis of internally mixed aerosol particles using X-ray spectromicroscopy at the carbon K-edge*. Anal Chem **82** 7906-7914 (2010)

2010MH&b R.C. Moffet, T.R. Henn, A.V. Tivanski, R.J. Hopkins, Y. Desyaterik, A.L. Kilcoyne, T. Tyliszczak, J. Fast, J. Barnard, V. Shutthanandan, S.S. Cliff, K.D. Perry, A. Laskin, and M.K. Gilles, "*Microscopic characterization of carbonaceous aerosol particle aging in the outflow from Mexico City*," Atmospheric Chemistry and Physics **10**(3), 961-976 (2010).

2010MH&c R. Magri, S. Heun, G. Biasiol, A. Locatelli, T.O. Mentes, and L. Sorba, *Surface compositional profiles of self-assembled InAs/GaAs quantum rings,* AIP Conf. Proc., **1199**, 3-4 (2010).

2010MJ& Z. Martın, I. Jimenez, M.A. Gomez ,H. Ade and D.A. Kilcoyne, *Interfacial Interactions in PP/MMT/SEBS Nanocomposites*, Macromolecules **43**, 448–453 (2010)

2010MK&a A Menzel, CM Kewish, P Kraft, B Henrich, K Jefimovs, J Vila-Comamala, C David, M Dierolf, P Thibault, F Pfeiffer and O Bunk, *Scanning transmission X-ray microscopy with a fast framing pixel detector***.** Ultramicroscopy **110** 1143-1147 (2010)

2010MK&b T.A. Moore, M. Kläui, L. Heyne, P. Mohrke, D. Backes, J. Rhensius, U. Rüdiger, L.J. Heyderman, T.O. Menteş, M.Á. Niño, A. Locatelli, A. Potenza, H. Marchetto, S. Cavill, S.S. Dhesi, *Domain wall velocity measurement in permalloy nanowires with X-ray magnetic circular dichroism imaging and single shot Kerr microscopy,* Journal of Magnetism and Magnetic Materials, **322**, 1347-1352 (2010).

2010MM& Moore, T.A., Möhrke, P., Heyne, L., Kaldun, A., Kläui, M., Backes, D., Rhensius, J., Heyderman, L.J., Thiele, J.-U., Woltersdorf, G., Fraile Rodríguez, A., Nolting, F., Menteş, T.O., Niño, M.Á., Locatelli, A., Potenza, A., Marchetto, H., Cavill, S., Dhesi, S.S. Magnetic-field-induced domain-wall motion in permalloy nanowires with modified Gilbert damping. Phys. Rev. B **82,** 094445 (, 2010).

2010MN& S.N. Milam, M. Nuevo, S.A. Sandford, G.D. Cody, A.L. Kilcoyne, R.M. Stroud, and B.T. De Gregorio, *Comparison of the organic composition of cometary samples with residues formed from the UV irradiation of astrophysical ice analogs*, 41st Lunar and Planetary Science Conference **2010** 2078 (2010).

2010MTG R.C. Moffet, A.V. Tivanski, and M.K. Gilles, "*Scanning Transmission X-ray Microscopy: Applications in Atmospheric Aerosol Research*," in Fundamentals and Applications in Aerosol Spectroscopy, Signorell, R.Reid, J. P., (CRC Press Taylor & Francis Group Boca Raton, 2010), pp.420-462.

2010MT&a R. A. Metzler, G. A. Tribello, M. Parrinello, and P.U.P.A. Gilbert. *Asprich peptides are occluded in calcite and permanently disorder biomineral crystals. J. Am. Chem. Soc.*, **132** 11585–11591 (2010)

2010MT&b R.C. Moffet, A.V. Tivansk, and M.K. Gilles, "Scanning Transmission X-ray Microscopy: Applications in Atmospheric Aerosol Research," in *Fundamentals and Applications in Aerosol Spectroscopy*, Signorell, R. Reid, J. P., (CRC Press Taylor & Francis Group Boca Raton, 2010), pp.420-462.

2010MT&c R.C. Moffet, T.R. Henn, A.V. Tivanski, R.J. Hopkins, Y. Desyaterik, A.L.D. Kilcoyne, T. Tyliszczak, J. Fast, J. Barnard, V. Shutthanandan, S.S. Cliff, K.D. Perry, A. Laskin, and M.K. Gilles, *Microscopic characterization of carbonaceous aerosol particle aging in the outflow from Mexico City,* Atmospheric Chemistry and Physics **10**(3), 961-976 (2010).

2010MU& Mesler, B.L., M. Im, E. Anderson, and P. Fischer, "Magnetic soft x-ray imaging of vortex core dynamics," J. Vacuum Science and Technology B **28**(1), 198-201 (2010).

2010NH& WHERE IS THE REFERENCE !! - first soft X-ray ptycho (Yeast cells , tomo)

2010NK& P.S. Nico, M. Keiluweit, M Kleber, P Hatton B. Zeller, B.and D. Derrien, *The speciation of organic matter in soil mineral organic associations - Inference from STXM and N, C and Fe NEXAFS*. Geochimica Et Cosmochimica Acta, **74** A758-A758 (2010)

2010NM&a T.R. Neu, B. Manz, F. Volke, J.J. Dynes, A.P. Hitchcock and J.R. Lawrence. *Advanced imaging techniques for assessment of structure, composition and function in biofilm systems*. FEMS Microbiology Ecology (invited mini-review) **72** 1–21 (2010)

2010NM&b M. Nuevo, S.N. Milam, S.A. Sandford, G.D. Cody, A.L. Kilcoyne, R.M. Stroud, and B.T. De Gregorio, "*Comparison of the organic composition of cometary samples with residues formed from the UV irradiation of astrophysical ice analogs*," Astrobiology Science Conference Abstract **1538**, 5096 (2010).

2010NW& E. Najafi, J. Wang, A.P. Hitchcock, J. Guan, S.Denommee and B. Simard, *Characterization of Single-Walled Carbon Nanotubes by Scanning Transmission X-ray Spectromicroscopy: Purification, Order and Dodecyl Functionalization*, Journal of the American Chemical Society **132** 9020-9029 (2010)

2010O H. Ohldag, H., "Micromagnetic Structure - Imaging Antiferromagnetic Domains using Soft X-ray Microscopy," in *Magnetic Properties of Antiferromagnetic Oxide Maerials - Surface Interfaces and Thin Films*, L. Duo, M. Finazzi, F. Ciccaci, (Wiley Berlin, 2010).

2010OB& Ouerghi A, Belkhou R, Marangolo M, Silly MG, El Moussaoui S, Eddrief M, Largeau L, Portail M, Sirotti F , *Structural coherency of epitaxial graphene on 3C--SiC(111) epilayers on Si(111)* Applied Physics Letters, **97** 161905-3 (2010)

2010OC& Opachich, Y.P., A. Comin, A.F. Bartelt, A.T. Young, A. Scholl, J. Feng, J. Schmalhorst, H.J. Shin, K.Craig. Engelhorn, S.H. Risbud, G. Reiss, and H.A. Padmore, "*Time-resolved demagnetization of Co2MnSi observed using x-ray magnetic circular dichroism and an ultrafast streak camera* ," Journal of Physics: Condensed Matter 22, 156003 (2010).

2010OR& A. Oelsner, M. Rohmer, C. Schneider, D. Bayer, G. Schönhense and M. Aeschlimann, *Time- and energy resolved photoemission electron microscopy-imaging of photoelectron time-of-flight analysis by means of pulsed excitations*, J. Electron Spectrosc. **178-179,** 317-330 (2010)

2010OW& Olejnik, K., Wadley, P., Haigh, J.A., Edmonds, K.W., Campion, R.P., Rushforth, A.W., Gallagher, B.L., Foxon, C.T., Jungwirth, T., Wunderlich, J., Dhesi, S.S., Cavill, S.A., van der Laan, G., Arenholz, E., *Exchange bias in a ferromagnetic semiconductor induced by a ferromagnetic metal: Fe/(Ga,Mn)As bilayer films studied by XMCD measurements and SQUID magnetometry.* Phys. Rev. B **81**, 104402 (2010).

2010PG& D. Papineau, B.T. DeGregorio, G.D. Cody, M.D. Fries, S.J. Mojzsis, A. Steele, R.M. Stroud, M.L. Fogel, *Ancient graphite in the Eoarchean quartz-pyroxene rock from Akilia in southern West Greenland I: Petrographic and spectroscopic characterization*, Geochimica et Cosmochimica Acta **74,** 5862-5883 (2010)

2010PR& M Plaschke, J Rothe, MK Armbruster, MA Denecke, A Naber and H Geckeis, *Humic acid metal cation interaction studied by spectromicroscopy techniques in combination with quantum chemical calculations*. J Synchrotron Radiat. **17** 158-165 (2010)

2010PT& Pratt, K.A., C.H. Twohy, S.M. Murphy, R.C. Moffet, A.J. Heymsfield, C.J. Gaston, P.J. DeMott, P.R. Field, T.R. Henn, D.C. Rogers, M.K. Gilles, J.H. Seinfeld, and K.A. Prather, *Observation of playa salts as nuclei in orographic wave clouds* , Journal of Geophysical Research – Atmospheres **115** , D15301 (2010)

2010QR& Quitmann C, Raabe J, Puzic A, Kuepper K, Wintz S, Dynamics of mesoscopic magnetic objects In: Beaurepaire E, Bulou H, Scheurer F, Kappler J-P, eds. Magnetism and synchrotron radiation: new trends. Vol. 133. Springer Proceedings in Physics. Springer Science and Business Media, LLC; 2010.

2010RD& G.C. Roberts, D.A. Day, L.M. Russell, E.J. Dunlea, J.L. Jimenez, J.M. Tomlinson, D.R. Collins, Y. Shinozuka, and A.D. Clarke, *Characterization of particle cloud droplet activity and composition in the free troposphere and the boundary layer during INTEX-B,* Atmospheric Chemistry and Physics Discussions **10**, 6627-6644, (2010)

2010RF& A. V. Radha, T. Z. Forbes, C. E. Killian, P.U.P.A. Gilbert, and A. Navrotsky. *Transformation and crystallization energetics of synthetic and biogenic amorphous calcium carbonate.* Procs. Natl. Acad. Sci. USA **107** (2010) 16438-16443. **HI**

2010RH& L.M. Russell, L.N. Hawkins, A.A. Frossard, P.K. Quinn, and T.S. Bates, *Carbohydrate-like composition of submicron atmospheric particles and their production from ocean bubble bursting,*, Pro. Nat. Acad. Sci. USA **107**, 6652-6657 (2010) **HI**

2010RL T.K. Raab, and D.A. Lipson, "*The Rhizosphere: A Synchrotron-Based View of Nutrient Flow in the Root Zone*, in Developments in Soil Science **34**, (, B. Singh; M. Grafe, (eds); Elsevier, Masterdam, 2010), pp.171-198.

2010SA Sakdinawat, A. & Attwood, D. *Nanoscale X-ray imaging*. Nat. Photon. 4, 840–848 (2010). **HI**

2010SC& Swaraj S, Cheng W, Yan H, Watts B, Lüning J, McNeill CR, et al., *Nanomorphology of bulk heterojunction photovoltaic thin films probed with resonant soft X-ray scattering*, Nano Letters. **10,** 2863-2869(2010).

2010SD& R.M. Stroud, B.T. DeGregorio, N.D. Bassim, T.J. Zega, L.R. Nittler, C.M.O'D. Alexander, G.D. Cody, A.L.D. Kilcoyne, *Coordinated XANES, TEM and SIMS Analysis of the Chemistry, Microstructure and Isotopic Composition of Insoluble Organics in Meteorites*, Microsc. Microanal. **16** (S-2) 926-927 (2010)

2010SF& Frank Schoofs, Thomas Fix, Ali M. H. R. Hakimi, Sarnjeet S. Dhesi, Gerrit van der Laan, Stuart A. Cavill, Sean Langridge, Judith L. MacManus-Driscoll, and Mark G. Blamire, *Strain dependent defect mediated ferromagnetism in Mn-doped and undoped ZnO thin films* J. Applied Physics **108**, 053911(2010)

2010SG&a G. Schneider, P. Guttmann, S. Heim, S. Rehbein, F. Mueller, K. Nagashima, J.B. Heymann, W.G. Müller, J.G. McNally, *Three-dimensional cellular ultrastructure resolved by X-ray microscopy*, Nature Methods **7**, 985-987 (2010) **HI**

2010SG&b R.M. Stroud, B.T. DeGregorio, N.D. Bassim, T.J. Zega, L.R. Nittler, C.M.O'D. Alexander, G.D. Cody, A.L.D. Kilcoyne, *Coordinated XANES, TEM and SIMS Analysis of the Chemistry, Microstructure and Isotopic Composition of Insoluble Organics in Meteorite*s, Microsc. Microanal. **16 (S-2)** 926 (2010)

2010SK&a C.M. Schneider, A. Kaiser, C. Wiemann, C. Tieg, S. Cramm, *Photoemission microscopy study of picosecond magnetodynamics in spin-valve-type thin film elements*, J. Electron Spectrosc. **181,** 159-163 (2010)

2010SK&b Shim, J.H., D.H. Kim, B.L. Mesler, J.H. Moon, K.J. Lee, E. Anderson, and P. Fischer, "Magnetic vortex dynamics on a picoseconds timescale in a hexagonal permalloy pattern," J. Appl. Phys. **107**(9), 09D302 (2010).

2010SMS A. Scholl, D.A. Muller, and Y. Suzuki, "*Magnetism at spinel thin film interfaces probed through soft X-ray spectroscopy techniques*," Journal of Magnetism and Magnetic Materials **322**, 2915-2921 (2010).

2010SM&a Th. Schmidt, H.Marchetto, P.L.Le´vesque, U.Groh, F.Maier, D.Preikszas, P.Hartel, R. Spehr, G.Lilienkamp, W.Engel, R.Fink , E.Bauer, H.Rose, E.Umbach, H.-J.Freund, *Double aberrationcorrection in a low-energy electron microscope*, Ultramicroscopy **110**, 1358-1361 (2010).

2010SM&b N. Stojić, T.O. Menteş, N. Binggeli, M.Á. Niño, A. Locatelli, and E. Bauer, *Temperature dependence of surface stress across an order-disorder transition: p(1x2)O/W(110),* Phys. Rev. B **81**, 115437 (2010).

2010SP& J.P. Strachan, M. Pickett, J. Yang, S. Aloni, A.L.D. Kilcoyne, G. Medeiros-Ribeiro, and S.Williams, *Direct identification of the conducting channels in a functioning memristive device,* Advanced Materials **22**, 3573 (2010).

2010SR&a I. Schmid, J.Raabe, B.Sarafimov, C.Quitmann, S.Vranjkovic, Y.Pellmont and H.J.Hug, *Coaxial arrangemen tof a scanning probe and an X-ray microscope as a novel tool for nanoscience*, Ultramicroscopy **110**, 1267-1272 (2010)

2010SR&b R.E. Schwartz, L.M. Russell, S.J. Slosted, A. Vlasenko, J.G. Slowik, J.P.D Abbat, A.M. Macdonald, S.M. Li, J. Liggio, D. Toom-Sauntry, and W.R. Leaitch, "*Biogenic oxidized organic functional groups in aerosol particles from a mountain forest site and their similarities to laboratory chamber products*," Atmospheric Chemistry and Physics **10**, 5075-5088 (2010)

2010SR&c S. Werner, S. Rehbein, P. Guttmann, S. Heim, G. Schneide, *Towards high diffraction efficiency zone plates for X-ray microscopy,* Microelectron. Eng. **87**, 1557-1560 (2010)

2010SS&a Shazad, F., S.A. Siddiqi, M. Im, A.D. Avallone, P. Fischer, Z. Hussain, I. Siddiqi, and F. Hellman, "*Layer resolved magnetization reversal study in SmCo5/Fe nanocomposite bilayers*" Chinese Physics B **19**(3), 037504 (2010).

2010SS&b P. Schofield, , A. Smith, F. Mosselmanns, H. Ohldag, A. Scholl, G. Cressey, P. Quinn, C. Kirk, and S. Hogg, "*X-ray spectromicroscopy of mineral intergrowths in the Santa Catarina meteorite,*" Geostandards and Geoanalytical Research **34**, 145-159 (2010).

2010SR&c Sarkar SS, Solak HH, Raabe J, David C, van der Veen JF*, Fabrication of Fresnel zone plates with 25 nm zone width using extreme ultraviolet holography*, Microelectronic Engineering. **87** 854-858 (2010).

2010SR&d Schmid I, Raabe J, Sarafimov B, Quitmann C, Vranjkovic S, Pellmont Y, et al., *Coaxial arrangement of a scanning probe and an X-ray microscope as a novel tool for nanoscience*, Ultramicroscopy. **110** 1267-1272 (2010).

2010SR&e Schmid I, Raabe J, Wenzel S, Fink R, Hug H, Quitmann C, *NanoXAS - The in situ combination of scanning transmission X-ray and scanning probe microscopy* XRM2010, AIP conference proceedings. **1365**, 449, (2010).

2010SW&a D. Susac, J. Wang, Z. Martin, A.P. Hitchcock, J. Stumper and D. Bessarabov, *Chemical fingerprint associated with the formation of Pt in the membrane in PEM fuel cells*, ECS Transactions **33** 391-398 (2010)

2010SW&b Swaraj, S., Wang, C., Yan, H., Watts, B., Lüning, J., McNeill, C. R., & Ade, H.. *Nanomorphology of Bulk Heterojunction Photovoltaic Thin Films Probed with Resonant Soft X-ray Scattering*. Nano Letters, 10, 2863–2869 (2010).

2010SS&c Th. Schmidt, M. Speckmann, J. Falta, T.O. Mentes, M.Á. Nino and A. Locatelli, *Ge Growth on Partially and Entirely Ag Covered Si(111)* J. Surf. Sci. Nanotech. **8**, p.221 (2010).

2010TC T. Tyliszczak and K.W. Chou, *Advances in Magnetization Dynamics Using Scanning Transmission X-Ray Microscopy*" in *X-Rays in Nanoscience: Spectroscopy, Spectromicroscopy, and Scattering Techniques*, Jinghua Guo, (Wiley-VCH Verlag GmbH & Co. Weinheim, Germany, 2010).

2010TG& J. Thieme, S.-C. Gleber, J. Sedlmair, J. Rieger, J. Niemeyer, and J. Coates, *X-Ray Spectromicroscopy Studies of Nanoparticles in Aqueous Media,*" in *Nanoparticles in the Water Cycle*, F.H. Frimmel, R. Niessner, (Springer Heidelber),103-115 (2010)

2010TH& Takahama, S., S. Liu, and L.M. Russell, "*Coatings and clusters of carboxylic acids in carbon-containing atmospheric particles from spectromicroscopy and their implications for cloud-nucleating and optical properties*," J Geophysical Research: Atmospheres **115**, D01202 (2010).

2010TLR S. Takahama, S. Liu, and L.M. Russell, *Coatings and clusters of carboxylic acids in carbon-containing atmospheric particles from spectromicroscopy and their implications for cloud-nucleating and optical properties*, Journal of Geophysical Research - Atmospheres **115**, D01202 (2010)

2010TP&a L. Tortora, H.-S. Park, S.-W. Kang, V. Savaryn, S.H. Hong, K. Kaznatcheev, D. Finotello, S. Sprunt, S. Kumar and O.D. Lavrentovich, *Self-assembly, condensation, and order in aqueous lyotropic chromonic liquid crystals crowded with additives*, Soft Matter **6,** 4157-4167 (2010)

2010TP&b Tzvetkov G, Paradossi G, Tortora M, Fernandes P, Fery A, Graf-Zeiler B, et al., *Water-dispersible PVA-based dry microballoons with potential for biomedical applications*, Materials Science and Engineering C: Biomimetic Materials, Sensors and Systems. **30,** 412-416 (2010).

2010TS& J Thieme, J Sedlmair, SC Gleber, J Prietzel, J Coates, K Eusterhues, G Abbt-Braun and M Salome, *X-ray spectromicroscopy in soil and environmental sciences***.** J Synchrotron Radiation, **17** 149-57 (2010)

2010TV& J.D. Torrey, S. Vasko, A. Kapetanovic, Z. Zhu, A. Scholl, and M. Rolandi, "*Scanning Probe Direct-Write of Germanium Nanostructures*," Advanced Materials **22**, 4639-4642 (2010).

2010UP& Uhlir V, Pizzini S, Rougemaille N, Novotny J, Cros V, Jimenez E, Faini G, Heyne L, Sirotti F, Tieg C, Bendounan A, Maccherozzi F, Belkhou R, Grollier J, Anane A, Vogel J *Current-induced motion and pinning of domain walls in spin-valve nanowires studied by XMCD-PEEM,* Physical Review B **81** 224418-10 (2010)

2010VG&a Vila-Comamala J, Gorelick S, Guzenko VA, Färm E, Ritala M, David C, *Dense high aspect ratio hydrogen silsesquioxane nanostructures by 100keV electron beam lithography*, Nanotechnology. **21** 285305 (2010).

2010VG&b Vila-Comamala J, Gorelick S, Färm E, Kewish CM, Diaz A, Guzenko VA, et al., *Zone-doubled fresnel zone plates for scanning transmission X-ray microscopy*, XRM2010 AIP conference proceedings.**1365**, 192 (2010).

2010VM& E. Vescovo, T.O. Menteș, J.T. Sadowski, J.M. Ablett, M.Á. Niño, and A. Locatelli, *Domain faceting in an in-plane magnetic reorientation transition,* Phys. Rev. B **82**, 184405 (2010).

2010VW& A. Vogel, S. Wintz, J. Kimling, M.A. Bolte, T. Strache, M. Fritzsche, M. Im, P. Fischer, G. Meier, and J. Fassbender, "*Domain-Wall Pinning and Depinning at Soft Spots in Magnetic Nanowires*," IEEE Transactions on Magnetics **46**(6), 1708-1710 (2010).

2010WC& PJ Wallis, AL Chaffee, WP Gates, AF Patti, JL Scott, *Partial exchange of Fe(III) montmorillonite with hexadecyltrimethylammonium cation increases catalytic activity for hydrophobic substrates*. Langmuir **26** 4258-4265 (2010)

2010WH& Wang, C., Hexemer, A., Nasiatka, J., Chan, E. R., Young, A. T., Padmore, H. A., Schlotter, W. F., Lüning, J., Swaraj, S., Watts, B., Gann, E., Yan, H., & Ade, H.. *Resonant Soft X-ray Scattering of Polymers with a 2D Detector: Initial Results and System Developments at the Advanced Light Source.* IOP Conference Series: Materials Science and Engineering, 14, 012016 (2010)

2010WM B. Watts and C.R. McNeill, *Simultaneous Surface and Bulk Imaging of Polymer Blends with X-ray Spectromicroscopy*, Macromolecular Communications **31**, 1706-1712 (2010).

2010WP& Wu, J., J.S. Park, W. Kim, E. Arenholz, M. Liberati, A. Scholl, C. Hwang, Y.Z. Wu, and Z.Qiang. Qiu, "*Direct measurement of rotatable and frozen CoO spins in exchange bias system of CoO/Fe/Ag(001)*," Physical Review Letters **104**, 217204 (2010). **HI**

2010WR& S. Werner, S. Rehbein, P. Guttmann, S. Heim, G. Schneider, *Towards high diffraction efficiency zone plates for X-ray microscopy*, Microelectron. Eng. **87** 1557-1560 (2010)

2010WS&a Y.T. Wang, Y. Zou, T. Araki, L.N. Jan, A.L. Kilcoyne, J. Sokolov, and H.W. Ade, "*Probing the Chain and Crystal Lattice Orientation in Polyethylene Thin Films by Near Edge X-ray Absorption Fine Structure (NEXAFS) Spectroscopy*," Macromolecules **43**(19), 8153-8161 (2010).

2010WS&b Garcia F, Westfahl H, Schoenmaker J, Carvalho EJ, Santos AD, Pojar M, Seabra AC, Belkhou R, Bendounan A, Novais ERP, Guimaraes AP *Tailoring magnetic vortices in nanostructures,* Applied Physics Letters, **97** 22501-3 (2010)

2010WW& U. H. Wagner, H. Wang, S. S Dhesi, K. J. S. Sawhnea, M. A. MacDonald, I. B. Poole, and F. M. Quinn, *A Versatile Multilayer Polarimeter for the Soft X-Ray Region* doi:10.1063/1.3463328 AIP Conference Proceedings **1234**, 781 (2010)

2010WZ& Y.Wang, Y. Zou, T. Araki, J. Luning, A.L.D. Kilcoyne, J. Sokolov, H. Ade and M. Rafailovich, *Probing the chain and crystal lattice orientation in polyethylene thin films by NEXAFS spectroscopy*, Macromolecules **43**, 8153-8161 (2010).

2010YA& H. Yabuta, C.M. Alexander, M.L. Fogel, A.L. D Kilcoyne, and G.D. Cody, *A molecular and isotopic study of the macromolecular organic matter of the ungrouped C2 WIS 91600 and its relationship to Tagish Lake and PCA 91008,* Meteoritics & Planetary Science **45**, 1446-1460 (2010).

2010YW& HP. Yan, C. Wang, I. Hwang, N.C. Greenham, C. Groves, H. Ade, and C.R. McNeill, *Influence of Annealing and Interfacial Roughness on the Performance of Bilayer Donor/Acceptor Polymer Photovoltaic Devices,* Advanced Functional Materials **20**, 4329 (2010)

2010ZG& D. Zhu, M. Guizar-Sicairos, B. Wu, A. Scherz, Y. Acremann, T. Tyliszczak, P. Fischer, N. Friedenberger, K. Ollefs & M. Farle *High-Resolution X-Ray Lensless Imaging by Differential Holographic Encoding*. Phys. Rev. Lett. **105**, 043901 (2010). **HI**

2010ZW&a J. Zhou, J. Wang, H. Liu, M.N. Banis, X. Sun and T.K. Sham. *Imaging nitrogen in individual carbon nanotubes*, J. Phys. Chem. Lett. **1** 1709–1713 (2010)

2010ZW&b J. Zhou, J. Wang, H. Fang, C. Wu, J.N. Cutler, and T.K. Sham, *Nanoscale chemical imaging and spectroscopy of individual RuO_2 coated carbon nanotubes*, Chem. Commun. **46** 2778–2780 (2010)

2011AG& Amstad E, Gehring AU, Fischer H, Nagaiyanallur VV, Hähner G, Textor M, et al., *Influence of electronegative substituents on the binding affinity of catechol-derived anchors to Fe_3O_4 nanoparticles,* J. Physical Chemistry C. **115,** 683-691 (2011).

2011AH& R. G. Acres, S. L. Harmer, H. W. Shui, C.-H. Chen, and D. A. Beattie, *Synchrotron Scanning Photoemission Microscopy of Homogeneous and Heterogeneous Metal Sulfide Minerals*, J. Synchrotron Radiat. **18**, 649 (2011)

2011B K.B. Burke, "*Characterisation of Organic Photovoltaics by Synchrotron Soft X-ray Techniques,*" doctoral dissertation, Univeristy of Newcastle, Newcastle, Australia, 2011, advisor Paul Dastoor

2011BA& B. Bozzini, M. Amati, M. Boniardi, M. Kazemian Abyaneh, L. Gregoratti, M. Kiskinova, **"***Study of a proton exchange membrane fuel cells catalyst subjected to anodic operating conditions, by synchrotron-based scanning photoelectron microscopy (SPEM) and high lateral-resolution X-ray photoelectron spectroscopy*", J. Power Sources **196** 2513–2518 (2011)

2011BS& M.Beckers T. Senkbeil, T. Gorniak, M. Reese, K.Giewekemeyer, S.C. Gleber, T. Salditt, and A. Rosenhahn, *Chemical Contrast in Soft X-Ray Ptychography,* Phys. Rev. Lett..**107** 208101 (2011)

2011BB&a D.P. Bernstein, B. Bräuer, R. Kukreja, J. Stohr, T. Hauet, J. Cucchiara, S. Mangin, J.A. Katine, T. Tyliszczak, K.W. Chou, and Y.M. Acremann, *Nonuniform switching of the perpendicular magnetization in a spin-torque-driven magnetic nanopillar*, Physical Review B: **83**(18), 180410 (2011).

2011BB&b O. Bezencenet, D. Bonamy, R. Belkhou, P. Ohresser and Antoine Barbier, *Origin and Tailoring of the Antiferromagnetic Domain Structure in α-Fe_2O_3 Thin Films Unraveled by Statistical Analysis of Dichroic Spectromicroscopy (X-Ray Photoemission Electron Microscopy) Images*. Phys. Rev. Lett. **106**, 107201 (2011)

2011BB&c G. Biasiol, V. Baranwal, S. Heun, M. Prasciolu, M. Tormen, A. Locatelli, T.O. Menteş, M.Á. Niño and L. Sorbam *Composition uniformity of site-controlled InAs/GaAs quantum dots,* Journal of Crystal Growth **323**, 176-179 (2011)

2011BB&d Blue, A., Bates, R., Clark, A., Dhesi, S.S., Maneuski, D., Marchal, J., Steadman, P., Stewart, G., Tartoni, N., Turchetta, R.,*Active Pixel Sensors for direct detection of soft X-rays*. J. Inst. **6**, C12058–C12058 (2011).

2011BC& D.E. Bugaris, E.S. Choi, R. Copping, P. Glans, S.G. Minasian, T. Tyliszczak, S.A. Kozimor, D.K. Shuh, and J.A. Ibers, *Pentavalent and tetravalent uranium selenides, Tl3Cu4USe6 and Tl2Ag2USe4: syntheses, characterization, and structural comparison to other layered actinide chalcogenide compounds*, Inorganic Chemistry **50**(14), 6656-6666 (2011).

2011BG& B. Bozzini, A. Gianoncelli, B. Kaulich, M. Kiskinova, C. Mele and M. Prasciolu, **"***Corrosion of Ni in 1-butyl-1-methyl-pyrrolidinium bis (trifluoromethylsulfonyl) amide room-temperature ionic liquid: an in situ X-ray imaging and spectromicroscopy study*" Phys. Chem. Chem. Phys. **13** (2011) 7968.

2011BH&a S. Bernard, B. Horsfield, H.-M. Schulz, R. Wirth, A. Schreiber and N. Sherwood, *Geochemical evolution of organic-rich shales with increasing maturity: A STXM and TEM study of the Posidonia Shale (Lower Toarcian, northern Germany)*, Marine and Petroleum Geology **31** 70-89 (2011)

2011BH&b S. Behyan, B. Haines, C. Karanukaran, J. Wang, M. Obst, T. Tyliszczak, S.G. Urquhart, *Surface detection in a STXM microscope*, XRM2010, AIP Conference Proceedings **1365** (2010) 184-187.

2011BM&a K. Benzarara, N. Menguya, M. Obst, J. Stolarskic, M. Mazurd, T. Tyliszczak, G.E. Brown Jr., A. Meibom, *Study of the crystallographic architecture of corals at the nanoscale by scanning transmission X-ray microscopy and transmission electron microscopy*, Ultramicroscopy **111**, 1268-1275 (2011)

2011BM&b B. Bozzini, C. Mele, A. Gianoncelli, B. Kaulich, M. Kiskinova and M. Prasciolu, *In situ X-ray spectromicroscopy study of bipolar plate material stability for nano-fuel-cells with ionic-liquid electrolyte* Microelectronic Engineering **88** 2456–2458 (2011)

2011BS&a V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *Nano to Micro Scale Characterization of Water Uptake in The Catalyst Coated Membrane Measured by Soft X-ray Scanning Transmission X-ray Microscopy*, ECS Transactions **41** 395 - 402 (2011)

2011BS&b KB Burke, A J Stapleton, B Vaughan, X Zhou, A L DKilcoyne, T Warwick, J Belche1 and PC Dastoor, *Scanning transmission x-ray microscopy of polymer nanoparticles: probing morphology on sub-10 nm length scales*, Nanotechnology **22** 265710-(1-6) (2011)

2011BS&c M. Beckers, T. Senkbeil,. T.Gorniak, M.Reese, K. Giewekemeyer,.S.-C. Gleber, T. Salditt and A.Rosenhahn, *Chemical Contrast in Soft X-Ray Ptychography,* Phys Rev Lett **107**, 208101 (2011) **HI**

2011BT& B. Bozzini, E. Tondo, M. Prasciolu, M. Amati, M. Kazemian, L. Gregoratti, and M. Kiskinova, "*In situ X-Ray Spectromicroscopy Investigation of the Material Stability of SOFC Metal Interconnects in Operating Electrochemical Cells*", ChemSusChem **4** 1099-1103 (2011).

2011CB& N. Cooling, K.B. Burke, X. Zhou, S.J. Lind, K.C. Gordon, T.W. Jones, P.C. Dastoor, and W.J. Belcher, "*A study of the factors influencing the performance of ternary MEH-PPV:Porphyrin:PCBM heterojunction devices: a steric approach to controlling charge recombination*," *Solar Energy Materials & Solar Cells* **95**, 1767-1774 (2011).

2011CD& Cormier L, Dargaud O, Menguy N, Henderson GS, Guignard M, Trcera N, et al., *Investigation of the role of nucleating agents in MgO-SiO 2-Al2O3-SiO2-TiO2 glasses and glass-ceramics: A XANES study at the Ti K- and L2,3-edges*, Crystal Growth and Design. **11** 311-319 (2011). 2011CF& C.S. Chan, S.C Fakra, D. Emerson, E.J. Flemming, and K. Edwards, "*Lithotrophic iron-oxidizing bacteria produce organic stalks to control mineral growth: implications for biosignature formation*," The ISME Journal **5,** 717-727 (2011).

2011CG Chandra, A.P., and A.R. Gerson, "R*edox potential (Eh) and anion effects of pyrite (FeS2) leaching at pH 1*," Geochimica et Cosmochimica Acta 75(22), 6893 (2011).

2011CG& G.D. Cody, N.S. Gupta, D.EG. Briggs, A.LD. Kilcoyne, R.E. Summons, F. Kenig, R.E. Plotnick, and A.C. Scott, "*Molecular signature of chitin-protein complex in Paleozoic arthropods*," Geology **39**, 255-258 (2011).

2011CH&a S.L. Christensen, B.M. Haines, U.D. Lanke, M.F. Paige, S.G. Urquhart. *SEEM and Partial Yield NEXAFS Spectromicroscopy with an Energy-Filtered X-PEEM*, IBM J. Research **55** 5:1-5:6 (2011)

2011CH&b G.D. Cody, E. Heying, C.M. O'D Alexander, L.R. Nittler, A.L. D. Kilcoyne, S.A. Sandford, and R.M. Stroud, *"Establishing a molecular relationship between chondritic and cometary organic solids*," Proc. Nat. Acad. Sci. USA **108**, 1-6 (2011). **(HI)**

2011CJ& Carlton, D., B.James. Lambson, A. Scholl, A.T. Young, S.D. Dhuey, P.D. Ashby, E. Tuchfeld, and J. Bokor, "*Computing in Thermal Equilibrium with Dipole-Coupled Nanomagnet*s," IEEE Transactions on Nanotechnology **10**, 1401-1404 (2011).

2011CL& B.A.Collins, Z. Li, C.R. McNeill, and H.W. Ade, "*Fullerene-Dependent Miscibility in the Silole-Containing Copolymer PSBTBT-08*," Macromolecules **44**(24), 9747-9751 (2011)

2011CM& J.-Y. Chauleau, B.J. McMorran, R. Belkhou, N. Bergeard, T.O. Menteş, M.Á. Niño, A. Locatelli, J. Unguris, S. Rohart, J. Miltat, A. Thiaville, *Magnetization textures in NiPd nanostructures,* Phys. Rev. B **84**, 094416 (2011)

2011CR& J.W. Chiou, S. C. Ray, H. M. Tsai, C. W. Pao, F. Z. Chien, W. F. Pong, C. H. Tseng, J. J. Wu, M. T. Tsai, C. H. Chen, H. J. Lin, J. F. Lee, and J. H. Guo, "*Correlation Between Electronic Structures and Photocatalytic Activities of Nanocrystalline-(Au, Ag and Pt) Particles on the Surface of ZnO Nanorods*", J. Phys. Chem. C 1**15** , 2650 (2011)

2011CS&a P.J. Cook, T.H. Shen, P.J. Grundy, M.-Y. Im, P. Fischer, S.A. Morton, and A.LD. Kilcoyne, "*Focused ion beam patterned Fe thin films: A study by selective area Stokes polarimetry and soft x-ray microscopy*," *Journal of Applied Physics* **109**, 063917-1-063917-5 (2011).

2011CS& M.B. Casu, S. Savu, P. Hoffmann, B. Schuster, T.O. Menteş, M.Á. Niño, A. Locatelli, T. Chasse, *Direct observation of step-edge barrier effects and general aspects of growth processes: morphology and structure in diindenoperylene thin films deposited on Au(100) single crystals,* CrystEngComm **13**, 4139 (2011)

2011CT& B.A. Collins, J.R. Tumbleston, and H.W. Ade, "*Miscibility, crystallinity, and phase development in P3HT:PCBM solar cells: Towards an enlightened understanding of device morphology and stability.*," J.Phys. Chem. Lett. **2**(24), 3135-3145 (2011).

2011DG& R.S. Devan, Shun-Yu Gao, Yu-Rong Lin, Shun-Rong Cheng, Chia-Er Hsu, Chia-Hao Chen, Hung-Wei Shiu, Yung Liou and Yuan-Ron Ma, S*canning Photoemission Spectromicroscopic Study of 4-nm Ultrathin $SiO_{3.4}$ Protrusions Probe-Induced on the Native SiO_2 Layer,* Microsc. Microanal. **17**m 944-949 (2011)

2011DQ& T. Ducic, S. Quintes, K.-A. Nave, J. Susini, M. Rak, R. Tucoulou, M. Alevra, P. Guttmann, T. Salditt, *Structure and composition of myelinated axons: A multimodal synchrotron spectromicroscopy study*, J. Struct. Biol. **173**, 202-212 (2011)

2011DV& R. Dahn, M. Vespa, T. Tyliszczak, E. Wieland, and D.K. Shuh, "*Soft X-ray Spectromicroscopy of Cobalt Uptake by Cement*," Environmental Science and Technology **45**, 2021-2027 (2011).

2011F P. Fischer, "Exploring nanoscale magnetism in advanced materials with polarized x-rays," Materials Science and Engineering A **72**(5), 81-95 (2011).

2011FI& P.Fischer, Mi-Y. Im, S.Kasai, K. Yamada, T. Onoand A. Thiaville, *X-ray imaging of vortex cores in confined magnetic structures,* Phys Rev B **83**, 212402 (2011)

2011FJ& R. Falcone, Ch. Jacobsen, J. Kirz, S. Marchesini, D. Shapiro and J. Spence, *New directions in X-ray Microscopy,* Contemporary Physics **52** 293-318 (2011)

2011FS& Folven, E., A. Scholl, A. Young, S.T. Retterer, J.Emiel. Boschker, T. Tybell, Y. Takamura, and J.K. Grepstad, "*Effects of nanostructuring and substrate symmetry on antiferromagnetic domain structure in LaFeO3 thin films*," Physical Review B: **84**, 220410(R) (2011).

2011FW& Fliegel D, Wirth R, Simonetti A, Schreiber A, Furnes H, Muehlenbachs K, *Tubular textures in pillow lavas from a Caledonian west Norwegian ophiolite: A combined TEM, LA-ICP-MS, and STXM study*, Geochemistry, Geophysics, Geosystems. **12** Q02010 (2011).

2011GB&a P. Guttmann, C. Bittencourt, X. Ke, G. Van Tendeloo, P. Umek, D. Arcon, C.P. Ewels, S.Rehbein, S. Heim, G. Schneider, *TXM-NEXAFS of TiO2-Based Nanostructures*, Proc. of XRM-10, Chicago, USA, AIP Conference Proc. **1365** (2011) 437-440.

2011GB&b K. Giewekemeyer, M. Beckers, T. Gorniak, M. Grunze, T. Salditt and A. Rosenhahn, *Ptychographic coherent x-ray diffractive imaging in the water window*,Optics Express **17** 1037 (2011).

2011GC& Ghugare SV, Chiessi E, Fink R, Gerelli Y, Scotti A, Deriu A, et al., *Structural investigation on thermoresponsive PVA/poly(methacrylate-co-N-isopropylacrylamide) microgels across the volume phase transition* Macromolecules. **44**, 4470-4478 (2011)

2011GF& Graf-Zeiler B, Fink RH, Tzvetkov G, *In situ synchrotron radiation X-ray microspectroscopy of polymer microcontainer*s, ChemPhysChem. **12** 3503-3509 (2011).

2011GK& A. Gianoncelli, B. Kaulich, M. Kiskinova, M. Prasciolu, B.D. Urzo, B. Bozzini, *An in situ electrochemical soft X-ray spectromicroscopy investigation of Fe galvanically coupled to Au,* Micron **42**, 342 - 347 (2011)

2011GLT S . Ghorai, A. Laskin, and A.V. Tivanski, "*Spectroscopic Evidence of Keto-Enol Tautomerism in Deliquesced Malonic Acid Particles* ," J. Physical Chemistry A **115**(17), 4373-4380 (2011).

2011GS& B.T., De Gregorio, R.M. Stroud, G.D. Cody, L. Nittler, A.L. Kilcoyne, and S. Wirick, "*Correlated microanalysis of cometary organic grains returned by Stardust*," Meteoritics & Planetary Science **46**(9), 1376-1396 (2011).

2011GW P.U.P.A. Gilbert, F. H. Wilt in *Molecular Biomineralization*; W.E.G. Müller, Ed.; Springer: Heidelberg, (2011), p. 199

2011GYC P.U.P.A. Gilbert, A. Young, and S. N. Coppersmith, *Measurement of c-axis angular orientation in calcite ($CaCO_3$) nanocrystals using X-ray absorption spectroscopy*, Procs. Natl. Acad. Sci. USA **108**, 11350-11355 (2011). **HI**

2011H Hudson, W., "*Block copolymer electrolytes for lithium batteries*," doctoral dissertation, University of California, Berkeley, Berkeley, CA, 2011, advisor Jeff Long.

2011HB& C.D. K. Herd, A. Blinova, D.N. Simkus, Y. Huang, R. Tarozo, C.M. O'D Alexander, F. Gyngard, L.R. Nittler, G.D. Cody, Y. Kebukawa, A.L.D. Kilcoyne, R.W. Hilts, G.F. Slater, D.P. Glavin, J.P. Dworkin, M.P. Callahan, J.E. Elsila, B.T. DeGregorio, and R.M. Stroud, "*Origin and Evolution of Prebiotic Organic Matter as Inferred from the Tagish Lake Meteorite*," Science **332** 1304-1307 (2011). **(HI)**

2011HC& He, Q., Y.H. Chu, J.T. Heron, S.Y. Yang, W.I. Liang, C.Y. Kuo, H.J. Lin, P. Yu, C.W. Liang, R.J. Zeches, W.C. Kuo, J.Y. Chen, E. Arenholz, A. Scholl, and R. Ramesh, "*Electrically controllable spontaneous magnetism in nanoscale mixed phase multiferroics*," Nature Communications 2, 225 (2011). **(HI)**

2011HF& M. Hegde, S.S. Farvid, I.D. Hosein, P.V. Radovanovic, *Tuning manganese dopant spin interactions in single GaN nanowires at room temperature*, ACS Nano **5**, 6365–6373 (2011)

2011HG& S. Hajjar, G. Garreau, L. Josien, J. L. Bubendorff, D. Berling, A. Mehdaoui, C. Pirri, T. Maroutian, C. Renard, D. Bouchier, M. Petit, A. Spiesser, M. T. Dau, L. Michez, V. Le Thanh, T.O. Menteş, M.Á. Niño, and A. Locatelli, *Morphology and composition of Au catalysts on Ge(111) obtained by thermal dewetting,* Phys. Rev. B 84, 125325 (2011)

2011HK& E. Hanssen, C.G. Knoechel, N. Klonis, N. Abu-Bakar, S. Deed, M. LeGros, and C.A. Larabell, *Cryo transmission X-ray imaging of the malaria parasite, P. falciparum*, J. Struct. Biol. **173**(1), 161-168 (2011).

2011HM& Huang, X., H. Miao, J. Nelson, J. Turner, J. Steinbrener, D. Shapiro, J. Kirz, and C. Jacobsen, "Anti-contamination device for cryogenic soft X-ray diffraction microscopy," *Nuclear Instruments & Methods in Physics Research, Section A: Accelerators,* **638**(1), 171-175 (2011)

2011HZ& T. Huthwelker, T., Zelenay, V., Birrer, M., Krepelova, A., Raabe, J., Tzvetkov, G., Vernooij, M. G. C., and Ammann, M., *An in situ cell to study phase transitions in individual aerosol particles on a substrate using scanning transmission x-ray microspectroscopy*, Rev. Sci. Instrum., **81**, 113706–113709 (2010)

2011IW& G. Idiong, A. Won, A. Ruscito, B.O. Leung, A. P. Hitchcock and A. Ianoul, *Investigating the Effect of Single Glycine to Alanine Substitution on Membrane Interactions of Antimicrobial Peptide Latarcin 2a*, European Biophysics Journal **40**, 1087-1100 (2011)

2011JL& H. Jung, K.S. Lee, D.E. Jeong, Y.S. Choi, Y.S. Yu, D.S. Han, A. Vogel, L. Bocklage, G. Meier, M. Im, P. Fischer, and S.K. Kim, *Tunable negligible-loss energy transfer between dipolar-coupled magnetic disks by stimulated vortex gyration*, Scientific Reports **1**, 59 (2011).

2011K M. Kotsugi, *Determination of Local Magnetic Moment in $L1_0$ FeNi using Photoelectron Emission Microscopy (PEEM)*, J. Physics: Conf Series, **266** ,012095 (2011)

2011KB& K. Kaznatcheev, D. Bertwistle, C. Chen, S. Zoha, W. E. Bailey, *Synchronous (lock-in) measurement techniques for magnetic contrast enhancement in STXM*, XRM2010, AIP Conference Proceedings **1365** 333 (2011)

2011KC&a C.-T. Kuo, K.-K. Chang, H.-W. Shiu, C.-R. Liu, L.-Y. Chang, C.-H. Chen, and S. Gwo, *Natural Band Alignments of InN/GaN/AlN Nanorod Heterojunctions*, Appl. Phys. Lett. **99** , 122101 (2011)

2011KC&b C.-T. Kuo, K.-K. Chang, H.-W. Shiu, S.-C. Lin, C.-H. Chen, and S. Gwo, *Spontaneous-polarization-induced Heterojunction Asymmetry in III-nitride Semiconductors*, Appl. Phys. Lett. **99** , 022113 (2011)

2011KD&a A. Kolmakov, D. A. Dikin, L. J. Cote, J. Huang, M. Kazemian Abyaneh, M. Amati, L. Gregoratti, S. Günther and M. Kiskinova, *Graphene oxide windows for in situ environmental cell photoelectron spectroscopy*, Nature Nanotechnology **6** (2011) 651-653.

2011KD&b Kirchheim, A., D.C. Dal Molin, A.-H. Emwas, J.L. Provis, P. Fischer, and P.J. Monteiro, "Real-time high-resolution X-ray imaging and nuclear magnetic resonance study of the hydration of pure and Na-doped C3A in the presence of sulfates," Inorganic Chemistry **50**(4), 1203-1212 (2011).

2011KL&a C. T. Kuo, S. C. Lin, K. K. Chang, H. W. Shiu, L. Y. Chang, C. H. Chen, S. J. Tang, and S. Gwo, *Is Electron Accumulation Universal at InN Polar Surfaces?*, Appl. Phys. Lett. **98** , 052101 (2011)

2011KL&b K. R. Knox, A.Locatelli, M.B. Yilmaz, D. Cvetko, T.O. Menteş, M.Á. Niño, P. Kim, A. Morgante, and R.M. Osgood, Jr., *Making angle-resolved photoemission measurements on corrugated monolayer crystals: Suspended exfoliated single-crystal graphene,* Phys. Rev. B 84, 115401 (2011).

2011KM&a C.E. Killian, R.A. Metzler, Y. Gong, T.H. Churchill, I.C. Olso ,V. Trubetskoy, M.B. Christensen, J.H. Fournelle, F. De Carlo, S. Cohen, J. Mahamid, A. Scholl , A. Young, A. Doran , F.H. Wilt , S.N. Coppersmith and P. Gilbert, *Self-Sharpening Mechanism of the Sea Urchin Tooth*, Advanced Functional Materials **20**, 1-9 (2011)

2011KM&b T. Kamionka, M. Martens, K.W. Chou, A. Drews, T. Tyliszczak, H. Stoll, B. Van Waeyenberge, and G. Meier, *Magnetic antivortex-core reversal by rotating magnetic fields,* Physical Review Letters **83** 224422 (2011). **(HI)**

2011KN& M. Kleber, P.S. Nico, A. Plante, T. Filley, M. Kramer, C. Swanston, and P. Sollins, *"Old and stable soil organic matter is not necessarily chemically recalcitrant: implications for modeling concepts and temperature sensitivity*," Global Change Biology **17**1097-1107 (2011).

2011KT& B. Kaulich, P. Thibault, A. Gianoncelli1 and M. Kiskinova, *Transmission and emission x-ray microscopy: operation modes, contrast mechanisms and applications*, J. Phys.: Condens. Matter **23** 083002 (2011)

2011LD&b S. Liu, D. Day, J.E. Shields, and L.M. Russell, *"Ozone-driven photochemical formation of carboxylic acid groups from alkane groups*," Atmospheric Chemistry and Physics Discussions **11**, 7189-7233 (2011).

2011LH&a B.O. Leung, A.P. Hitchcock, A. Won, A. Ianoul and A. Scholl, *Imaging Interactions of Cationic Antimicrobial Peptides with Model Lipid Membranes using X-ray Spectromicroscopy*, European Biophysical Journal **40** 805-810 (2011)

2011LH&b F. Lovis, M. Hesse, A. Locatelli, T.O. Menteş, M.Á. Niño, G Lilienkamp, B Borkenhagen, R Imbihl, *Self-Organization of Ultrathin Vanadium Oxide Layers on a Rh(111) Surface during a Catalytic Reaction. Part II: A LEEM and Spectromicroscopy Study* J. Phys. Chem. C **115**, 19149-19157 (2011)

2011LHa A.F.G. Leontowich and A.P. Hitchcock, *Zone Plate Focused Soft X-ray Lithography*, Applied Physics A: Materials Science and Processing **103** 1-11 (2011)

2011LHb J.R. Lawrence and A.P. Hitchcock, *Synchrotron-based X-ray and FTIR absorption spectromicroscopies of organic contaminants in the environment*. Chapter 14 in: *Biophysico-Chemical Processes of Anthropogenic Organic Compounds in Environmental Systems*. (2011) 341-368, B.N. Xing, N. Senesi, and P.M. Huang (eds) (International Union of Pure and Applied Chemistry Books Series, John Wiley & Sons)

2011LHc A.F.G. Leontowich and A.P. Hitchcock, *Measurement of the point spread function of a soft X-ray microscope by single pixel exposure of photoresists*, in Damage to VUV, EUV, and X-ray Optics, L. Juha, ed. Proc. SPIE Vol. 8077 (**2011**) 80770N-80770N-8.

2011LM&a R.S.K. Lam, R. A. Metzler, P.U.P.A. Gilbert, E. Beniash, *Anisotropy of chemical bonds in collagen studied by X-ray Near-Edge Structure (XANES) spectroscopy*.ACS Chemical Biology **7**, 476–480 (20112) doi 10.1021/cb200260d

2011LM&b J. Li, M.A.J. Mazumder, H.D.H. Stöver, A. P. Hitchcock and I.M. Shirley, *Studies on Polyurea Microcapsules: Surface Modifications and Capsule Size Control*, J. Polym. Sci. Part A Polym Chem **49** 3038–3047 (2011).

2011LM&c A. Locatelli, T.O. Menteş, M.Á. Niño, and E. Bauer; *Image blur and energy broadening effects in XPEEM,* Ultramicroscopy, **111**, 1447-1454 (2011)

2011LN&d Lepadatu, S., Mihai, A.P., Claydon, J.S., Maccherozzi, F., Dhesi, S.S., Kinane, C.J., Langridge, S., Marrows, C.H., *The increase of the spin-transfer torque threshold current density in coupled vortex domain walls.* J. Phys.: Condens. Matter 24, 024210 (2011).

2011LP& Li, J., J.S. Park, C.A. Jenkins, E. Arenholz, A. Scholl, A. Tan, H. Son, H.W. Zhao, C. Hwang, Y.Z. Wu, and Z.Qiang. Qiu, "*Determination of the Fe magnetic anisotropies and the CoO frozen spins in epitaxial CoO/Fe/Ag(001)*," Physical Review B: **84**, 094447 (2011).

2011LR& S. Ladak, D.E. Read, T. Tyliszczak, W.R. Branford, and C.F. Cohen, "*Monopole defects and magnetic Coulomb blockade*," New Journal Physics **13**, 023023 (2011).

2011LS& J. L. Lou, H. W. Shiu, L. Y. Chang, C. P. Wu, Y.-L. Soo, and C.-H. Chen, *Preparation and Characterization of an Ordered 1-dodecanethiol Monolayer on Bare Si(111) Surface*, Langmuir **27**, 3436 (2011)

2011LTH A.F.G. Leontowich, T. Tyliszczak and A.P. Hitchcock, *Measurement of the point spread function of a soft X-ray microscope by single pixel exposure of photoresists*, in Damage to VUV, EUV, and X-ray Optics, L. Juha, ed. Proc. SPIE **8077** N1-N8 (2011)

2011MA& Moore JR, Albert-Seifried S, Rao A, Massip S, Watts B, Morgan DJ, et al., *Polymer blend solar cells based on a high-mobility naphthalenediimide-based polymer acceptor: Device physics, photophysics and morphology*, Advanced Energy Materials. **1,** 230-240 (2011).

2011MC& P.Marmorato , G.Ceccone, A.Gianoncelli, . Pascolo, J.Ponti, F. Rossi, M. Salomé, B.Kaulich and Maya Kiskinova. *Cellular distribution and degradation of cobalt ferrite nanoparticles in Balb/3T3 mouse fibroblasts,* Toxicology Lett. **207** 128– 136, (2011).

2011MJ& Z. Martín, I. Jiménez, M.A. Gómez –Fatou, M.M. West and A.P. Hitchcock, *Interfacial Interactions in Polypropylene-Organoclay-Elastomer nanocomposites: influence of polar modifications on the location of the clay*, Macromolecules **44**, 2179-2189 (2011).

2011MK& Marcham, M.K., Keatley, P.S., Neudert, A., Hicken, R.J., Cavill, S.A., Shelford, L.R., Laan, G. van der, Telling, N.D., Childress, J.R., Katine, J.A., Shafer, P., Arenholz, E., *Phase-resolved x-ray ferromagnetic resonance measurements in fluorescence yield*. J. Applied Physics **109,** 07D353 (2011)

2011ML& Meng, Y., J. Li, A. Tan, E. Jin, J. Son, J.S. Park, A. Doran, A.T. Young, A. Scholl, E. Arenholz, J. Wu, C. Hwang, H.W. Zhao, and Z.Qiang. Qiu, "*Element-specific study of epitaxial NiO/Ag/CoO/Fe films grown on vicinal Ag(001) using Photoemission Electron Microscopy*," Applied Physics Letters **98**, 212508 (2011).

2011MM&a G. E. Mitchell, B. Mickols, D. Hernández-Cruz and A.P. Hitchcock, *Unexpected new phase detected in FT30 type reverse Osmosis Membranes using scanning transmission x-ray microscopy*, Polymer **52** 3956-3962 (2011)

2011MM&b J. Miot, K. Maclellan, K. Benzerara, N. Boisset, *Preservation of protein globules and peptidoglycan in the mineralized cell wall of nitrate-reducing, iron(II)-oxidizing bacteria: a cryo-electron microscopy study*, Geobiology **9**, 459-470 (2011)

2011MM&c K.S.R. Menon, S. Mandal, J. Das, T.O. Menteş, M.Á. Niño, A. Locatelli, and R. Belkhou, *Surface antiferromagnetic domain imaging using low-energy unpolarized electrons,* Phys. Rev. B 84, 132402 (2011)

2011MM&d A. Mascaraque, T. O. Menteş, K.F. McCarty, J.F. Marco, A.K. Schmid, A. Locatelli, J. de la Figuera, *Valence band circular dichroism in non-magnetic Ag/Ru(0001) at normal emission,* J. Phys.: Condens. Matter **23**, 305006 (2011).

2011MM&e Mandal, S., Menon, K.S.R., Maccherozzi, F., Belkhou, R.. *Microscopic investigation of surface and interfacial magnetic domain structure ofFe–NiO(1 0 0) system*. J. Phys. D: Appl. Phys. **44**, 255003 (2011)

2011MM&f Mandal, S., Menon, K., Maccherozzi, F., Belkhou, R. *Surface spin orientation of NiO(100) and interfacial coupling of Fe/NiO(100) revisited with soft X-ray spectromicroscopy* EPL (Europhysics Letters) **95** 27006 (2011)

2011MNL T.O. Menteş, M.Á. Niño, A Locatelli, *Spectromicroscopy with Low-Energy Electrons: LEEM and XPEEM Studies at the Nanoscale,* J. Surface Science and Nanotechnology, **9**, 72-79 (2011)

2011MP& E. Miniussi, M. Pozzo, A. Baraldi, E. Vesselli, R. R. Zhan, G. Comelli, T.O. Menteş, M.Á. Niño, A. Locatelli, S. Lizzit, and D. Alf, *Thermal stability of corrugated epitaxial graphene grown on Re(0001),* Phys. Rev. Lett. 106, 216101 (2011).

2011MS&a T.O. Menteş, N. Stojic, A. Locatelli, L. Aballe, N. Binggeli, M.Á. Niño, M. Kiskinova, E. Bauer, *Stress engineering at the nanometer scale: Two-component adlayer stripes,* EPL (Europhysics Letters), **94** (3), 38003 (2011)

2011MS&b Meier R, Schindler M, Müller-Buschbaum P, Watts B, *Residual solvent content in conducting polymer-blend films mapped with scanning transmission x-ray microscopy*, Physical Review B **84** 174205 (2011).

2011N Ebrahim Najafi, *X-Ray and Electron Spectromicroscopy of Carbon Nanotube Systems*, McMaster Chemistry PhD thesis (May 2011)

2011NM& Nuevo, M., S.N. Milam, S.A. Sandford, B.T. De Greogrio, G.D. Cody, and A.L D. Kilcoyne, "*XANES analysis of organic residues produced from the UV irradiation of astrophysical ice analogs,"* Advances in Space Research **48**(6), 1126-1135 (2011).

2011NW& D. Nolle, M. Wiegand, G. Schütz and E. Goering, *High contrast magnetic and non-magnetic sample current microscopy for bulk and transparent samples using soft X-rays*, Microsc. Microanal. **17**, 834-842 (2011)

2011OA&a Ono K, Araki T, Yano M, Miyamoto N, Shoji T, Kato A, et al. *Element-specific magnetic domain imaging of (Nd, Dy)-Fe-B sintered magnets using scanning transmission x-ray microscopy* In: Vol. 47. IEEE Transactions on Magnetics. **47**, 2672-2675 (2011).

2011OA&b Ono K, Araki T, Yano M, Miyamoto N *Element-specific magnetic domain observation of (Nd, Dy)-Fe-B sintered magnet using scanning transmission X-ray microscopy,* Materia Japan. **50** 379-382 (2011).

2011OF& T. Ohigashi, H. Fujii, H., Usui, K., Namba, H., Mizutani, H., Takemoto, K., & Kihara, H. . *Development of Computer Tomography System for the Soft X-ray Microscope at Ritsumeikan University*. *AIP Conference Proceedings*, **1365**, 124–127 (2011).

2011OG& M. Obst, P. Grathwohl, A. Kappler, O. Eibl, N. Peranio, T. Gocht, *Quantitative high-resolution mapping of phenanthrene sorption to black-carbon particles*, Environmental Science and Technology **45**, 7314-7322 (2011)

2011PC& P.J. Pauzauskie, J. C. Crowhurst, M. A. Worsley, T. A. Laurence, A.L.D. Kilcoyne, Y.Wang, T.M. Wiley, K.S. Visbeck, S.C. Fakra, W.J. Evans, J.M. Zaug and J.H. Satcher, Jr. *Synthesis and characterization of a nanocrystalline diamond aerogel*, Proc. Nat. Acad. Sci. **108 8**550-8553 (2011) **(HI)**

2011PG&a D. Papineau, B.T. De Gregorio, G.D. Cody, J. O'Neil, A. Steele, R.M. Stroud, and M.L. Fogel, "*Young poorly crystalline graphite in the >3.8-Gyr-old Nuvvuagittuq banded iron formation,*" Nature Geoscience **4** 376-379 (2011). **(HI)**

2011PG&b L. Pascolo, A. Gianoncelli, B. Kaulich, C. Rizzardi, M. Schneider, C. Bottin, M. Polentarutti, M. Kiskinova, A. Longoni, M. Melato, "*Synchrotron soft X-ray imaging and fluorescence microscopy reveal novel features of asbestos body morphology and composition in human lung tissues*", Particle and Fibre Toxicology **8** 7: 1-11 (2011).

2011PW& C. J. Patridge, T.-L. Wu, G. Sambandamurthy, and S. Banerjee, *Colossal Above-Room-Temperature Metal—Insulator Switching of a Wadsley-type Tunnel Bronze*, Chem. Commun. **47,** 4484-4486 (2011)

2011RM& N. Rougemaille, F. Montaigne, B. Canals, A. Duluard, D. Lacour, M. Hehn, R. Belkhou, O. Fruchart, S. El Moussaoui A. Bendounan and F. Maccherozzi, *Artificial Kagome Arrays of Nanomagnets: A Frozen Dipolar Spin Ice*, Phys. Rev. Lett **106** 057209 (2011) **(HI)**

2011RV& J. Rhensius, C. A. F. Vaz, A. Bisig, S. Schweitzer, J. Heidler, H. S. Körner, A. Locatelli, M. A. Niño, M. Weigand, L. Méchin, F. Gaucher, E. Goering, L. J. Heyderman, and M. Kläui, *Control of spin configuration in half-metallic* $La_{0.7}Sr_{0.3}MnO_3$ *nano-structures,* Appl. Phys. Lett. **99**, 062508 (2011).

2011S J. Sedlmair, *Soft X-ray Spectromicroscopy of Environmental and Biological Samples*, Göttingen Series in X-ray Physics Vol 7, (Univeristy of Göttingen Press, 2011)

2011SB&a D. Susac, V. Berejnov, A.P. Hitchcock, and J. Stumper, *STXM Study of the Ionomer Distribution in PEM Fuel Cell Catalyst Layers*, ECS Transactions **41** 629 - 635 (2011)

2011SB&b D.K. Shuh, D.E. Bugaris, R. Copping, P-A. Glans, S.G. Minsian, T. Tyliszczak, S.A. Kozimor, and J.A. Ibers, "*Pentavalent and Tetravalent Uranium Selenides, Tl(3)Cu(4)USe(6) and Tl(2)Ag(2)USe(4): Syntheses, Characterization, and Structural Comparison to Other Layered Actinide Chalcogenide Compounds*," Inorganic Chemistry **5014**, 6656-6666 (2011).

2011SB&c Stewart, G., Bates, R., Blue, A., Clark, A., Dhesi, S.S., Maneuski, D., Marchal, J., Steadman, P., Tartoni, N., Turchetta, R., *Comparison of a CCD and an APS for soft X-ray diffraction.* J. Inst. 6, C12062–C12062 (2011)

2011SC& C.-L. Sun, C.-T. Chang, H.-H. Lee, J. Zhou, J. Wang, T.-K. Sham, W.-F. Pong, *Microwave-Assisted Synthesis of a Core-Shell MWCNT/GONR Heterostructure for the Electrochemical Detection of Ascorbic Acid, Dopamine, and Uric Acid*, ACS Nano **5**, 7788–7795 (2011)

2011SD& E. Strelcov, A. Davydov, U. Lanke, C. Watts and A. Kolmakov, *In Situ Monitoring of the Growth, Intermediate Phase Transformations and Templating of Single Crystal* VO_2 *Nanowires and Nanoplatelets,* ACS Nano **5** 3373-3384 (2011)

2011SG& Julia Sedlmair, Sophie-Charlotte Gleber, Semra Öztürk Mert, Michael Bertilson, Olov von Hofsten, Jürgen Thieme and Thomas Pfohl, *Imaging of Vascular Smooth Muscle Cells with Soft X-Ray Spectromicroscopy*, Microsc. Microanal. **17**, 991-1001 (2011)

2011SH&a M.M. van Schooneveld, J. Hilhorst, A.V. Petukhov, T. Tyliszczak, J. Wang, B.M. Weckhuysen, F.M.F. de Groot, E. de Smit, *Scanning transmission X-ray microscopy as a novel tool to probe photonic and colloidal crystals*, Small **7** 804-811 (2011)

2011SH&b Schmidt N, Hub C, Gnichwitz JF, Hieringer W, Hirsch A, Fink RH *Structure, morphology and interface properties of ultrathin SnTTBPP(OH)2-films adsorbed on Ag(100)*, Physical Chemistry Chemical Physics. **13**, 9839-9848 (2011).

2011SH&c Schuettfort T, Huettner S, Lilliu S, MacDonald JE, Thomsen L, McNeill CR, *Surface and bulk structural characterization of a high-mobility electron-transporting polymer*, Macromolecules. **44**, 1530 -1539 (2011).

2011SH&d Soman R, Hall J, Tutt H, Murray J, Holland D, Schmitt T, et al., Improving the spatial resolution of a soft X-ray Charge Coupled Device used for Resonant Inelastic X-ray Scattering, Journal of Instrumentation. **6** C11021 (2011)

2011SM& Sciascia C, Martino N, Schuettfort T, Watts B, Grancini G, Antognazza MR, et al., Sub-micrometer charge modulation microscopy of a high mobility polymeric n-channel field-effect transistor, Advanced Materials. **23**, 5086-5090 (2011).

2011SP& B.J. Schultz, C.J. Partridge, V. Lee, C. Jaye, P.S. Lysaght, C. Smith, J. Barnett, D.A. Fischer, D. Prendergast, S. Banerjee, *Imaging local electronic corrugations and doped regions in graphene*, Nature Communications **2** 372 (2011). **(HI)**

2011SS& J.P. Strachan, D.B. Strukov, J. Borghetti, J.J. Yang, G. Medeiros-Roberio, and R.S. Williams, "*The switching location of a bipolar memristor: chemical, thermal and structural mapping*," Nanotechnology **22**, 254015-1- (2011).

2011ST& T. Skála, N. Tsud, M.Á. Niño Orti, T.O. Menteş, A. Locatelli, K.C. Prince and V Matolín, *In situ growth of epitaxial cerium tungstate (100) thin films,* Phys. Chem. Chem. Phys, **13**, 7083 (2011)

2011TH& J.T. Turner, X. Huang, O. Krupin, K.A. Seu, D. Parks, S.D. Kevan, E. Lima, K. Kisslinger, I. McNulty, R. Gambino, S. Mangin, S. Roy, and P. Fischer, "X-ray diffraction microscopy of magnetic structures," Physical Review Letters **107**, 033904 (2011). **(HI)**

20111TI&a K. Takemoto, S. Ichise, Ohigashi, T., Namba, H., & Kihara, H.. *X-ray Imaging of Mucilaginous Sheath of Phytoplankton in Lake Biwa by Soft X-ray Microscope*. AIP Conference Proceedings, **1365**, 373–376 (2011).

2011TI&b K. Takemoto, S. Ichise, T. Ohigashi, H. Fujii, H. Ikegaya, H. Namba & H. Kihara, Soft X-ray Imaging of Pico- and Nano-Phytoplankton, Jap. J. Water Treatment Biology **47** 131-135 (2011) (in Japanese)

2011TK& K. Takemoto, M., Kimura, Usui, K., Ohigashi, T., Fujii, H., Nakanishi, K., Namba, H., & Kihara, H.. *Observations of Biological Specimens at Cryo-Temperatures with Soft X-ray Microscope at the SR Center of Ritsumeikan University*. AIP Conference Proceedings, **1365**, 419–422 (2011).

2011TL& Y. Tang, Y.S. Li, C.Z. Zhang, J. Wang, Q. Yang and A. Hirose, *Synthesis of cobalt/diamond-like carbon thin films by biased target ion beam deposition*, Diamond and Related Materials **20**, 538-541 (2011)

2011TM& A.Tripathi, Jyoti Mohanty, Sebastian H. Dietze, Oleg G. Shpyrko, Erik Shipton, Eric E. Fullerton, Sang Soo Kim and Ian McNulty, *Dichroic coherent diffractive imaging* Proc. Nat. Acad. Sci. **108**, 13393-13398(2011) **(HI)**

2011TN& K. Takemotoa, I. Narumi, Satoh, K., Ohigashi, T., Namba, H., & Kihara, H. . *New Approach for X-ray Microimaging of Live Cells in the Carbon Window at Subzero Temperatures with the Use of Antifreeze*. AIP Conference Proceedings, **1365**, 415–418 (2011).

2011TS& S. Takahama, R.E. Schwartz, L.M. Russell, A.M. Macdonald, S. Sharma, and W.R. Leaitch, *"Organic functional groups in aerosol particles from burning and non-burning forest emissions at a high-elevation mountain site,"* Atmospheric Chemistry and Physics **11**, 6367-6386 (2011).

2011US& M. Uchida, Y. Sun, G. McDermott, C. Knoechel, M.A. Le Gros, D. Parkinson, D.G. Drubin, C.S. Larabell, C.A. *Quantitative analysis of yeast internal architecture using soft X-ray tomography* Yeast **28**, 227-236 (2011)

2011VD& A. Vogel, A. Drews, M. Im, P. Fischer, and G. Meier, "Finite Size Effect on Spread of Resonance Frequencies in Arrays of Coupled Vortices," IEEE Transactions on Magnetics **47**(6), 1610 (2011).

2011VK&a A. Vogel, T. Kamionka, M. Martens, A. Drews, K.W Chou, T.. Tyliszczak, H. Stoll, B.. Van Waeyenberge, and G.. Meier, "*Coupled Vortex Oscillations in Spatially Separated Permalloy Squares*," Phys. Rev. Lett. **106**, 137201-1-4 (2011). **HI**

2011VK&b Vasko, S., A. Kapetanovic, V. Talla, M.D. Brasino, Z. Zhu, A. Scholl, J.D. Torrey, and M. Rolandi, "*Serial and parallel Si, Ge, and SiGe direct-write with scanning probes and conducting stamps*," Nano Letters **11**, 2386-2389 (2011).

2011VR& C.A.F. Vaz, J. Rhensius et al, *Spin configurations in* $Co_2FeAl_{0.4}Si_{0.6}$ *Heusler alloy thin film elements* App. Phys. Lett. **99** 182510-(103) (2011)

2011VT& G. van der Laan, N. D. Telling, A. Potenza, S. S. Dhesi, and E. Arenholz , *Anisotropic x-ray magnetic linear dichroism and spectromicroscopy of interfacial Co/NiO(001)* Physical Review B **83**, 064409, (2011)

2011VW& A. Vogel, S. Wintz, T. Gerhardt, L. Bocklage, T. Strache, M. Im, P. Fischer, J. Fassbender, J. McCord, and G. Meier, "*Field- and current-induced domain-wall motion in permalloy nanowires with magnetic soft spots,*" Applied Physics Letters **98**(20), 202501 (2011). (

2011WC&a D. H. Wei, Y.-L. Chan, Y.-J. Hung, C.-H. W., Y.-C. Lin, Y.-L. Lai, H.-T. Chang, C.-H. Lee, and Y. J. Hsu, "*Magnetic Disparities at the Interfaces of Co-Pentacene-Co Hybrid Structures*", Synthetic Met. **161** , 581 (2011)

2011WC&b Wu, J., D. Carlton, J.S. Park, Y. Meng, E. Arenholz, A. Doran, A.T. Young, A. Scholl, C. Hwang, H.W. Zhao, J. Bokor, and Z.Qiang. Qiu, *"Direct observation of imprinted antiferromagnetic vortex state in* CoO/Fe/Ag(001) disks," Nature Physics 7(4), 303-306 (2011).

2011WD& Wang, H., Dhesi, S.S., Maccherozzi, F., Cavill, S., Shepherd, E., Yuan, F., Deshmukh, R., Scott, S., van der Laan, G., Sawhney, K.J.S., *High-precision*

soft x-ray polarimeter at Diamond Light Source. Review of Scientific Instruments 82, 123301 (2011)

2011WH&a N. Wu, X. He, A.L. Wysocki, U. Lanke, T. Komesu, K.D. Belashchenko, C. Binek and P.A. Dowben, *Imaging and control of surface magnetization domains in a magnetoelectric antiferromagnet*, Physical Review Letters **106** 087202-(1-4) (2011). **HI**

2011WH&b J.Wang, A.P. Hitchcock, C. Karunakaran, A. Prange, B. Franz, T. Harkness, Y. Lu, M. Obst and J. Hormes, *3D Chemical and Elemental Imaging by STXM Spectro-Tomography* Proceedings of XRM2010, Am. Inst. Phys. Conference Series **1365**, 215-218. (2011)

2011WJ& B. Y. Wang, N. Y. Jih, W. C. Lin, C. H. Chuang, P. J. Hsu, C. W. Peng, Y. C. Yeh, Y. L. Chan, D. H. Wei, W. C. Chiang, and M.-T. Lin, "*Driving Magnetization Perpendicular by Antiferromagnetic-ferromagnetic Exchange Coupling*", Phys. Rev. B 83 , 104417 (2011)

2011WK& A. Won, M. Khan, S. Gustin, A. Akpawu, D. Seebun, T. Avis, B.O. Leung, A. P. Hitchcock and A. Ianoul, *Investigating the Effects of L- to D- Amino Acid Substitution and Deamidation on the Activity and Membrane Interactions of Antimicrobial Peptide Anoplin*, Biochimica et Biophysica Acta (BBA) – Biomembranes 1808 1592-1600 (2011)

2011WL&b C.-L. Wu, P.-W. Lee, Y.-C. Chen, L.-Y. Chang, C.-H. Chen, C.-W. Liang, P. Yu, Q. He, R. Ramesh, and Y.-H. Chu, "*Direct Spectroscopic Evidence of Charge Reversal at the Pb(Zr0.2Ti0.8) O3/La0.7Sr0.3MnO3 Heterointerface*", Phys. Rev. B **83** , 020103(R) (2011)

2011WM& R. Westerström, R., M.E. Messing, S. Blomberg, A. Hellman, H. Grönbeck, J. Gustafson, N.M. Martin, O. Balmes, R. van Rijn, J.N. Andersen, K. Deppert, H. Bluhm, Z. Liu, M.E. Grass, M. Hävecker, and E. Lundgren, *Oxidation and reduction of Pd(100) and aerosol-deposited Pd nanoparticles*, Phys. Rev. B **83**(11), 115440 (2011).

2011WSM B. Watts, T. Schuettfort and C.R.McNeill, C.R. *Mapping of domain orientation and molecular order in polycrystalline semiconducting polymer films with soft x-ray microscopy,* Advanced Functional Materials **21**, 1122-1131 (2011)

2011WS&a S. Wintz, T. Strache, M. Körner, M. Fritzsche, D. Markó, I. Mönch, R. Mattheis, J. Raabe, C. Quitmann, J. McCord, A. Erbe and J. Fassbender, *Direct observation of antiferromagnetically oriented spin vortex states in magnetic multilayer elements,* Appl. Phys. Lett. **98** 232511 (2011) [erratum: Appl. Phys. Lett. **99**, 149901 (2011)]

2011WS&b Wu, J., A. Scholl, E. Arenholz, C. Hwang, and Z.Qiang. Qiu, "*Construction of the magnetic phase diagram of FeMn/Ni/Cu(001) using Photoemission Electron Microscopy,*" IEEE Transactions on Magnetics **47**, 1631-1634 (2011).

2011WZ& J. Wang, J. Zhou, H. Fang, T.K. Sham, C. Karunakaran, Y.Lu, G. Cooper and A.P. Hitchcock, *Effect of humidity on individual SnO_2 coated carbon nanotubes studied by in situ STXM*, Proc. VUVX2010, J. Electron Spectrosc. Rel. Phenomena, special issue on Advances in VUVX Physics **184** 296–300 (2011)

2011YJ& Y.S. Yu, H. Jung, K-S. Lee, P. Fischer, and S-K. Kim, "*Memory-bit selection and recording by rotating fields in vortex-core cross-point architecture*," Applied Physics Letters **98**(5), 052507 (2011).

2011YK&a L Yang, CE Killian, M Kunz, N Tamura, and PUPA Gilbert. *Biomineral nanoparticles are space-filling.* R. Soc. Chem. - Nanoscale **3**, 603-609 (2011).

2011YK&b Yang, F., N. Kemik, A. Scholl, A. Doran, A.T. Young, M.D. Biegalski, H.M. Christen, and Y. Takamura, *"Correlated domain structure in perovskite oxide superlattices exhibiting spin-flop coupling*," Physical Review B **83**, 014417 (2011)

2011YL& Y.S. Yu, K.S. Lee, H. Jung, Y.S. Choi, M.W. Yoo, D.S. Han, M. Im, P. Fischer, and S.K. Kim, "*Polarization-selective vortex-core switching by tailored orthogonal Gaussian-pulse currents*," Physical Review B **83**(7), 174429 (2011).

2011YP& X.W. Yu, V.S. Pribiag, Y. Acremann, A.A. Tulapurkar, T. Tyliszczak, K.W. Chou, B. Brauer, Z.-P. Li, O.J. Lee, P.G. Gowtham, D.C. Ralph, R.A. Buhrman, and J. Stohr, "*Images of a Spin-Torque-Driven Magnetic Nano-Oscillator*," Phys. Rev. Lett. **106**(16), 167202 (2011). **(HI)**

2011ZA& V. Zelenaya, M. Ammann, A. Křepelováa M. Birrer, G.e Tzvetkov, M.G.C. Vernooij, J. Raabe and T. Huthwelker, *Direct observation of water uptake and release in individual submicrometer sized ammonium sulfate and ammonium sulfate/adipic acid particles using X-ray microspectroscopy*, J. Aerosol Science **42**, 38-51 (2011)

2011ZH& Zelenay V, Huthwelker T, Křepelov A, Rudich Y, Ammann M, *Humidity driven nanoscale chemical separation in complex organic matter*, Environmental Chemistry. **8,** 450-460 (2011).

2011ZL& W. Zhang, M. Lin, A. Winesett, O. Dhez, A.L. Kilcoyne, H.W. Ade, M. Rubinstein, K. Shafi, A. Ulman, D. Gersappe, R. Tenne, J. Sokolo, and H. L. Frisch, "*The use of functionalized nanoparticles as non-specific compatibilizers for polymer blends*," Polymers Advanced Technologies **22**(1), 65-71 (2011).

2011ZM&a V. Zelenay , R. Mooser, T. Tritscher , A. Krepelov , M. F. Heringa , R. Chirico, A. S. H. Prevot, E. Weingartner , U. Baltensperger , J. Dommen , B. Watts, J. Raabe , T. Huthwelker and M. Ammann, *Aging induced changes on NEXAFS fingerprints in individual combustion particles*, Atmos. Chem. Phys., **11**, 11777–11791, (2011)

2011ZM&b Zelenay V, Ammann M, Křepelová A, Birrer M, Tzvetkov G, Vernooij MGC, et al., *Direct observation of water uptake and release in individual submicrometer sized ammonium sulfate and ammonium sulfate/adipic acid particles using X-ray microspectroscopy*, Journal of Aerosol Science. **42,** 38-51(2011).

2011ZM&c Zelenay V, Monge ME, D'Anna B, George C, Styler SA, Huthwelker T, et al., *Increased steady state uptake of ozone on soot due to UV/Vis radiation* , Journal of Geophysical Research D: Atmospheres. **116,** D11301 (2011).

2011ZW&a J. Zhou, J. Wang, H. Fang, T.-K. Sham, *Structural variation and water adsorption of a SnO_2 coated carbon nanotube: a nanoscale chemical imaging study*, J. Mat. Chem. **21** 5944-5949 (2011)

2011ZW&b J.G. Zhou, J. Wang, C.L. Sun, J.M. Maley, R. Sammynaiken, T.K. Sham, W.F. Pong, *Nano-scale chemical imaging of a single sheet of reduced graphene oxide*, J. Mater. Chem. **21** 14622-14630 (2011)

2011ZX& J. Zhong, T. Xie, J. Deng, X. Sun, X. Pan, X. Bao, Z. Wu, *Direct observation and spectroscopy of nanoscaled carboxylated carbonaceous fragments coated on carbon nanotubes*, Chem. Commun. **47**, 8373-8375 (2011)

2012AO& Arora, S.K., O'Dowd, B.J., Nistor, C., Balashov, T., Ballesteros, B., Lodi Rizzini, A., Kavich, J.J., Dhesi, S.S., Gambardella, P., Shvets, I.V., *Structural and magnetic properties of planar nanowire arrays of Co grown on oxidized vicinal silicon (111) templates*. J.Applied Physics **111**, 07E342)2012).

2012AS& L.R. Aramburo, E. de Smit, M.M. van Schooneveld, A. Juhin, T. Yokosawa, A.M.J. van der Eerden, T. Tyliszczak, J. Wang, H.W. Zandbergen, F.M.F. de Groot and B.M. Weckhuysen, *X-ray Imaging of Zeolite Particles at the Nanoscale: Influence of Steaming on the State of Aluminum and the Methanol-To-Olefin Reaction*, Angew. Chem. **51**, 3616–3619 (2012)

2012B E. Bauer, *A brief history of PEEM*, J. Electron Spectrosc. Rel. Phenom, **185**, 314-322 (2012)

2012BA& B. Bozzini, M.K. Abyaneh, M. Amati, A. Gianoncelli, L.Gregoratti, B. Kaulich and M.Kiskinova, *Soft X-ray imaging and spectromicroscopy: new insights in chemical state and morphology of key components in operating fuel cells*, Chemistry – a European Journal **18**, 10196 – 10210 (2012).

2012BD& N.D. Bassim, B.T. DeGregorio, A.L.D. Kilcoyne, K. Scott, T. Chou, S. Wirick, G. Cody and R.M. Stroud, *Minimizing damage during FIB sample preparation of soft materials*, Journal of Microscopy, **245,** 288-301 (2012).

2012BE& Bennett, R.A.; Etman, H.A.; Eralp, T.; Held, G.; Mulley, J.S.; Sparkes, A.; Cavill, S.A.; Dhesi, S.S.*Chromium nanostructures formed by dewetting of heteroepitaxial films on W(100)* Physical Review B **86,** 045454 (2012)

2012BG&a B.Bozzini, A.Gianoncelli, B. Kaulich,C. Mele, M. Prasciolu and M. Kiskinova, *Electrodeposition of manganese oxide from eutectic urea/choline chloride ionic liquid: An in situ study based on soft X-ray spectromicroscopy and visible reflectivity*, J. Power Sources **211** 71-76 (2012)

2012BG&b B.Bozzini, A.Gianoncelli, B. Kaulich, M. Kiskinova, C. Mele and M. Prasciolu, *Corrosion of Ni in 1-butyl-1-methyl-pyrrolidinium bis (trifluoromethylsulfonyl) amide room-temperature ionic liquid: an in situ X-ray imaging and spectromicroscopy study*, Phys. Chem. Chem. Phys. **1**3, 7968–7974 (2011).

2012BH&a S. Bernard, B. Horsfield, H.-M. Schulz, R.Wirth, R. A. Schreiber, and N. Sherwood, *Geochemical evolution of organic-rich shales with increasing maturity: A STXM and TEM study of the Posidonia Shale (Lower Toarcian, northern Germany),* Marine and Petroleum Geology, **31**, 70 – 89 (2012)

2012BH&b C. Bittencourt, A. P. Hitchcock, X. Ke, G. Van Tendeloo, C. P. Ewels and P. Guttmann, *X-ray absorption spectromicroscopy of a thin graphite flake: Imaging and electronic structure via the carbon K-edge*, Beilstein Journal of Nanotechnology **3**, 345-350 (2012)

2012BH&c Burkhardt, M.H., M. Hossain, S. Sarkar, Y.-D. Chuang, A.G. Cruz Gonzalez, A. Doran, A. Scholl, A.T. Young, N. Tahir, Y.J. Choi, S.-W. Cheong, H.A. Dürr, and J. Stohr, "*Imaging the First-Order Magnetic Transition in $La_{0.35}Pr_{0.275}Ca_{0.375}MnO_3$,*" Physical Review Letters **108**, 237202 (2012) **HI**

2012BKM S.Behrens, A. Kappler, and M. Obst, *Linking environmental processes to the in situ functioning of microorganisms by high-resolution secondary ion mass spectrometry (NanoSIMS) and scanning transmission X-ray microscopy (STXM)*, Environmental Microbiology **14** 2851-2869 (2012)

2012BL&a K.B. Burke, E.J. Luber, N.P. Holmes, A.J. Murray, T. Warwick, J. Belcher, X. Zhou, D. Mitlin and P.C. Dastoor, *A knife-edge measurement of the beam profile of STXM 5.3.2.2 using a focussed ion beam milled metallic glas*s, J. Electron Spectrosc. Rel. Phenom, **185**, 453-457 (2012)

2012BL&b Blomberg S, Lundgren E, Westerstrom R, Erdogan E, Martin NM, Mikkelsen A, Andersen JN, Mittendorfer F, Gustafson J *Structure of the Rh2O3(0001) surface*. Surf. Sci. 606, 1416 (2012)

2012BM&a V. Berejnov, Z. Martin, M.M. West, S. Kundu, D. Bessarabov, J. Stumper D. Susac and A.P. Hitchcock, *Probing platinum degradation in polymer electrolyte membrane fuel cells by scanning transmission X-ray microscopy*, Phys. Chem. Chem. Phys. **14** 4835 – 4843 (2012)

2012BM&b E. Boulard, N. Menguy, A. L. Auzende, K. Benzerara, H. Bureau, D. Antonangeli, A. Corgne, G. Morard, J. Siebert, J. P. Perrillat, F. Guyot, and G. Fiquet, *Experimental investigation of the stability of Fe-rich carbonates in the lower mantle,* J. Geophysical Research 117, B02208-1-15 (2012)

2012BM&c Bali, R., Marchetto, H., Barcza, A., Blamire, M.G., Dhesi, S.S., *Direct imaging of spin relaxation in stepped α-Fe2O3/Ni81Fe19 bilayers using x-ray photoemission electron microscopy*. Appl. Phys. Lett. 101, 05240 (2012)

2012BS& V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *3D Chemical Mapping of PEM Fuel Cell Cathodes by Scanning Transmission Soft X-ray Spectrotomography*, ECS Transactions, **50** 361-368 (2012)

2012BW Buurmans, I. L. C. & Weckhuysen, B. M. *Heterogeneities of individual catalyst particles in space and time as monitored by spectroscopy*. Nat. Chem. **4**, 873–886 (2012). **(HI)**

2012BW&a S. Bernard, R. Wirth, A. Schreiber, H-M. Schulz, and B. Horsfield, "*Formation of nanoporous pyrobitumen residues during maturation of the Barnett Shale (Fort Worth Basin)*," International Journal of Coal Geology **103**, 3-11 (2012).

2012C Chang, R., "*Ambient Pressure XPS and STXM Study on Energy Materials*," doctoral dissertation, Shanghai Institute of Applied Physics, Shanghai , China, 2012, advisor Renzhong Tai & Zhi Liu

2012CA B.A. Collins and H. Ade, *Quantitative compositional analysis of organic thin films using transmission NEXAFS spectroscopy in an x-ray microscope*, J. Electron Spectrosc. Rel. Phenom, **185**, 119-128 (2012)

2012CB C. Cheng and W.E. Bailey, *Sub-micron mapping of Ghz magnetic susceptibility using scanning transmission x-ray microscopy*, Applied Physics Letters **101**, 182407 (2012).

2012CB&a V.S. Coker, J.M. Byrne, N.D. Telling, G. van der Laan, J.R. Lloyd, A.P. Hitchcock, J. Wang and R.A.D. Pattrick, *Characterisation of the dissimilatory reduction of Fe(III)-oxyhydroxide at the microbe – mineral interface: the application of STXM–XMCD*, Geobiology (2012) **10** 347-354 (2012)

2012CB&b E. Couradeau, K. Benzerara, E. Gerard, D. Moreira, S. Bernard, G.E. Brown, Jr, and P. Lopez-Garcia, "*An early-branching microbialite cyanobacterium forms intracellular carbonates*," Science **336**(6080), 459-462 (2012). **(HI)**

2012CC&a J. Ha, , S. Chae, K.W. Chou, T. Tyliszczak, and P.J.M. Monteiro, *Effect of polymers on the nanostructure and on the carbonation of calcium silicate hydrates: a scanning transmission X-ray microscopy study,* J. Mater. Sci. **47**(2), 976-989 (2012)

2012CC&b C.-H. Chen, C.-E. Cheng, C.-C. Hsu, M.-N. Chang, H. W. Shiu, and F. S.-S. Chien, *Local Interdiffusion at Buried TiN/Si Interfaces with Scanning Probes*, J. Phys. D- Appl. Phys. **45** , 215307 (2012)

2012CC&c B.A.Collins, , J.E. Cochran, H. Yan, E.H. Gann, C. Hub, R. Fink, C. Wang, T. Schuettfort, C.R. Neill, M.L. Chabinyc, and H.W. Ade, "*Polarized X-ray scattering reveals non-crystalline orientational ordering in organic films*," Nature Materials **11**, 536-543 (2012). **(HI)**

2012CC&d J.L. Carrascosaa, F.J. Chichóna, E.Pereiro, M.J. Rodríguez, J.J. Fernández, M. Esteban, S. Heimd, P. Guttmann, G. Schneider, Cryo X-ray nano-tomography of vaccinia virus infected cells, J. Struct. Biol. **177**, 202 (2012).

2012CF& W. Chao, P. Fischer, T. Tyliszczak, S. Rekawa, E. Anderson and P. Naulleau, *Real space soft x-ray imaging at 10 nm spatial resolution*, Optics Express **20**, 9777-9783 (2012).

2012CI& I. Christl, M. Imseng, E. Tatti, J. Frommer, C. Viti, L. Giovannetti and R. Kretzschmar, *Aerobic reduction of chromium(VI) by Pseudomonas corrugata 28: Influence of metabolism and fate of reduced chromium,* Geomicrobiology Journal **29**, 173 (2012).

2012CJ& Carlton, D., B.James. Lambson, A. Scholl, A. Young, P. Ashby, S. Dhuey, and J. Bokor, *"Investigation of Defects and Errors in Nanomagnetic Logic Circuits,"* IEEE Transactions on Nanotechnology **11**, 760-762 (2012)

2012CK X.M. Cheng and D.J. Keavney, *Studies of nanomagnetism using synchrotron-based x-ray photoemission electron microscopy (X-PEEM)*, Rep. Prog. Phys. 75, 026501 (2012)

2012CKB C. Cheng, K. Kaznatcheev, and W.E. Bailey, *Stochastic limits in synchronous imaging of sub-micron magnetization dynamics using scanning transmission x-ray microscopy*, J. Appl. Phys. **111**, 07E321 – 1-3 (2012).

2012CL& E.J.Clowney, M.A. LeGros, C.P. Mosley, F.G. Clowney, E.C. Markenskoff-Papadimitrio, M.J. Myllys, G. Barnea, C.A. Larabell, and S. Lomvardas, *Nuclear aggregation of olfactory receptor genes governs their monogenic expression*, Cell **151**, 724-737 (2012) **HI**

2012CM& Chopdekar, R.V., V. Malik, A. Fraile Rodriguez, L. Le Guyader, Y. Takamura, A. Scholl, D. Stender, C.W. Schneider, C. Bernhard, F. Nolting, and L.J. Heyderman, "*Spatially resolved strain-imprinted magnetic states in an artificial multiferroic*," Physical Review B: **86**, 014408 (2012).

2012CP&a F. Capotondi, E. Pedersoli, M. Kiskinova, AV Martin, M. Barthelmess and HN Chapman, *A scheme for lensless X-ray microscopy combining coherent diffraction imaging and differential corner holography* Optics Express,. **20** 25152 (2012)

2012CP&b A. P. Chandra, .L. Puskar, Darren J. Simpson, Andrea R. Gerson, *Copper and xanthate adsorption onto pyrite surfaces: Implications for mineral separation through flotation*, International Journal of Mineral Processing **114-117** 16-26. (2012)

2010CP&c Cavill, S.A., Potenza, A., Dhesi, S.S., *Ultrafast electron dynamics in GeSi nanostructure*s. Phys. Rev. B 85, 035421 (2012).

2012CW& J.-W. Chen, C.-L. Wang, H. W. Shiu, C.-Y. Lin, C.-S. Chang, F. S.-S. Chien, C.-H. Chen, Y.-C. Chen, and C.-L. Wu, *Graphene on Au-coated SiOx Substrate: Its Core-level Photoelectron Microspectroscopy Study*, Appl. Phys. Express **5** , 085101 (2012)

2012CZ& Cooling, N., X. Zhou, T.A. Sales, S.E. Sauer, S.J. Lind, K.C. Gordon, T.W. Jones, P. Dastoor, and W.J. Belcher, "*A study of the factors influencing the performance of ternary MEH-PPV:porphyrin:PCBM heterojunction devices: electronic effects in porphyrinoid ternary blend bulk heterojunction photovoltaic device*s," Solar Energy Materials and Solar Cells **98**, 308-316 (2012).

2012DC& A. Doran, M. Church, T. Miller, G. Morrison, A. T. Young and A. Scholl, *Cryogenic PEEM at the Advanced Light Source*, J. Electron Spectrosc. Rel. Phenom, **185**, 340-346 (2012)

2012FF P. Fischer and C.S. Fadley, *"Probing nanoscale behavior of magnetic materials with soft X-ray spectro-microscopy*," Nanotechnology **1**(1), 5-15 (2012).

2012FS&a A. Fernandez-Pacheco, L.E. Serrano-Ramon, T. Tyliszczak, K.W. Chou, R. Cordoba, A. Szkudlarek, L. O.' Brien, C. Kapusta, M.R. Ibarra, and J.M. De Teresa, *Correlation between the magnetic imaging of cobalt nanoconstrictions and their magnetoresistance response,*" Nanotechnology **23**, 105703 (2012).

2012FS&b Franchini C, Li F, Surnev S, Podloucky R, Allegretti F, Netzer FP *Tailor-made ultrathin manganese oxide nanostripes: 'magic widths' on Pd(11N) terraces* J. Phys. -Cond. Mat. **24**, 042001 (2012)

2012FS&c Folven, E., A. Scholl, A. Young, S.T. Retterer, J.Emiel. Boschker, T. Tybell, Y. Takamura, and J.K. Grepstad, *"Crossover from Spin-Flop Coupling to Collinear Spin Alignment in Antiferromagnetic/Ferromagnetic Nanostructures,*" Nano Letters **12**, 2386-2390 (2012).

2012FTG E. Folven, Y. Takamura and J.K. Grepstad, *X-PEEM study of antiferromagnetic domain patterns in $LaFeO_3$ thin films and embedded nanostructures*, J. Electron Spectrosc. Rel. Phenom, **185**, 381-388 (2012)

2012FZ& Franz T, Zabloudil J, Mittendorfer F, Gragnaniello L, Parteder G, Allegretti F, Surnev S, Netzer FP *Deformed Surface Oxides: Uncommon Structure of a (6 x 1) NiO Surface Oxide on Rh(111)* J. Phys. Chem. Lett. **3**, 186 (2012)

2012G PUPA Gilbert, *Polarization-dependent Imaging Contrast (PIC) mapping reveals nanocrystal orientation patterns in carbonate biominerals*. J. Electr. Spectrosc. and Rel. Phenom. **185**, 395-405 (2012)

2012GB& P. Guttmann, C. Bittencourt, S.Rehbein, P. Umek, X. Ke, G. Van Tendeloo, C.P. Ewels and G. Schneider, *Nanoscale spectroscopy with polarized X-rays by NEXAFS-TXM*, Nature Photonics **6** 25-29 (2012) **HI**

2012GH& M.G. Gottwald, M. Hehn, D. Lacour, T. Hauet, F. Montaigne, C. Bellouard, S. Mangin, P. Fischer, M. Im, and A. Berger, *Asymmetric magnetization reversal in dipolar-coupled spin valve structures with perpendicular magnetic anisotropy*,"\ Physical Review B **85**(6), 064403 (2012).

2012GK& M.A. Le Gros, C.G. Knoechel, M. Uchida, D.Y. Parkinson, G. McDermott, and C.A. Larabell, Comprehensive Biophysics, Vol 2, *Biophysical Techniques for Characterization of Cells.Petra Schwille,* in Visualizing sub-cellular organization using soft X-ray tomography, Edward H. Egelman, ed (Oxford Academic Press Oxford), 90-110. (2012)

2012GK&a YUT Gong, CE Killian, IC Olson, NP Appathurai, AL Amasino, MC Martin, LJ Holt, FH Wilt, PUPA Gilbert. *Phase Transitions in Biogenic Amorphous Calcium Carbonate.* Procs. Natl. Acad. Sci. USA **109**, 6088-6093 (2012) **HI**

2012GK&b M.A. Le Gros, C.G. Knoechel, M. Uchida, D.Y. Parkinson, G. McDermott, and C.A. Larabell, *Visualizing Sub-cellular Organization Using Soft X-ray Tomography,* Comprehensive Biophysics **2**, 90-110 (2012)

2012GK&c Grånäs E, Knudsen J, Schröder UA, Gerber T, Busse C, Arman MA, Schulte K, Andersen JN, Michely T, *Oxygen intercalation under graphene on Ir(111): Energetics, kinetics, and the role of graphene edges*., ACS Nano **6**, 9951 (2012)

2012GK&d Grönbeck H, Klacar S, Martin NM, Hellman A, Lundgren E, Andersen JN *Mechanism for reversed photoemission core-level shifts of oxidized Ag*. Phys. Rev. B 85**,** 115445 (2012)

2012GLO H.M.Ghomi, U.D. Lanke, A.G. Odeshi, *X-ray photoemission electron microscopic study of transformed shear bands in AISI 4340 steel*, Canadian Metallurgical Quarterly **51**, 202-209.(2012)

2012GM& Gragnaniello L, Ma T, Barcaro G, Sementa L, Negreiros FR, Fortunelli A, Surnev S, Netzer FP, *Ordered arrays of size-selected oxide , nanoparticles*. Phys. Rev. Lett. **108**, 195507 (2012) **HI**

2012GP& A.E. Goode, J.M Perkins, A. Sandison, C. Karunakaran, H. Cheng, D. Wall, J.A. Skinner, A.J. Hart, A.E. Porter, D.W. McComb and M.P. Ryan, *Chemical speciation of nanoparticles surrounding metal-on-metal hips*, Chem. Commun. **48** 8335-8337 (2012)

2012H A.P. Hitchcock, *Soft X-ray Imaging and Spectromicroscopy* Chapter 22 in Volume II (Methods) of the Handbook on Nanoscopy, eds. Gustaaf Van Tendeloo, Dirk Van Dyck and Stephen J. Pennycook (Wiley, **2012**) 745-791.

2012HA& He, Q., E. Arenholz, A. Scholl, Y. Chu, and R. Ramesh, "*Nanoscale characterization of emergent phenomena in multiferroics*," Current Opinion in Solid State & Material Sciences **16**, 216-226 (2012).

2012HB& Hossain, M., M.H. Burkhardt, S. Sarkar, H. Ohldag, Y.D. Chuang, A. Scholl, A.T. Young, A. Doran, D.S. Dessau, H. Zheng, J.F. Mitchell, H.A. Durr, and J. Stohr, *"Interplay between intrinsic and stacking-fault magnetic domains in bi-layered manganites,*" Applied Physics Letters **101**, 132402 (2012).

2012HC&a X. He, B. Collins, B. Watts, H. Ade and C.R. Mcneill, *Studying Polymer/Fullerene Intermixing and Miscibility in Laterally Patterned Films with X-Ray Spectromicroscopy*, Small **8**, 1920 (2012)

2012HC&b J. Ha, S. Chae, K.W. Chou, T. Tyliszczak, and P.J.M. Monteiro, *Effect of polymers on the nanostructure and on the carbonation of calcium silicate hydrates: a scanning transmission X-ray microscopy study,* J. Mater. Sci. **47**, 976-989 (2012

2012HK&a Y. Henneberry, TEC Kraus, PS Nico and WR Horwarth, *Structural stability of coprecipitated natural organic matter and ferric iron under reducing conditions*. Org. Geochem. **48**, 81-89 (2012).

2012HK&b E. Hanssen, C.G. Knoechel, M. Dearnley, W.A. Dixon, M.A. Le Gros, C.A. Larabell, and L.M. Tilley, *Soft X-ray microscopy analysis of cell volume and hemoglobin content in erythrocytes infected with asexual and sexual stages of Plasmodium falciparum,* J. Struct. Biol. **177**(2), 224-232 (2012)

2012HL& A.P. Hitchcock, B.O. Leung, J.L. Brash, A. Scholl and A. Doran, *Soft X-ray spectromicroscopy of protein interactions with phase segregated polymer surfaces*, chapter 34 in *Proteins at Interfaces III State of the Art*, T. Horbett, J.L. Brash and W. Norde, eds,. (American Chemical Society, Washington USA, **2012**) 732-760

2012HO& A.P. Hitchcock, M. Obst, J. Wang, Y.S Lu and T. Tyliszczak, *Advances in the detection of As in environmental samples using low energy X-ray fluorescence in a scanning transmission X-ray microscope: Arsenic immobilization by an Fe(II)-oxidizing freshwater bacteria*, Environmental Science and Technology **46** 2821–2829 (2012)

2012HP& Holcomb, M.B., S. Polisetty, A. Fraile-Rodriguez, V. Gopalan, and R. Ramesh, *"Investigating electric field control of magnetism with neutron scattering, nonlinear optics and synchrotron x-ray spectromicroscopy*," Intl J. Modern Physics B **26**, 1230004 (2012)

2012HR&a B.P. von der Heyden, A.N. Roychoudhury, T.N. Mtshali,, T. Tyliszczak, and S. Myneni, *Chemically and Geographically Distinct Solid-Phase Iron Pools in the Southern Ocean*, Science **338**, 1199-1201 (2012). **(HI)**

2012HR&b J. Heidler, J. Rhensius, C. A. F. Vaz, P. Wohlhüter, H. S. Körner, A. Bisig, S. Schweitzer, A. Farhan, L. Méchin, L. Le Guyader, F. Nolting, A. Locatelli, T. O. Menteş, M. Á. Niño, F. Kronast, L. J. Heyderman, and M. Kläui, *Control of the magnetization in pre-patterned half-metallic La0.7Sr0.3MnO3 nanostructures* J. Appl. Phys. **112**, 103921 (2012).

2012HR&c M .Holler, J. Raabe; Diaz, A.; Guizar-Sicairos, M.; Quitmann, C.; Menzel, A.; Bunk, O. *An Instrument for 3D X-Ray Nano-Imaging*. Review of Scientific Instruments **83** 073703 (2012).

2012HS&a J. Hilhorst, M. M. van Schooneveld, J. Wang, E.de Smit, T. Tyliszczak, J.Raabe, A.P. Hitchcock, M. Obst, F.M. F. de Groot, and A.V. Petukhov, *Three dimensional structure and defects in colloidal photonic crystals revealed by tomographic scanning transmission X-ray microscopy*, Langmuir **28** 3614–3620 (2012)

2012HS&b R.J. Hopkins, Y. Desyaterik, A.V. Tivanski, R.A. Zaveri, C.M. Berkowitz, T. Tyliszczak, M.K. Gilles, and A. Laskin, *Chemical Speciation of Sulfur in Marine Cloud Droplets and Particles: Analysis of Individual Particles from Marine Boundary Layer over the California Current*, J. GeoPhys. Res. Atmospheres**113**, D04209 (2008).

2012HS&c N. Huang, D. Schlesinger, D. Nordlund, C. Huang, T. Tyliszczak, T.M. Weiss, Y.M. Acremann, L.G.M. Petterson, and A. Nilsson, *Microscopic probing of the size dependence in hydrophobic solvation,* J. Chem. Phys. **136**, 074507 (2012)

2012HV&c J.-Y. Hong, Y.-M. Chang, C.-H. Chuang, K.-S. Li, Y.-C. Jhang, H.-W. Shiu, C.-H. Chen, W.-C. Chiang, and M.-T. Lin, "*Depth Profiling Photoelectron-spectroscopic Study of an Organic Spin Valve with a Plasma-modified Pentacene Spacer*, J. Phys. Chem. C **116** , 21157 (2012)

2012HW& M. Hjort Wallentin J, Timm R, Zakharov AA, Håkanson U, Andersen JN, Lundgren E, Samuelson L, Borgström MT, Mikkelsen A Surface chemistry, structure, and electronic properties from microns to the atomic scale of axially doped semiconductor nanowires, ACS Nano 6, 9679 (2012)

2012I R. Imbihl, *Chemical selforganization of composite catalysts during catalytic reactions*, J. Electron Spectrosc. Rel. Phenom, **185**, 347-355 (2012)

2012IA& Ishiwata, H., Y.M. Acremann, A. Scholl, E. Rotenberg, O. Hellwig, E. Dobisz, A. Doran, B.A. Tkachenko, A.A. Fokin, P.R. Schreiner, J.P. Dahl, R.K. Carlson, N. Melosh, Z.X. Shen, and H. Ohldag, "*Diamondoid coating enables disruptive approach for chemical and magnetic imaging with 10 nm spatial resolution*," Applied Physics Letters **101**, 163101 (2012).

2012IB& Im, M., L. Bocklage, G. Meier, and P. Fischer, "*Magnetic soft X-ray microscopy of the domain wall depinning process in permalloy magnetic nanowires*," Journal of Physics Condensed Matter **24**(2), 024203 (2012).

2012IF& M. Im, , P. Fischer, K. Yamada, T. Sato, S. Kasai, Y. Nakatani, and T. Ono, *Symmetry breaking in the formation of magnetic vortex states in a permalloy nanodisk*,"\ Nature Comm. **3**, 983 (2012). **(HI)**

2012JC& C.J. Johnson, P. Gilbert, M. Abrecht, K.L. Baldwin, R.E. Russell, J.A. Pedersen, J.M. Aiken and D. McKenzie, *Low Copper and High Manganese Levels in Prion Protein Plaques*, Viruses **5** 654-662 (2012).

2012JL& H. Jung, Y.-S. Lee, K.-S. Han, D.-S. Yu, M. Im, P. Fischer, and S.-K. Kim, "*Logic operations based on magnetic-vortex-state networks*," ACS Nano **6**(5), 3712-3717 (2012).

2012JS&a L. Ju, T. Sabergharesou, K.G. Stamplecoskie, M. Hegde, T. Wang, N.A. Combe, H. Wu, and P.V. Radovanovic, *Interplay between Size, Composition, and Phase Transition of Nanocrystalline Cr^{3+}-Doped $BaTiO_3$ as a Path to Multiferroism in Perovskite-Type Oxides*, J. Am. Chem. Soc. **134** 1136-1146 (2012)

2012JS&b Jenkins, C.A., A. Scholl, R. Kainuma, H.J. Elmers, and T. Omori, "*Temperature-induced martensite in magnetic shape memory Fe2MnGa observed by photoemission electron microscopy*," Applied Physics Letters **100**, 032401 (2012).

2012K Samanbir Kalarai, *Scanning Transmission X-ray Microscopy of Magnetotactic Bacteria* McMaster Chemistry & Chemical Biology, M.Sc. thesis (Sep 2012)

2012KB& M. Keiluweit, J. Bougoure, L.H. Zeglin, D.D. Myrold, P.K. Weber, J. Pett-Ridge, M. Kleber, and P.S. Nico, "*Nano-scale investigation of the association of microbial nitrogen residues with iron (hydr)oxides in a forest soil O-horizon* ," Geochim. Cosmochim. Acta **95**, 213-226 (2012).

2012KG& AR Konicek, DS Grierson, AV Sumant, TA Friedmann, JP Sullivan, PUPA Gilbert, WG Sawyer, RW Carpick. *Influence of surface passivation on the friction and wear behavior of ultrananocrystalline diamond and tetrahedral amorphous carbon thin films.* Physical Review B **85**, 155448 (2012)

2012KL& S. Kalirai, K.P. Lam, D. Bazylinski, U. Lins and A.P. Hitchcock, *Examining the chemistry and magnetism of magnetotactic bacterium Candidatus Magnetovibrio blakemorei strain MV-1 using soft X-ray scanning transmission X-ray microscopy,* Chemical Geology 300-**301** 14-23 (2012).

2012KM&a H.-K. Kim, C. Mattevi, M.R. Calvo, J.C. Oberg, L. Artiglia, S. Agnoli, C.F. Hirjibehedin, M. Chhowalla, and E. Saiz, *Activation Energy Paths for Graphene Nucleation and Growth on Cu* ACS Nano, **6**, 3614–3623 (2012).

2012KM&b L. Keeney, T. Maity, M. Schmidt, A. Amann, N. Deepak, *et al.* Room temperature ferroelectric and magnetic investigations and detailed phase analysis of Aurivillius phase Bi5Ti3Fe0.7Co0.3O15 thin films, J. Applied Physics **112 (5)**, 052010 (2012),

2012KO& T. Kinoshita, T. Ohkochi, H. Osawa, K. Arai, K. Fukumoto, T. Okuda, M. Kotsugi, T. Muro, T. Nakamura, T. Matsushita, *Status of pump-probe time-resolved photoemission electron microscopy at SPring-8*, J. Electron Spectrosc. Rel. Phenom, **185**, 389-394 (2012)

2012KP I.A. Kowalik, A. Persson, M.A. Niño, A Navarro-Quezada, B. Faina, A. Bonanni, T. Dietl, D. Arvanitis, *Element-specific characterization of heterogeneous magnetism in (Ga,Fe)N films*, Phys. Rev. B **85**, 184411 (2012)

2012KY& H. Kurihara, H. Yabuta, T. Kaneko, Y. Obayashi, Y. Takano, and K. Kobayashi, "*Characterization of organic aggregates formed by heating products of simulated primitive Earth atmosphere experiments*," Chemistry Letters **41**, 441-443 (2012).

2012L Adam F.G. Leontowich, *Tunable soft X-rays for patterning and lithography*, McMaster Chemistry & Chemical Biology PhD thesis (Aug 2012)

2012LA& S. Liu, L. Ahlm, D.A. Day, L.M. Russell, Y.L. Zhao, D.R. Gentner, R.J. Weber, A.H. Goldstein, M. Jaoui, J.H. Offenberg, T.E. Kleindienst, C. Rubitschun, J.D. Surratt, R.J. Sheesley, and S. Scheller, "*Secondary Organic Aerosol Formation from Fossil Fuel Sources Contribute Majority of Summertime Organic Mass at Bakersfield*," Journal of Geophysical Research: Atmospheres 1**17**, D00V26 (2012)

2012LD& J.R. Lawrence, J.J. Dynes, D.R. Korber, G.D.W. Swerhone, G.G. Leppard, *Monitoring the fate of copper nanoparticles in river biofilms using scanning transmission X-ray microscopy (STXM)*, Chemical Geology **329** 18-25 (2012)

2012LE& F. Luo, T. Eimuller, E.P. Amaladass, M.S. Lee, L.J. Heyderman, H.H. Solak, and T. Tyliszczak, *Element-Specific Hysteresis Loop Measurements on Individual 35 nm Islands with Scanning Transmission X-Ray Microscopy*, J.Nanoscience and Nanotechology **12**(3), 2484-2488 (2012).

2012LG& F. Liu, Y. Gu, J.W. Jung, W.H. Jo, and T.P. Russell, "*On the morphology of polymer-based photovoltaics*," J. Poly. Sci. Part B: Poly. Phys. **50** 1018 (2012)

2012LH&a B.O. Leung,. A.P. Hitchcock,. R.M. Cornelius. J.L. Brash, A. Scholl and A.Doran, *Using X-PEEM to study biomaterials: protein and peptide adsorption to a polystyrene-poly(methyl methacrylate)-b-polyacrylic acid blend*, J. Electron Spectrosc. Rel. Phenom. **185**, 406 -416 (2012)

2012LH&b A.F.G. Leontowich, A.P. Hitchcock, T. Tyliszczak, M. Weigand, J. Wang and C. Karunakaran, *Accurate dosimetry in scanning transmission X-ray microscopes via the cross-linking threshold dose of poly(methyl methacrylate),* J. Synchrotron Radiation **19**, 976-987 (2012)

2012LHa A.F.G. Leontowich and A.P. Hitchcock, *Experimental investigation of beam heating in a soft X-ray scanning transmission X-ray microscope*, Analyst **137** (2012) 370-375.

2012LHb A.F.G. Leontowich and A.P. Hitchcock, *Zone plate focused soft X-ray lithography for fabrication of nanofluidic devices*, Alternative Lithographic Technologies IV, and Direct-Write Mask-Less Lithography (ML2) symposia of SPIE 2012 (San Jose, Feb 14-16, 2012) SPIE **8323** , D-1 – D-11 (2012)

2012LHc A.F.G. Leontowich and A.P. Hitchcock, *Secondary electron deposition mechanism of carbon contamination,* J. Vacuum Science & Technology B **30** 030601:1-3 (2012).

2012LJ& Lambson, B.James., Z. Gu, D. Carlton, S. Dhuey, A. Scholl, A. Doran, A. Young, and J. Bokor, "*Cascade-like signal propagation in chains of concave nanomagnets*," Applied Physics Letters **100**, 152406 (2012).

2012LK&a L.Le Guyader, A. Kleibert, A. Fraile Rodríguez, S. El Moussaoui, A.a Balan, M. Buzzi, J. Raabe and F. Nolting, *Studying nanomagnets and magnetic heterostructures with X-ray PEEM at the Swiss Light Source*, J. Electron Spectrosc. Rel. Phenom, **185**, 371-380 (2012)

2012LK&b S.-C. Lin, C.-T. Kuo, X. Liu, L.-Y. Liang, C.-H. Cheng, C.-H. Lin, S.-J. Tang, L.-Y. Chang, C.-H. Chen, and S. Gwo, *Experimental Determination of Electron Affinities for InN and GaN Polar Surfaces*, Appl. Phys. Express **5** , 031003 (2012)

2012LM&a RSK Lam, RA Metzler, PUPA Gilbert, E Beniash. *Anisotropy of Chemical Bonds in Collagen Molecules Studied by X-ray Absorption Near-Edge Structure (XANES) Spectroscopy.*ACS Chemical Biology **7**, 476-480 (2012).

2012LM&b A. Laskin, R.C. Moffet, M.K. Gilles, J.D. Fast, R.A. Zaveri, B. Wang, P.A. Nigge, and J. Shutthanandan, "*Tropospheric chemistry of internally mixed sea salt and organic particles: Surprising reactivity of NaCl with weak organic acid*s," J. Geophysical Research **117**, D15302 (2012).

2012LS&a S. Liu, S., J.E. Shilling, C. Song, N. Hiranuma, R.A. Zaveri, and L.M. Russell, "*Hydrolysis of organonitrate functional groups in aerosol particles*," Aerosol Science and Technology **46**(12), 1359-1369 (2012).

2012LS& F. Lovis, T. Smolinsky, A.Locatelli, M.A. Nino, and R. Imbihl, *Chemical Waves and Rate Oscillations in the H2 + O2 Reaction on a Bimetallic Rh(111)/Ni Catalyst* J. Phys. Chem. C, **116**(6), 4083-4090 (2012)

2012LW& S. Ladak, S.K. Walton, K. Zeissler, T. Tyliszczak, D. Read, W.R. Branford, and L.F. Cohen,*"Disorder-independent control of magnetic monopole defect population in artificial spin-ice honeycombs*, New Journal Physics **14**, 045010 (2012).

2012MB& B.L. Mesler, K. Buchanan, M. Im, and P. Fischer, "*X-ray Imaging of Nonlinear Resonant Gyrotropic Magnetic Vortex Core Motion in Circular Permalloy Disks,*" J. Appl. Phys. **111**(7), 07D311 (2012).

2012MF&a G. McDermott, D.M. Fox, L.R. Epperly, M. Wetzler, A. Barron, M.A. Le Gros and C.A. Larabell, *Visualizing and quantifying cell phenotype using soft X-ray tomography*, BioEssays **34**(4), 320-327 (2012).

2012MF&b R.C. Moffet, H. Furutani, T. Roedel, T.R. Henn, P. Sprau, A. Laskin, M. Uematsu, and M.K. Gilles, "*Iron speciation and mixing in single aerosol particles from the Asian continental outflow,*" Journal of Geophysical Research. D. Atmospheres **117**, D07204 (2012).

2012ML T.Mentes and A. Locatelli, *Angle resolved XPEEM*, J. Electron Spectrosc. Rel. Phenom, **185**, 323-329 (2012)

2012ML&a G. McDermott, M.A. Le Gros, and C.A. Larabell, *Visualizing cell architecture and molecular location using soft x-ray tomography and correlated cryo-light microscopy*, Annu. Rev. Phys. Chem **63**, 225-239 (2012).

2012ML&b S.V. Murphy, R. Lim, P. Heraud, M. Cholewa, M.A. Le Gros, M.D. de Jong, D.L. Howard, D. Paterson, C. McDonald, A. Atala, G. Jenkin, and E.M. Wallace, *Human Amnion Epithelial Cells Induced to Express Functional Cystic Fibrosis Transmembrane Conductance Regulator*," PLOS ONE **7**(9), e46533 (2012).

2012ML&c C. Mathieu, B. Lalmi, T. O. Menteş, E. Pallecchi, A. Locatelli, S. Latil, R. Belkhou, and A. Ouerghi, *Effect of oxygen adsorption on the local properties of epitaxial graphene on SiC (0001),* Phys. Rev. B **86**, 035435 (2012).

2012MR& O. Moutanabbir, F. Ratto, S. Heun, K. Scheerschmidt, A. Locatelli, and F. Rosei, *Dynamic probe of atom exchange during monolayer growth,* Phys. Rev. B **85**, 201416 (2012)

2012MS&a M. Monti, B. Santos, A. Mascaraque, O. Rodríguez de la Fuente, M.A. Niño, T.O. Menteş, A. Locatelli, K.F. McCarty, J.F. Marco, and J. de la Figuera, *Oxidation pathways in bicomponent ultrathin iron oxide films,* J. Phys. Chem. C, 2012, **116**, 11539–11547 (2012).

2012MS&b M. Monti, B. Santos, A. Mascaraque, O.R. de la Fuente, M.A. Niño, T.O. Menteş, A. Locatelli, K.F. McCarty, J.F. Marco, J. de la Figuera, *Magnetism in nanometer-thick magnetite* Phys. Rev. B 85, 020404(R) (2012).

2012MU M. Masnadi and S. G. Urquhart, *Effect of Substrate Temperature on the Epitaxial Growth of Oriented n-Alkane Thin Films on Graphite*, Langmuir **28** 12493-12501 (2012).

2012MW& F. Macia, P. Warnicke, D. Bwdeau, M. Im, P. Fischer, D.A. Arena, and A.D. Kent, "*Perpendicular magnetic anisotropy in ultrathin Co|Ni multilayer films studied with ferromagnetic resonance and magnetic x-ray microspectroscopy*," J. Magn. Magn. Mater. **324**(22), 3629-3632 (2012).

2012MZ& H. Ming, H. Zhang, Z. Ma, H. Huang, S. Lian, Y. Wei, Y. Liu and Z. Kang, *Scanning transmission X-ray microscopy, X-ray photoelectron spectroscopy, and cyclic voltammetry study on the enhanced visible photocatalytic mechanism of carbon–TiO2 nanohybrids*, Applied Surface Science **258** 3846– 3853 (2012).

2012NN& R. Nechache, C. Nauenheim, U. Lanke, A. Pignolet, F. Rosei and A. Ruediger, *Coexistence of antiferromagnetic and ferromagnetic orders at remanent state in epitaxial multiferroic Bi_2FeCrO_6 nanostructures*, J. Phys.: Condens. Matter **24**, 142202-1-5 (2012)

2012NY T. Nakagawa and T. Yokoyama, *Laser induced threshold photoemission magnetic circular dichroism and its application to photoelectron microscope*, J. Electron Spectrosc. Rel. Phenom, **185**, 356-364 (2012)

2012O T. Ohigashi, *BL4U: Scanning Transmission X-ray Microscopy in the Soft X-ray Region*, UVSOR Annual report, 21 (2012)

2012OG IC Olson and PUPA Gilbert. *Aragonite crystal orientation in mollusk shell nacre may depend on temperature. The angle spread of crystalline aragonite tablets records the water temperature at which nacre was deposited by Pinctada margaritifera.* Faraday Discuss. **159**, 421-432 (2012).

2012OH&a O. Sandig, J. Herrero-Albillos, F.M. Römer, N. Friedenberger, J. Kurde, T. Noll, M. Farle, F. Kronast, *Imaging magnetic responses of nanomagnets by XPEEM*, J. Electron Spectrosc. Rel. Phenom, **185**, 365-370 (2012)

2012OH&b R.C. Ogliore, G.R. Huss, K. Nagashima, A.L Butterworth,. Z. Gainsforth, J. Stodolna, , A.J. Westphal, D. Joswiak and T. Tyliszczak, *Incorporation of A late-forming chondrule into comet Wild 2*, Astrophysical Journal Letters **745** L19, (2012)

2012OK& IC Olson, R Kozdon, JW Valley, and PUPA Gilbert, *Mollusk Shell Nacre Ultrastructure Correlates with Environmental Temperature and Pressure.* J. Am. Chem. Soc. **134**, 7351-7358 (2012).

2012OS& J. Otona, C.O.S. Sorzano, E. Pereiro, J. Cuenca-Alba, R. Navarro, J.M. Carazo, R. Marabini, *Image formation in cellular X-ray microscop*y, J. Struct. Biol. **178**, 29 (2012).

2012PC&a Paz, E., F. Cebollada, F.J. Polomares, J.M. Gonzales, M. Im, and P. Fischer, "*Scaling of the coercivity with the geometrical parameters in epitaxial Fe antidot arrays*," J. Appl. Phys. **111**, 073908 (2012).

2012PC&b Parkes, D.E., Cavill, S.A., Hindmarch, A.T., Wadley, P., McGee, F., Staddon, C.R., Edmonds, K.W., Campion, R.P., Gallagher, B.L., Rushforth, A.W., *Non-volatile voltage control of magnetization and magnetic domain walls in magnetostrictive epitaxial thin films*. Appl. Phys. Lett. 101, 072402 (2012)

2012PF& M.A. Prusinkiewicz, F. Farazkhorasani, James J. Dynes, Jian Wang, Kathleen M. Gough and Susan G. W. Kaminskyj, *Proof-of-principle for SERS imaging of Aspergillus nidulans hyphae using in vivo synthesis of gold nanoparticles*, The Analyst **137** 4934-4942 (2012)

2012PG& Phillips, L.C., Ghidini, M., Moya, X., Maccherozzi, F., Dhesi, S.S., Mathur, N.D. Low-temperature transverse magnetic domains in nominally uniaxial La0.67Sr0.33MnO3 films on NdGaO3 (001). J. Phys. D: Appl. Phys. 46, 032002 (2012)

2012PK& D.Y. Parkinson, C.G. Knoechel, C. Yang, C.A. Larabell, and M.A. Le Gros, *Automatic alignment and reconstruction of images for soft X-ray tomography*, J. Struct. Biol. **177**(2), 259-266 (2012).

2012PO& C. Pantke, M. Obst, K. Benzerara, G. Morin, G. Ona-Nguema, U. Dippon and A. Kappler, *Green rust formation during Fe(II) oxidation by the nitrate-reducing Acidovorax sp. strain BoFeN1*. Environmental Science and Technology **46** 1439-1446 (2012)

2012PR& N.Pilet, J.Raabe, S.E Stevenson, S. R. L. Bernard, C.R McNeil, R. H Fink, H. J Hug and Christoph Quitmann, *Nanostructure characterization by a combined x-ray absorption/scanning force microscopy system*, Nanotechnology **23** 475708 (2012)

2012PS&a Piticharoenphun S, Siller L, Lemloh M-L, Salome M, Kaulich B, Gianoncelli A, Mendis BG, Bangert U, Poolton NRJ, Horrocks BR, Brummer F , *Agglomeration of Silver Nanoparticles in Sea Urchin,* Int. J. Environmental Pollution and Remediation, **1,** 46-52 (2012).

2012PS&b W. Pan, Y.-T. Shih, K.-L. Lee, W.-H. Shen, C.-W. Tsai, D.-H. Wei, Y.-L. Chan, and H.-C. Chang, "*Perpendicular Magnetic Anisotropy of Ni/Cu(001) Films with Surface Passivation*", J. Appl. Phys. **111** , 07C113 (2012)

2012PW& C. Pohlker, K.T. Wiedmann, B. Sinha, M. Shiraiwa, S.S. Gunthe, M. Smith, H. Su, P. Artaxo, Q. Chen, W. Elbert, M.K. Gilles, A.L. Kilcoyne, R.C. Moffet, M. Weigand, S.T. Martin, U. Poschl, and M.O. Andreae, "*Biogenic Potassium Salt Particles as Seeds for Secondary Organic Aerosol in the Amazon*," Science **337**(6098), 1075-1078 (2012). **(HI)**

2012PZ& Polisetty, S., J. Zhou, J. Karthik, A.R. Damodaran, D. Chen, A. Scholl, L.W. Martin, and M.B. Holcomb, "*X-ray linear dichroism dependence on ferroelectric polarization*," J.Physics: Condensed Matter **24**, 245902 (2012).

2012RB& D. Rossouw, G.A. Botton, E. Najafi, V. Lee and A.P. Hitchcock, *Metallic and Semiconducting Single-Walled Carbon Nanotubes: Differentiation individual SWCNT by their Carbon 1s Spectra*, ACS Nano **6,** 10965–10972, (2012)

2012RH& Remusat, L., P. Hatton, P.S. Nico, B. Zeller, M. Kleber, and D.M. Derrien, "NanoSIMS Study of Organic Matter Associated with Soil Aggregates: Advantages, Limitations, and Combination with STXM," Environ. Sci. Technol. **46**(7), 3943-3949 (2012).

2012SB& D. Susac, V. Berejnov, A.P. Hitchcock and J. Stumper, *STXM Characterization of PEM Fuel Cell Catalyst Layers*, ECS Transactions **50** 405-413 (2012)

2012SC& S. Wintz, C. Bunce, A. Banholzer, M. Koerner , T. Strach, R. Mattias, J. McCord, J. Raabe, C. Quitmann, A. Erbe and J. Fassbender *Interlayer-coupled spin vortex pairs and their response to external magnetic fields* Phys. Rev B **85**, 224420 (2012)

2012SE& JE Slota, E Elmalem, GL Tu, B Watts, JF Fang, PM Oberhumer, RH Friend and WTS Huck*, Oligomeric Compatibilizers for Control of phase Separation in Conjugated Polymer Blend Films*, Macromolecules **45**, 1468 (2012).

2012SG& G. Schneider. P.r Guttmann, S.n Rehbein, S. Werner and R. Follath, *Cryo X-ray microscope with flat sample geometry for correlative fluorescence and nanoscale tomographic imaging*, J. Struct. Bio. **177**, 212-223 (2012)

2012SH&a O. Sandig, J. Herrero-Albillos, F.M. Römer, N. Friedenberger, J. Kurde, T. Noll, M. Farle, F. Kronast, *Imaging magnetic responses of nanomagnets by XPEEM*, J. Electron Spectrosc. Rel. Phenom. **185**, 365-370 (2012)

2012SH&b Shelford, L.R., Hesjedal, T., Collins-McIntyre, L., Dhesi, S.S., Maccherozzi, F., van der Laan, G., *Electronic structure of Fe and Co magnetic adatoms on Bi_2Te_3 surfaces*. Phys. Rev. B **86**, 081304 (2012)

2012SK& N.D. Subramanian, C.S. Kumar, K. Watanabe, P. Fischer, R. Tanaka, and J.J. Spivey, "*A DRIFTS study of CO adsorption and hydrogenation on Cu-based core-shell nanoparticles*," Catalysis Science & Technology **2**(3), 621-231 (2012).

2012SL&a D. Solomon, J. Lehmann, J. Harden, J. Wang, J. Kinyangi, K. Heymann, C. Karunakaran, Y. Lu, S. Wirick, C. Jacobsen, *Micro- and nano-environments of carbon sequestration: I. Multi-element STXM-NEXAFS spectromicroscopy assessment of microbial carbon and mineral associations*, Chem. Geol. **329**, 53-73 (2012).

2012SL&b D. Solomon, J. Lehmann, J. Harden, J. Wang, J. Kinyangi, K. Heymann, C. Karunakaran, Y. Lu, S. Wirick, C. Jacobsen, *Micro- and nano-environments of C sequestration in soil: A multi-elemental STXM–NEXAFS assessment of black C and organomineral associations*, Science of the Total Environment **438**, 372–388 (2012).

2012SS& V. Sysoev, E. Strelcov, M. Sommer, M. Bruns, I. Kiselev, W. Habicht, S. Kar, L. Gregoratti, M. Kiskinova, A. Kolmakov, "*Single-nanobelt electronic nose: Engineering and tests of the simplest analytical element*", ACS Nano **4** 4487-4494 (2010).

2012SV& A. Stapleton, B. Vaughan, B. Xue, E. Sesa, K. Burke, X. Zhou, G. Bryant, O. Werzer, A. Nelson, A.L. Kilcoyne, L. Thomsen, E. Wanless, W.J. Belcher, and P. Dastoor, *"A Multilayered Approach to Polyfluorene Water-Based Organic Photovoltaics,*" **102**, 114-124 (2012)

2012SW&a T Schuettfort, B Watts, L Thomsen, M. Lee, H. Sirringhaus and CR Mcneill, *Microstructure of Polycrystalline PBTTT Films: Domain Mapping and Structure Formation,* ACS NANO **6**, 1849-1864 (2012).

2012SW&b C.M. Schneider, C. Wiemann, M. Patt, V. Feyer, L. Plucinski, I.P. Krug, M. Escher, N. Weber, M. Merkel, O. Renault, N. Barrett, *Expanding the view into complex material systems: From micro-ARPES to nanoscale HAXPES*, J. Electron Spectrosc. Rel. Phenom, **185**, 330-339 (2012)

2012SY& S. B. Singh, L. T. Yang, Y. F. Wang, Y. C. Shao, C. W. Chiang, J. W. Chiou, K. T. Lin, S. C. Chen, B. Y. Wang, C. H. Chuang, D. C. Ling, W. F. Pong, M.-H. Tsai, H. M. Tsai, C. W. Pao, H. W. Shiu, C. H. Chen, H.-J. Lin, J. F. Lee, H. Yamane, and N. Kosugi, *Correlation Between P-type Conductivity and Electronic Structure of Cr-deficient CuCr1−xO2 (x=0-0.1)*, Phys. Rev. B **86** 241103(R) (2012)

2012T Torres, R., "*Sistemas nanoestructurados basados en boro, carbono y nitrogeno.*," doctoral dissertation, Instituto de Ciencia de Materiales de Madrid - CSIC, Madrid, Spain, 2012, advisor Dr. Ignacio Jimenez.

2012TL& Tan, A., J. Li, C.A. Jenkins, E. Arenholz, A. Scholl, C. Hwang, and Z.Qiang. Qiu, "*Exchange bias in epitaxially grown CoO/MgO/Fe/Ag(001)*," Physical Review B **86**, 064406-064412 (2012).

2012VA& M. Vazquez, A. Asenjo, W.O. Rosa, I. Minguez, M. Hernandez-Velez, M. Im, and P. Fischer, "*Studies of the magnetization reversal processes in Co dot and antidot arrays on a microscopic scale,*" The Open Surface Science Journal **4**(1), 65-70 (2012).

2012VM& C.A.F. Vaz, C. Moutafis, C. Quitmann and J. Raabe, *Luminescence-based magnetic imaging with scanning x-ray transmission microscopy*, Applied Physics Letters **101**, 083114 (2012).

2012VN& A. Vogel, A. Niemann, c. Stenner, A. Drews, M. Im, P. Fischer, and G. Meier, "*Vortex dynamics in triangular-shaped confining potentials*," J. Appl. Phys. **112**, 063619 (2012).

2012WA B. Watts and A. Ade, *NEXAFS imaging of synthetic organic materials*, Materials Today **15**, 148-157 (2012)

2012WB& S. Wintz, C. Bunce, A. Banholzer, M. Koerner, T. Strache, M. Roland, J. McCord, , J.Raabe, C. Quitmann, A. Erbe and J. Fassbender, *Interlayer-coupled spin vortex pairs and their response to external magnetic fields*, Physical Review B **85,** 224420 (2012).

2012WC& B. Y. Wang, C. H. Chuang, S. S. Wong, J. J. Chiou, W. C. Lin, Y. L. Chan, D. H. Wei, and M.-T. Lin, "*Flipping Magnetization Induced by Noncollinear Ferromagnetic-antiferromagnetic Exchange Coupling*", Phys. Rev. B **85** , 094412 (2012)

2012WCH D.H. Wei, Yuet-Loy Chan, Yao-Jane Hsu, *Exploring the magnetic and organic microstructures with photoemission electron microscop*e, J. Electron Spectrosc. Rel. Phenom, **185**, 429-435 (2012)

2012WHM Syue-Ren Wu, Yeukuang Hwu and Giorgio Margaritondo, *Hard-X-ray Zone Plates: Recent Progress*, Materials, **5**, 1752-1773 (2012).

2012WH& U. Wiedwald, F. Haering, S. Nau, C. Schulze, H. Schletter, D. Makarov, A. Plettl, K. Kuepper, M. Albrecht, J. Boneberg and P. Ziemann, *Tuning the properties of magnetic thin films by interaction with periodic nanostructures*, Beilstein Journal of Nanotechnology **3**, 831-842 (2012).

2012WL& Wang, B., A. Laskin, T. Roedel, M.K. Gilles, R.C. Moffet, A.V. Tivanski, and D.A. Knopf, "*Heterogeneous ice nucleation and water uptake by field-collected atmospheric particles below 273 K*," J. Geophysical Research Atmospheres **117**(D21) (2012).

2012WMR B. Watts, C.R. McNeill and J.Raabe, *Imaging nanostructures in organic semiconductor films with scanning transmission X-ray spectro-microscopy*, Synthetic Metals, **161** 2516 – 2520 (2012)

2012WM& Wang, H., Maccherozzi, F., Dhesi, S. S., Sawhney, K. J. S. C*omplete polarization analysis of high energy soft x-rays by combining a multilayer phase retarder with crystal analyzer* Journal Of Applied Physics **111** 123117 (2012)

2012WS& S. Wintz, T. Strache, M. Korner, C. Bunce, A. Banholzer, I. Monch, R. Mattheis, J. Raabe, C. Quitmann, J. McCord, A. Erbe, K. Lenz and J. Fassbender, *Control of vortex pair states by post-deposition interlayer exchange coupling modification,* Phys. Rev. B **85**, 134417 (2012).

2012WSK Y. Wang, S. Singh, and P. Kruse*, Ordered nano-scale dimple pattern formation on a titanium alloy (Ti-6Al-4V)*, AIP Advances **2** 032101 (2012).

2012WTM S. Wall, D. Thien, F.-J. Meyer zu Heringdorf, *The interplay of topography and energy dissipation in pentacene thin films*, J. Electron Spectrosc. Rel. Phenom, **185**, 436-440 (2012)

2012WW&a Z. Wang, J. Wang, T.-K. Sham and S. Yang, *Tracking the interface of an individual ZnS/ZnO nano-heterostructure*, J. Phys. Chem. C **116** 10375-10381 (2012).

2012WW&b Z. Wei, J. Wang, H. Nichol, S. Wiebe and D. Chapman, *A median-Gaussian filtering framework for Moiré pattern noise removal from X-ray microscopy image,* Micron **43**170-176 (2012).

2012WW&c D. H. Wei, C.-H. Wang, H.-C. Chang, Y.-L. Chan, C.-H. Lee, and Y.-J. Hsu, "*Direct Imaging and Spectral Identification of the Interfaces in Organic Semiconductor-ferromagnet Heterojunction*", Appl. Phys. Lett. **101** , 141605 (2012)

2012YC& Yan, H., B.A. Collins, G. Eliot, C. Wang, H.W. Ade, and C.R. McNeill, "*Correlating the Efficiency and Nanomorphology of Polymer Blend Solar Cells Utilizing Resonant Soft X-ray Scattering* ," ACS Nano **6**(1), 677 (2012).

2012YS& Y. Yang, J.E. Saiers, N. Xu, S.G. Minasian, S.A. Kozimor, T. Tyliszczak, D.K. Shuh, and M.R. Barnett, *Impact of natural organic matter on uranium transport through saturated geologic materials: From molecular to column scale*, Environ. Sci. Technol. **46**(11), 5931-5938 (2012)

2012YT& L. Yang, J.R. Tumbleston, H. Zhou, H.W. Ade, and W. You, "*Disentangling the impact of side chains and fluorine substituents of conjugated donor polymers on the performance of photovoltaic blends*," Energy & Enviro.l Science **6**(1), 316-326 (2012)

2012YZ& Ye, L., S. Zhang, W. Ma, B. Fan, X. Guo, Y. Huang, H.W. Ade, and J. Hou, "*From Binary to Ternary Solvent: Morphology Fine-tuning of D/A Blends in PDPP3T-based Polymer Solar Cells*," Advanced Materials **24**(47), 6335-6341 (2012).

2012ZMA A.A. Zakharov, A.Mikkelsen, J.N. Andersen, *Recent advances in imaging of properties and growth of low dimensional structures for photonics and electronics by XPEEM*, J. Electron Spectrosc. Rel. Phenom, **185**, 417-428 (2012)

2012ZP& X. Zhang, T. Palamarciuc, P.k Rosa, J.-F. Létard, N. Wu, B. Doudin, Z.Z. Zhang, J. Wang, and P. A. Dowben, *The Electronic Structure of a Spin Crossover Molecular Adsorbate*, J. Phys. Chem. C **116** 23291-23296 (2012)

2012ZS& R.A. Zaveri, W.J. Shaw, D.J. Cziczo, R.A. Ferrare, M.L. Alexander, M. Alexandrov, W.P. Arnott, D.B. Atkinson, S. Baidar, R.M. Banta, J.C. Barnard, J. Beranek, L.K. Berg, F. Brechtel, W.A. Brewer, J.F. Cahill, B. Cairns, C.D. Cappa, D. Chand, S. China, J.M. Comstock, M.K. Dubey, R.C. Easter, M.H. Erikson, J.D. Fast, C. Floerchinger, B.A. Flowers, E. Fortner, J.S. Gaffney, M.K. Gilles, K. Gorkowski, W.I. Gustafson, M. Gyawali, J. Hair, R.M. Hardesty, J.M. Harworth, S. Herndon, N. Hiranuma, C. Hostetler, J.M. Hubbe, J.t. Jayne, H. Jeong, B.T. Jobson, E.I. Kassianov, L.I. Kleinman, C. Kluzek, B. Knighton, K.R. Kolesar, C. Kuang, A. Kubatova, A.O. Langford, A. Laskin, N. Laulainen, R.D. Marchbanks, C. Mazzoleni, F. Mei, R.C. Moffet, D. Nelson, M.D. Obland, B. Oetjen, T.B. Onasch, I. Ortega, M. Ottaviani, M. Pekour, K. Prather, J.G. Radney, R.R. Rogers, S.P. Sandberg, A. Sedlacek, C.J. Senff, G. Senum, A. Setyan, J.E. Shilling, M. Shrivastava, C. Song, S.R. Springston, B. Subramanian, K. Suski, J. Tomlinson, R. Volkamer, H.W. Wallace, J. Wang, A.M. Wickmann, D.R. Worsnop, X.Y. Yu, A. Zelenyuk, and Q. Zhang, "*Overview of the 2010 Carbonaceous Aerosols and Radiative Effects Study (CARES)* ," Atmospheric Chemistry and Physics **12**, 7647-7687 (2012)

2012ZW& H. Zhang, J. Wang, Y. Hu, X. Pan and X. Bao, *Local structure of titania decorated double-walled carbon nanotube characterized by scanning transmission X-ray microscopy*, J. Chem. Phys. **136**, 174701 (2012)

2013A P.A. Alpert, "*Characteristics of Aerosolized Ice FormingMarine Biogenic Particles,*" doctoral dissertation, Stony Brook University, Stony Brook, New York/USA, 2013, advisor Josephine Y. Aller and Daniel A. Knopf.

2013AL& L. Aramburo, Y.J. Liu, T. Tyliszczak, F.M. de Groot, J.C. Andrews, and B.M. Weckhuysen, *3D Nanoscale Chemical Imaging of the Distribution of Aluminum Coordination Environments in Zeolites with Soft X-Ray Microscopy*, *ChemPhysChem* **14**(3), 496-499 (2013)

2013AOL A.O. Adesola, A.G. Odeshi, U.D. Lanke, *The effects of aging treatment and strain rates on damage evolution in AA 6061 aluminum alloy in compression*, Materials and Design **45** , 212-221 (2013)

2013AM& A.P. Ault, R.C. Moffet, J. Baltrusaitis, D. Collins, M. Ruppel, L.A. Cuadra-Rodriguez, D. Zhao, T. Guasco, C. Ebben, F.M. Geiger, T. Bertram, K. Prather, and V.H. Grassian, "*Size-Dependent Changes in Sea Spray Aerosol Composition and Properties with Different Seawater Conditions*," Environ. Sci. Technol. **47**(11), 5603-5612 (2013).

2013AP& D. Alfè, M. Pozzo, E. Miniussi, S. Günther, P. Lacovig, S. Lizzit, R.Larciprete, B. Santos Burgos, T.O. Menteş, A. Locatelli, and A. Baraldi; *Fine tuning of graphene-metal adhesion by surface alloying*, Scientific Reports **3**, 2430 (2013) **HI**

2013AR&a J. Avila, I. Razado-Colambo, S. Lorcy, J-L. Giorgetta, F. Polack and M.C. Asensio, *Interferometer-controlled soft X-ray scanning photoemission microscope at SOLEIL*, J. Phys. Conf. Ser. **425** 132013 (2013)

2013AR&b J. Avila, I. Razado-Colambo, S. Lorcy, B. Lagarde, J.L. Giorgetta, F. Polack and M.C. Asensio *ANTARES, a scanning photoemission microscopy beamline at SOLEIL,* J. Phys. Conf. Ser. **425** 192023 (2013)

2013AS& L. Ahlm, K.M. Shakya, L.M. Russell, J.C. Schroder, J.P. Wong, S.J. Sjostedt, K.L. Hayden, J. Liggio, J.J. Wentzell, H.A. Wiebe, C. Mihele, W.R. Leaitch, and A.M. Macdonald, "*Temperature-dependent accumulation mode particle and cloud nuclei concentrations from biogenic sources during WACS 2010,*" Atmospheric Chemistry and Physics **12**, 3393-3407 (2013).

2013AT& L.R. Aramburo, S. Teketel, S. Svelle, S.R. Bare, B. Arstad, H.W. Zandbergen, U. Olsbye, F.M.F. de Groot, B.M. Weckhuysen, *Interplay between nanoscale reactivity and bulk performance of H-ZSM-5 catalysts during the methanol-to-hydrocarbons reaction*, Journal of Catalysis, **307** 185 (2013)

2013BA&a B. Bozzini, M Amati, A Gianoncelli, L Gregoratti, B Kaulich and M Kiskinova, *New Energy Sources: in-situ Characterisation of Fuel Cell and Supercapacitor Components*, J. Physics: Conference Series, **463**. 012018 (2013)

2013BA&b B. Bozzini, Amati M, Gregoratti L, Kiskinova M, *in-situ Photoelectron Microspectroscopy and Imaging of Electrochemical Processes at the Electrodes of a Self-driven Cell* , Scientific Reports **3**, 2848 (2013) **HI**

2013BB&a F. Bourdelle, K. Benzerara, O. Beyssac, J. Cosmidis, D.R. Neuville, G.E. Brown Jr. and E. Paineau, *Quantification of the ferric/ferrous iron ratio in silicates by scanning transmission X-ray microscopy at the Fe L-2,L-3 edges*, Contributions to Mineralogy and Petrology **166**, 423-434 (2013)

2013BB&b J.A Bartelt , Z.M Beiley , E.T. Hoke , W.R. Mateker , J.D. Douglas ,B.A Collins , J. R. Tumbleston , K.R. Graham , A.Amassian , H.Ade , J. M. J. Fréchet , M.F. Toney , and M.D. McGehee, *The Importance of Fullerene Percolation in the Mixed Regions of Polymer–Fullerene Bulk Heterojunction Solar Cells*, Advanced Energy Materials **3,** 364–374 (2013)

2013BE& M. Buhl, A. Erbe, J. Grebing, S. Wintz, .J Raabe and J. Fassbender, *Lateral spin transfer torque induced magnetic switching at room temperature demonstrated by x-ray microscopy*, Scientific Reports **3**, 2945 (2013) **HI**

2013BG&a B. Bozzini, A. Gianoncelli, P. Bocchetta, S. Dal Zilio and . Kourousias, *Fabrication of a Sealed Electrochemical Microcell for in Situ Soft X‑ray Microspectroscopy and Testing with in Situ Co-Polypyrrole Composite Electrodeposition for Pt-Free Oxygen Electrocatalysis,* Analytical Chemistry **86** 664-670 (2013).

2013BG&b B. Bozzini, A. Gianoncelli, C. Mele and M. Kiskinova , *Electrochemical fabrication of nanoporous gold decorated with manganese oxide nanowires from eutectic urea/choline chloride ionic liquid. Part II : Electrodeposition of Au -Mn: A study based on soft X-ray microspectroscopy* Electrochimica Acta **114** 889-896 (2013).

2013BG&c Bozzini B., Gianoncelli A., Kaulich B., Mele C., Prasciolu M., Kiskinova M., *In Situ Soft X-ray Microscopy Study of Fe Interconnect Corrosion in Ionic Liquid-Based Nano-PEMFC Half-Cells ,* Fuel Cells, **13** 196-202 (2013)

2013BJ& Baio, J. E., Jaye, C., Fischer, D. A., & Weidner, T. . Multiplexed Orientation and Structure Analysis by Imaging Near-Edge X-ray Absorption Fine Structure (MOSAIX) for Combinatorial Surface Science. *Analytical Chemistry*, **85** 4307–4310 (2013).

2013BL& Lili Bai, Jinyin Liu, Guanqi Zhao, Jing Gao, Xuhui Sun, and Jun Zhong, *Probing the electronic structure of graphene sheets with various thicknesses by scanning transmission X-ray microscopy,* Appl. Phys. Lett. **103**, 253110 (2013).

2013BM& U. Boesenberg, , F. Meirer, Y. Liu, A. Shukla, R. Dell'Anna, T. Tyliszczak, G. Chen, J. Andrews, T. Richardson, R. Kostecki, and J. Cabana, *Mesoscale Phase Distribution in Single Particles of LiFePO4 following Lithium Deintercalation, Chem. Mater.* **25** (9), 1664-1672 (2013)

2013BN& Balin K, Nowak A, Szade J, Wojtyniak M, Wilgocka-Ślęzak D, Ślęzak M, et al., *Magnetic properties of Eu-Fe thin films,* Journal of Applied Physics. **113,** 17E143 (2013).

2013BR&a O.Branson, S.A.T. Redfern, T. Tyliszczak, A. Sadekov, G. Langer, K. Kimoto and H. Elderfield *The coordination of Mg in foraminiferal calcite Earth and Planetary Science Letters* **383**, 134-141 (2013)

2013BR&b O.Branson, S.A.T. Redfern, K. Kaczmarek, T. Tyliszczak and H. Elderfield *The coordination of boron in foraminifera calcite*, Mineral Mag **77** 762, (2013)

2013BR&c A. Michelin, E. Burger, D. Rebiscoul, D. Neff, F. Bruguier, E. Drouet, P. Dillmann and S. Gin, *Silicate Glass Alteration Enhanced by Iron: Origin and Long-Term*, Environmental Science & Technology **47**, 750 (2013).

2013BR&d *Full-field electron spectromicroscopy applied to ferroelectric materials***,** N. Barrett, J.E. Rault, J.L. Wang, C. Mathieu, A. Locatelli, T.O. Menteş, M.A. Niño, S. Fusil, M. Bibes, A. Barthelemy, D. Sando, W. Ren, S. Prosandeev, L. Bellaiche, B. Vilquin, A. Petraru, I.P. Krug, C.M. Schneider, J. Applied Physics, **113**, 187217 (2013)

2013BS&a V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *3D Chemical Mapping of PEM Fuel Cell Cathodes by Scanning Transmission Soft X-ray Spectrotomography*, ECS Transactions, **50**, 361 (2013)

2013BS&b Bisig, A., M. Starrk, M.A. Mawass, C. Moutafis, J.P. Rhensius, L. Heidler, F. Büttner, M. Noske, M. Weigand, S.M. Eisebitt, T. Tyliszczak, B. Van Waeyenberge, H. Stoll, G. Schütz, and M. Klaui, *Correlation between spin structure oscillations and domain wall velocities,* Nature Communications **4**, 2328 (2013) **(HI)**

2013BW& L. Bai, J. Wang, T. Xie, G. Zhao, J. Liu, J. Zhong, and X. Sun, *Probing Disordered Structure and Tube−Tube Interaction in Carbon Nanotubes by Scanning Transmission X‑ray Microscopy*, J. Phys. Chem. C **117** 1969-1973 (2013)

2013CA&a J.E. Cochran, E. Amir, K. Sivanandan, S. Ku, J.H. Seo, B.A. Collins, J.R. Tumbleston, M.F. Toney, H.W. Ade, C.J. Hawker, and M.L. Chabinyc, "*Synthesis, Solid-State, and Charge-Transport Properties of Conjugated Polythiophene-S,S-dioxides*," Journal of Polymer Science Part B: Polymer Physics **51**(1), 48-56 (2013).

2013CA&b D.B. Collins, A.P. Ault, R.C. Moffet, M.J. Ruppel, L.A. Cuadra-Rodriguez, T.L. Guasco, C.E. Corrigan, B.E. Pelder, F. Azam, L.I. Aluwihare, T. Bertram, G.C. Roberts, V.H. Grassian, and K. Prather, "*Impact of marine biogeochemistry on the chemical mixing state and cloud forming ability of nascent sea spray aerosol*," Journal of Geophysical Research Atmospheres **118**(15), 8553-8565 (2013).

2013CB&a J. Cosmidis,, K. Benzerara, N. Menguy, and E. Arning, "*Microscopy evidence of bacterial microfossils in phosphorite crusts of the Peruvian shelf: implications for phosphogenesis mechanism*s," Chemical Geology 359, 10-22 (2013)

2013CB&b E. Couradeau, K. Benzerara, E. Gerard, I. Esteve, D. Moreira, R. Tavera, and P. Lopez-Garcia, "Cyanobacterial calcification in modern microbialites at the submicrometer-scale," Biogeosciences **10**, 5255-5266 (2013)

2013CD& C. Cheng, R. Davies, N. Sturcken, K. Shepard, W.E. Bailey, *Optimization of ultra-soft CoZrTa/SiO_2/CoZrTa trilayer elements for integrated inductor structures*, Journal of Applied Physics**,u** 17A343 (2013)

2013CE& W.C. Chueh, El Gabaly, F., Sugar, J.D., Bartelt, N.C., McDaniel, A.H., Fenton, K.R., Zavadil, K.R., Tyliszczak, T., Lai, W. & McCarty, K.F., *Intercalation Pathway in Many-Particle LiFePO4 Electrode Revealed by Nanoscale State-of-Charge Mapping*, Nano Lett. **13**, 866-872 (2013).

2013CH&a A.L. Corrigan, L.M. Russell, S. Takahama, M. Aijala, M. Ehn, H. Junninen, J. Rinne, T. Petaja, M. Kulmama, A.L. Vogel, T. Hoffman, C.J. Ebben, F.M. Geiger, P. Chhabra, J.H. Seinfeld, D.R. Worsnop, W. Song, J. Auld, and J. Williams, "*Biogenic and biomass burning organic aerosol in a boreal forest at Hyytia Ãàla Ãà, Finland, during HUMPPA-COPEC 2010,*" Atmospheric Chemistry and Physics **13**, 12233-12256 (2013).

2013CH&b Chopdekar, R.V., J. Heidler, C. Piamonteze, Y. Takamura, A. Scholl, S. Rusponi, H. Brune, L.J. Heyderman, and F. Nolting, *"Strain-dependent magnetic configurations in manganite-titanate heterostructures proved with soft x-ray techniques*," European Physical Journal B: Condensed Matter Physics **86**, 241 (2013).

2013CL&a T.-P. Chen, K.-H. Lee, S.-P. Chang, S.-J. Chang, and P.-C. Chang, *Effect of Surface Modification by Self-assembled Monolayer on the ZnO Film Ultraviolet Sensor*, Appl. Phys. Lett **103** , 022101 (2013)

2013CL&b C.-E. Cheng, C.-Y. Lin, H.-Y. Chang, C.-H. Huang, H.-Y. Lin, C.-H. Chen, C.-C. Hsu, C.-S. Chang, and F. S.-S. Chien, *Surface-enhanced Raman Scattering of Graphene with Photo-assisted-synthesized Gold Nanoparticles*", Opt. Express **21** , 6547 (2013)

2013CL&c B.A.Collins, Z. Li, J.R. Tumbleston, E. Gann, C.R. McNeill, and H.W. Ade, "*Absolute Measurement of Domain Composition and Nanoscale Size Distribution Explains Performance in PTB7:PC71BM Solar Cells,*" Advanced Energy Marterials **3**, 65-74 (2013).

2013CL&d A.C. Cismasu, C. Levard, F.M. Michel, and G.E. Brown Jr, "*Properties of impurity-bearing ferrihydrite II: Insights into the surface structure and composition of pure, Al- and Si-bearing ferrihydrite from Zn(II) sorption experiments and Zn K-edge X-ray absorption spectroscopy,*" Geochimica et Cosmochimica Acta 119, 46-60 (2013)

2013CM& S.R. Chae, J. Moon, S. Yoon, S. Bae, P. Levitz, R.P. Winarski, & P. Monteiro, *Advanced Nanoscale Characterization of Cement Based Materials Using X-Ray Synchrotron Radiation: A Review*, Int. J. Concrete Struct. & Mat. **7** 95- (2013)

2013CP& Cavill, S.A., Parkes, D.E., Miguel, J., Dhesi, S.S., Edmonds, K.W., Campion, R.P., Rushforth, A.W.,Electrical control of magnetic reversal processes in magnetostrictive structures. Appl. Phys. Lett. **102**, 032405 (2013).

2013DC&a T. Dumas, M.C. Charbonnel, I.A. Charushnikova, S.D. Conradson, C. Fillaux, C. Hennig, P. Moisy, S. Petit, A.C. Scheinost, D.K. Shuh, T. Tyliszczak, and C.D. Auwer, *Multi-edge X-ray absorption spectroscopy of thorium, neptunium and plutonium hexacyanoferrate compounds*, New Journal of Chemistry 37, 3003-3016 (2013)

2013DC&b A. Devaraj, R. Colby, M. Gu, C. Wang, T. Tyliszczak, J. Zhang, J. Xiao, J. Zheng, I. Belharouak, D. Wang, K. Amine, and S. Thevuthasan, *Compositional and Chemical Segregation in Li1.2Ni0.2Mn0.6O2 Cathode Materials Characterized by Atom Probe Tomography and Scanning Transmission X-ray Microscopy,* Microscopy and Microanalysis **19**(S2), 964-965 (2013)

2013EJ& C Euaruksakul, N Jearanaikoon, W Bussayaporn, N Kamonsutthipaijit, P Photongkam, S Tunmee and P Songsiriritthigu, *Photoemission electron microscopy beamline at the Synchrotron Light Research Institute*, J. Physics: Conference Series, **425** 182011 (2013)

2013FD& Farhan, A., P. Derlet, A. Kleibert, A. Balan, R.V. Chopdekar, M. Wyss, J. Perron, A. Scholl, F. Nolting, and L.J. Heyderman, "*Direct Observation of Thermal Relaxation in Artificial Spin Ice*," Physical Review Letters **111**, 057204 (2013). **HI**

2013FF& S.A. French, S. Fakra, J.T. Trevors, and S.M. Glasauer, "*Changes in Shewanella putrefaciens CN32 Membrane Stability upon Growth in the Presence of Soluble Mn(II), V(IV), and U(VI)*," Geomicrobiology Journal **30**, 245-254 (2013).

2013FHR S.S. Farvid, M. Hegde, and P.V. Radovanovic, *Influence of the Host Lattice Electronic Structure on Dilute Magnetic Interactions in Polymorphic Cr(III)-Doped In_2O_3 Nanocrystals*, Chem. Mater. **25** 233-244 (2013)

2013FI& P. Fischer, M. Im, C. Baldasseroni, C. Bordel, F. Hellman, J.-S. Lee, and C.S. Fadley, "*Magnetic imaging with full-field soft x-ray microscopies*," J. Electron Spectrosc. **189**, 196-205 (2013).

2013FIH P. Fischer, M. Im, and J.-I. Hong, "*Soft X-ray microscopy: Facing the mesoscale challenge in magnetism*," Proc. SPIE **8813** , 88132K (2013).

2013FP B Fayard, E Pouyet, G Berruyer, D Bugnazet, C Cornu, M Cotte, V De Andrade, F D Chiaro, O Hignette, J Kieffer, T Martin, E Papillon, M Salomé and V A Sole, *The new ID21 XANES full-field end-station at ESRF* J. Phys. Conf. Ser **425** 192001 (2013)

2013FU& K. Feron, S. Ulum, N.P. Holmes, A.L. Kilcoyne, W.J. Belcher, X.J. Zhou, C.J. Fell, and P. Dastoor, "*Modelling transport in nanoparticle organic solar cells using Monte-Carlo methods,*" Applied Physics Letters **103**(19), 193306 (2013).

2013GB& S. Günther, S. Böcklein, J. Wintterlin, M.A. Niño, T.O. Menteş, A. Locatelli, *Locating catalytically active oxygen on Ag(111) - a spectromicroscopy study*, Chem. Cat. Chem. **5** 3342 (2013).

2013GFP Ghugare SV, Fink R, Paradossi G, *Poly(Vinyl Alcohol)/Poly(Methacrylate-Co-N-Isopropylacrylamide) Composite Thermoresponsive Microgels for Drug Delivery*, **17** 179 (2013).

2013GK&a A. Gianoncelli, B. Kaulich, M. Kiskinova, C. Mele, M. Prasciolu, I. Sgura and B. Bozzini, *Fabrication and testing of an electrochemical microcell for in situ soft X-ray microspectroscopy,* J. Physics: Conference Series, **425**, 182010 (2013)

2013GK&b A. Gianoncelli, G Kourousias,A Stolfa and B Kaulich, *Recent developments at the TwinMic beamline at ELETTRA: an 8 SDD detector setup for low energy X-ray detection,* J. Physics: Conference Series, 425, 182001 (2013)

2013GK&c A.Gianoncelli, G Kourousias, L Pascolo, C Rizzardi, G Ceccone, B Kaulich and M Kiskinova, *Life science applications and research potential of the TwinMic spectromicroscopy station at ELETTRA***,** J. Physics: Conference Series, **463** 012004 (2013)

2013GL& S. Günther, H. Liu, T.O. Menteş, A. Locatelli, R. Imbihl, *Spectromicroscopy of pulses transporting alkali metal in a surface reaction,* Phys. Chem. Chem. Phys. **15**, 8752-8764 (2013)

2013GM& A. Gianoncelli, Marmorato P, Ponti J, Pascolo L, Kaulich B, Uboldi C, Rossi F, Makovec D, Kiskinova M, Ceccone G , *Interaction of magnetic nanoparticles with U87MG cells studied by synchrotron radiation X-ray fluorescence techniques*, X-Ray Spectrometry **42**, 316-320 (2013)

2013GN& T.L Gianetti, G. Nocton, S.G. Minasian, N.C. Tomson, A.L. Kilcoyne, S.A. Kozimor, D.K. Shuh, T. Tyliszczak, R.G. Bergman, and J. Arnold, "*Diniobium Inverted Sandwich Complexes with mu-eta(6):eta(6)-Arene Ligands: Synthesis, Kinetics of Formation, and Electronic Structure,*" J. American Chemical Society **135** 3224-3226 (2013)

2013GR&a C. Le Guillou, L. Remusat, S. Bernard, A.J. Brearley and H. Leroux, *Amorphization and D/H fractionation of kerogens during experimental electron irradiation: Comparison with chondritic organic matter* Icarus **226** 101–110 (2013)

2013GR&b P Guttmann, S Rehbein, S Werner, K Henzler, B Tarek and G Schneider, *Nanoscale spectroscopy and tomography with the HZB X-ray microscope: Applications in materials and life sciences* J. Phys. Conf Ser. **463** 012032 (2013).

2013GS& B.T. De Gregorio, R.M. Stroud, L.R. Nittler, C.M. O'D. Alexander, N.D. Bassim , G.D. Cody, A. L. D. Kilcoyne, S.A. Sandford, S.N. Milam, M. Nuevo, T. J. Zega, *Isotopic and chemical variation of organic nanoglobules in primitive meteorites*, Meteoritics & Planetary Science **48** 904 (2013)

2013GY& D.C. Grinter, C.-M. Yim, C.L. Pang, B. Santos, T.O. Menteş, A. Locatelli, G.Thornton, *Oxidation State Imaging of Ceria Island Growth on Re(0001)*, J. Phys. Chem. C **117** (32), 16509–16514 (2013)

2013H A.G. Haddad, "*Bioalteration of the seafloor and subseafloor: A molecular and spectroscopic investigation into microbe-mineral interactions,*" doctoral dissertation, University of Southern California, Los Angeles, CA, 2013, advisor Katrina J. Edwards

2013HB&a N. Hiranuma, S.D. Brooks, R.C. Moffet, A. Glen, A. Laskin, M.K. Gilles, P. Liu, A.M. Macdonald, J.W. Strapp, and G.M. McFarquhar, "*Chemical characterization of individual particles and residuals of cloud droplets and ice crystals collected on board research aircraft in the ISDAC 2008 study*," Atmospheres **118**(12), 6564-6579 (2013)

2013HB&b N. Holmes, K. Burke, P. Sista, M. Barr, M. Stefan, A.L. Kilcoyne, X. Zhou, P. Dastoor, and W.J. Belcher, "*Nano-domain behaviour in P3HT:PCBM nanoparticles, relating material properties to morphological changes*," Solar Energy Materials and Solar Cells **117,** 437-445 (2013).

2013HD& E. Hanssen, C. Dekiwadia, D.T. Riglar, M. Rug, L. Lemgruber, A.F. Cowman, M. Cyrklaff, M. Kudryashev, F. Frischknecht, J. Baum, and S.A. Ralph, *Electron tomography of Plasmodium falciparum merozoites reveals core cellular events that underpin erythrocyte invasion*, Cellular Microbiology **15**(9), 1457-1472 (2013).

2013HG& K.A Heckman, A.S. Grandy, X. Gao, M. Keiluweit, K. Wickings, K. Carpenter, J. Chorover, and C. Rasmussen, *Sorptive fractionation of organic matter and formation of organo-hydroxy-aluminum complexes during litter biodegradation in the presence of gibbsite*, Geochim. Cosmochim. Acta **121**, 667-683 (2013).

2013HH& M. Hegde, I.D. Hosein, T. Sabergharesou, S. S. Farvid, P.V. Radovanovic, *Introducing and manipulating magnetic dopant exchange interactions in semiconductor nanowires* Spintronics VI, edited by Henri-Jean Drouhin, Jean-Eric Wegrowe, Manijeh Razeghi, Proc. of SPIE **8813**, 88132S (2013)

2013HK& C.W Hargis, A. Kirchheim, P.J.M Monteiro, and E.M. Gartner, "*Early Age Hydration of Calcium Sulfoaluminate (Synthetic Yelimite, C4A3S) in the Presence of Gypsum and Varying Amounts of Calcium Hydroxide,*" Cement Contrete Res. **48**, 105-115 (2013).

2013HV& D.-S. Han, A. Vogel, H. Jung, K.-S. Lee, M. Weigand, H. Stoll, G. Schutz, P. Fischer, G. Meier, and S.-K. Kim, "*Wave modes of collective vortex gyration in dipolar-coupled-dot-array magnonic crystals*," Scientific Reports **3**, 2262 (2013).

2013HW& Hu, X.F., J. Wu, D.X. Niu, L. Chen, S.A. Morton, A. Scholl, Z.C. Huang, Y. Zhai, W. Zhang, I. Wil, Y.B. Xu, R. Zhang, and G. van der Laan, *"Discontinuous properties of current-induced magnetic domain wall depinning*," Scientific Reports **3**, 3080 (2013) **HI**

2013IL& S.A. Isaacson, C.A. Larabell, M.A. Le Gros, D.M. McQueen, and C.S. Peskin, *The Influence of Spatial Variation in Chromatin Density Determined by X-ray Tomograms on the Time to Find DNA Binding Sites*, Bulletin of Mathematical Biology **75**(11), 2093-2117 (2013)

2013JA& MWM Jones, B.Abbey, A. Gianoncelli, E. Balaur, C. Millet, MB Luu, HD Coughlan, AJ Carroll, AG Peele. L. Tilley and G. van Riessen, *Phase-diverse Fresnel coherent diffractive imaging of malaria parasite-infected red blood cells in the water window* GA Optics Express, **21** 32151-32159 (2013)

2013JC& M.D. Jackson, S.R. Chae, S.R. Mulcahy, C. Meral, R. Taylor, P. LI, J. Moon, S. Yoon, A.H. Emwas, G. Vola, H. Wenk, and P. Monteiro, *Unlocking the secrets of Al-tobermorite in Roman seawater concrete*, Am. Mineral. **98**(10), 1669-1687 (2013)

2013JD& L.R. De Jesus, R. V. Dennis, S.W. Depner, C. Jaye, D.A. Fischer, and S. Banerjee, *Inside and Outside: X-ray Absorption Spectroscopy Mapping of Chemical Domains in Graphene Oxide*, J. Phys. Chem. Lett**. 4** 3144 (2013)

2013JG& C. J. Johnson,, P.. Gilbert, M. Abrech, K. L. Baldwin,R.E. Russell, J.A. Pedersen, J.M. Aiken and D. McKenzie, *Low Copper and High Manganese Levels in Prion Protein Plaques,* Viruses **5** 654-662 (2013)

2013JL& H. Jung, K.S. Lee, D.E. Jeong, Y.S. Choi, Y.S. Yu, D.S. Han, A. Vogel, L. Bocklage, G. Meier, M.Y. Im, P. Fischer, and S.K. Kim, "CORRIGENDUM: Tunable negligible-loss energy transfer between dipolar-coupled magnetic disks by stimulated vortex gyration," Scientific Reports **3**, 3526 (2013).

2013JW& N.-Y. Jih, B.-Y. Wang, Y.-L. Chan, D.-H. Wei, and M.-T. Lin, "*Extending the Control of Antiferromagnetic-ferromagnetic Exchange Coupling on Perpendicular Magnetization into the Soft Magnetic Regime*", Appl. Phys. Express **5** , 063008 (2012)

2013K Keiluweit, M., "*Assessing the Role of Reactive Metal Species in Soil Organic Matter Cycling using Chemical Imaging*," doctoral dissertation, Oregon State University, Corvallis, Oregon, 2013, advisor Markus Kleber.

2013KBH S.S. Kalirai, D.A. Bazylinski and A.P. Hitchcock, *Anomalous magnetic orientations of magnetosome chains in a magnetotactic bacterium: Magnetovibrio Blakemorei strain MV-1*, Public Library of Science One **8**, e53368-(1-7) (2013)

2013KB& J. Kraus, S.Böcklein, R. Reichelt, S. Günther, B. Santos, T.O. Menteş, A. Locatelli, *Towards the perfect graphene membrane? - Improvement and limits during formation of high quality graphene grown on Cu-foils,* Carbon **64**, 377–390 (2013)

2013KG& T.Kimling, A. Gerhardt, A. Kobs, A. Vogel, S. Wintz, M. Im, P. Fischer, H. Oepen, U. Merkt, and G. Meire, "*Tuning of the nucleation field in nanowires with perpendicular magnetic anisotropy*," J. Appl. Phys. **113**(16), 163902 (2013).

2013KK& Y. Kebukawa, A. L. D. Kilcoyne and George D. Cody, *Exploring the Potential Formation Oof Organic Solids in Chondrites and Comets Through Polymerization of Interstellar Formaldehyde*, The Astrophys. J. **771**, 19 (2013).

2013KL& M. Korbas, B. Lai, S. Vogt, S.-C. Gleber, C. Karunakaran, I.J. Pickering, P.H. Krone, and G.N. George, *Methylmercury Targets Photoreceptor Outer Segments*, ACS Chem. Biol. **8** 2256 (2013)

2013KM& S. Kumar, M.D. Pickett, J.P. Strachan, G. Gibson, Y. Nishi ,and R.S. Williams, *Local Temperature Redistribution and Structural Transition During Joule-Heating-Driven Conductance Switching in VO_2* , Adv. Mat. **25** 6128-6132 (2013)

2013KM& Kabalah-AmitaI, L., B. Mayzel, Y. Kauffmann, A.N. Fitch, L. Bloch, P.A. Gilbert, and B. Pokroy, "*Vaterite crystals contain two interspersed crystal structures*," Science **340**, 454-457 (2013). **HI**

2013KN& S.T.Kelly, P.A. Nigge, S. Prakash, A. Laskin, B. Wang, T. Tyliszczak, S.R. Leone, and M.K. Gilles, *An environmental sample chamber for reliable scanning transmission x-raymicroscopy measurements under water vapor,* Rev. Sci. Instrum. **84**(7), 073708 (2013).

2013KP& S. Kumar, M.D. Pickett, J. Strachan, G. Gibson, Y. Nishi, and R.S. Williams, "*Local Temperature Redistribution and Structural Transition During Joule-Heating-Driven Conductance Switching in VO2*," Advanced Materials **25**(42), 6128-6132 (2013).

2013La A.F.G. Leontowich, *Utility of the G-value and the critical dose to soft X-ray radiation damage of polyacrylonitrile,* Rad. Phys. Chem. **90** 87 (2013)

2013Lb Liu, X., "*Investigations on the lmpact of Extracellular Polymeric Substances and Biofilms ofBacillus subtilis on Goethite*," doctoral dissertation, Friedrich-Schiller-Universitat Jena, Jena, Germany, 2013, advisor Kai Totsche

2013LB& J. Li, K. Benzerara, S. Bernard and O. Beyssac, *The link betweein biomineralization and fossilization of bacteria: Insighs from field and experimental studies*, Chem. Geol. **359** 49 (2013)

2013LC&a K.-H. Lee, S.-P. Chang, K.-W. Liu, P.-C. Chang, S.-J. Chang, T.-P. Chen, H.-W. Shiu, L.-Y. Chang, and C.-H. Chen, *Epitaxial Growth of InN Nanorods on Nitridated Chromium Nanoislands under the In-rich Regime*", Int. J. Electrochem. Sci. **8,** 3212 (2013)

2013LC&b J.-H. Lin, H.-C. Chiu, Y.-R. Lin, T.-K. Wen, R. A. Patil, R. S. Devan, C.-H. Chen, H.-W. Shiu, Y. Liou, and Y.-R. Ma, *Electrical and Chemical Characteristics of Probe-induced Two-dimensional SiOx Protrusion Lay*ers, Appl. Phys. Lett. **102** , 031603 (2013)

2013LE& X. Liu, K. Eusterhues, J. Thieme V. Ciobota, C. Hoschen, C.W. Mueller, K. Kusel, I. Kogel-Knabner, P. Rosch, Jurgen Popp and K.U. Totsche*, STXM and NanoSIMS Investigations on EPS Fractions before and after Adsorption to Goethite*, Environ. Sci. Technol. **47**, 3158−3166 (2013)

2013LF& B Lue., S. Fakra, R. Csencsits, K.C. Wrighton, K.H. Williams, M.J. Wilkins, K.H. Downing, P.E. Long, L.R. Comolli, and J. Banfield, *Iron-reducing bacteria accumulate ferric oxyhydroxide nanoparticle aggregates that may support planktonic growth*, The ISME Journal **7**(2), 338-350 (2013).

2013LG&a M. Li, J. Gao, L. Bai, A. Pu, J. Liu, G. Zhao, X. Sun, J. Zhong, *Probing carbon coatings on nanoparticle decorated carbon nanotubes by scanning transmission X-ray microscopy*, Applied Surface Science **285P** 874 (2013)

2013LG&b F. Liu, Y. Gu, X. Shen, S. Ferdous, H-W. Wang, and T.P. Russell, "*Characterization of the Morphology of Solution-Processed Bulk Heterojunction Organic Photovoltaics*," Progress in Polymer Science **38**(12), 190-2052 (2013).

2013LH A.F.G. Leontowich and A.P. Hitchcock, *Fabrication of sealed nanofluidic channels using site-selective direct write x-ray lithography*, Microfluidics and Nanofluidics 14 (**2013**) 1613-4982

2013LH& A.F.G. Leontowich, A.P. Hitchcock, B. Watts and J. Raabe, *Direct write (maskless) x-ray nanolithography*, Microelectronic Engineering **108** 5-7 (2013)

2013LL& H.-C. Lu, M.-Y. Lin, S.-L. Chou, Y.-C. Peng, J.-I. Lo, H. W. Shiu, C.-H. Chen, and B.-M. Cheng, *Linear and Folded Films of a Zwitterionic Polysquaraine*, RSC Adv. **3** , 21294 (2013)

2013LS& V. Lee, D. Susac, S. Kundu,V.Berejnov, R.T. Atanasoski, A. P. Hitchcock and J. Stumper, *STXM Characterization of Nanostructured Thin Film Anode Before and After Start-up Shut-down and Reversal Tests*, ECS Transactions, **58** 47 (2013)

2013LW&a F. Liu, C. Wang, J.K. Baral, L. Zhang, J.M. Watkins, A.L. Briseno, and T.P. Russell, "*Relating Chemical Structure to Device Performance via Morphology Control in Diketopyrrolopyrrole-Based Low Band Gap Polymers*," J. American Chemical Society **135**(51), 19248-19259 (2013).

2013LW&b A. Locatelli, C.Wang, C. Africh , N. Stojić, T.O. Menteş, G. Comelli, N. Binggeli, *Temperature Driven Reversible Rippling and Bonding of a Graphene Superlattice,* ACS Nano, ACS Nano, **7**, 6955–6963 (2013);

2013MA C. R. McNeill and H. Ade, *Soft X-ray characterisation of organic semiconductor films*, J. Mater. Chem. C **1**, 187 (2013)

2013MB&a A. Michelin, E. Burger, D. Rebiscoul, D. Neff, F. Bruguier, E. Drouet, P. Dillmann, and S. Gin, *Silicate glass alteration enhanced by iron: Origin and long-term implications*, Environ. Sci. Technol. **47** 750-756 (2013)

2013MB&b A. Michelin, E. Burger, E. Leroy, E. Foy, D. Neff, K. Benzerara, P. Dillmann, S. Gin, *Effect of iron metal and siderite on the durability of simulated archeological glassy material*, Corrosion Science **76** 403-414 (2013)

2013MC&a C. Mele, M. Catalano, A. Taurino and B. Bozzini. *Electrochemical fabrication ofnanoporous gold decorated with manganese oxide nanowires from eutecticurea/choline chloride ionic liquid,* Electrochim. Acta **1,** 918 (2013)

2013MC&b P.J Monteiro, L. Clodic, F. Battocchio, S.R. Kanitpanyacharoen, J. Ha, and H. Wenk, I*ncorporating carbon sequestration materials in civil infrastructure: A micro and nano-structural analysis*, Cement and Concrete Composites **40**, 14-20 (2013)

2013MC&c A.H. McDaniel, W.C. Chueh, A. Shavorskiy, T. Tyliszczak, H. Bluhm, K.F. McCarty, and F. El Gabaldy, *Probing Surface and Bulk States of Cathode Materials with Synchrotron-based Soft X-rays in a Functioning Solid Oxide Fuel Cell*, ECS Trans. **58** 47-53 (2013)

2013MD& A. Michelin, E. Drouet, E. Foy, J. J. Dynes, D. Neff and P. Dillmann, *Investigation at the nanometre scale on the corrosion mechanisms of archaeological ferrous artefacts by STXM*, J. Anal. At. Spectrom. **28** 59-66 (2013)

2013MF& M.J. Moore, H. Furutani, G.C. Roberts, R.C. Moffet, M.K. Gilles, B. Palenik, and K. Prather, "*Effect of Organic Compounds on Cloud Condensation Nuclei (CCN) Activity of Sea Spray Aerosol Produced by Bubble Bursting,*" Atmospheric Enviroment **45**(39), 7462-7469 (2011)

2013MH& Moya, X., Hueso, L.E., Maccherozzi, F., Tovstolytkin, A.I., Podyalovskii, D.I., Ducati, C., Phillips, L.C., Ghidini, M., Hovorka, O., Berger, A., Vickers, M.E., Defay, E., Dhesi, S.S., Mathur, N.D.*, Giant and reversible extrinsic magnetocaloric effects in La 0.7 Ca 0.3 MnO 3 films due to strain.* Nature Materials 12, 52–58 (2013) **HI**

2013MI& J.E. Malucelli, S Iotti, M Fratini, C Marraccini, A Notargiacomo, A Gianoncelli, I Bukreeva, A Cedola, *X-ray fluorescence microscopy of light elements in cells: self-absorption correction by integration* J. Physics: Conference Series, **463** 012022 (2013)

2013ML& T.O. Menteş, A. Locatelli, L. Aballe, M.A. Niño, E. Bauer, *Growth of magnetic nanowires on self-organized stripe templates: Fe on Pd–O/W(110)*, Ultramicroscopy **130**, 82–86 (2013)

2013MKC Y. Mochizuki, A.L. Kilcoyne, and G.D. Cody, "*Exploring the potential formation of organic solids in chondrites and comets through polymerization of interstellar formaldehyde,*" The Astrophysical Journal, **771**(1), 19-31 (2013).

2013MK&a M. Martens, T. Kamionka, M. Weigand, H. Stoll, T. Tyliszczak, and G. Meier, *Phase diagram for magnetic vortex core switching studied by ferromagnetic absorption spectroscopy and time-resolved transmission x-ray microscopy* Physical Review B **87**(5), 054426 (2013).

2013MK&b S.G. Minasian, J.M. Keith, E.R. Batista, K.S. Boland, J.A. Bradley, S.R. Daly, S.A. Kozimor, W.W. Lukens, R.L. Martin, D. Nordlund, G.T. Seidler, D.K. Shuh, D. Sokaras, T. Tyliszczak, G.L. Wagner, T. Weng, and P. Yang, *Covalency in Metal-Oxygen Multiple Bonds Evaluated Using Oxygen K-edge Spectroscopy and Electronic Structure Theory*, J. American Chemical Society **135**(5), 1864-1871 (2013)

2013MK&c S.G. Minasian, J.M. Keith, E.R. Batista, K.S. Boland, S.A. Kozimor, R.L. Martin, D.K. Shuh, T. Tyliszczak, and L.J. Vernon, *Carbon K-Edge X-ray Absorption Spectroscopy and Time-Dependent Density Functional Theory Examination of Metal-Carbon Bonding in Metallocene Dichlorides*," J. Am. Chemical Society S.G., 14731 (2013)

2013MM& A.M. Maiden , G.R. Morrison , B. Kaulich , A. Gianoncelli and J.M. Rodenburg, *Soft X-ray spectromicroscopy using ptychography with randomly phased illumination*, Nature Communications, **4**, 1669-1669 (2013) **HI**

2013MO& E. Marie Muehe, Martin Obst, Adam P. Hitchcock, Tolek Tyliszczak, Sebastian Behrens, Christian Schröde James M. Byrne, Marc Michel, Ute Kraemer and Andreas Kappler, *Fate of Cd during microbial Fe(III) mineral reduction by a novel and Cd-tolerant Geobacter species*, Environmental Science and Technology **47** 14099 (2013)

2013MR& Moffet, R.C., T. Roedel, S.T. Kelly, X.Y. Yu, G.T. Carroll, J. Fast, R.A. Zaveri, A. Laskin, and M.K. Gilles, "*Spectro-microscopic measurements of carbonaceous aerosol aging in Central California*," Atmos.Chem. & Phys **13**, 10445 (2013).

2013MT& Ma, W., J.R. Tumbleston, M. Wang, E.H. Gann, F. Huang, and H.W. Ade, "*Domain Purity, Miscibility, and Molecular Orientation at Donor/Acceptor Interfaces in High Performance Organic Solar Cells: Paths to Further Improvement,*" Advanced Energy Marterials **3**(7), 864-872 (2013).

2013MV& Malik, V., C.H. Vo, E. Arenholz, A. Scholl, A. Young, and Y. Takamura, "*Magnetic correlation between La 2/3Sr 1/3MnO 3 and La 2/3Sr 1/3CoO 3 layers in artificial superlattices*," J. Applied Physics **113**, 153907 (2013).

2013MY& Ma, W., L. Ye, S. Zhang, J. Hou, and H.W. Ade, "*Competition between morphological attributes in the thermal annealing and additive processing of polymer solar cells*," Journal of Materials Chemistry C **1**, 5023-5030 (2013).

2013MZ& S. Masayuki,, J Zhou, Christian Schröder, Martin Obst, Andreas Kappler, Thomas Borch, *Dissimilatory Reduction and Transformation of Ferrihydrite-Humic Acid Coprecipitates*, Environmental Science & Technology **47** 13375-13384.(2013)

2013NB& Y. Nie, L. Bai, J. Gao, J. Liu, G. Zhao, T. Xie, X.H. Sun and J. Zhong, *Imaging the electronic structure of carbon nanotubes decorated with Fe_2O_3 nanoparticles*, Appl. Surf. Sci. **273** 386 (2013)

2013ND& S. Novak, D. Drobne, M. Golobic, J. Zupanc, T. Romih, A. Gianoncelli, M. Kiskinova, B.Kaulich, P. Pelicon, P. Vavpetic, L. Jeromel, N. Ogrinc and D. Makovec, *Cellular Internalization of Dissolved Cobalt Ions from Ingested $CoFe_2O_4$ Nanoparticles: In Vivo Experimental Evidence,* Environmental Science & Technology, **47**, 5400-5408 (2013)

2013NH& M. Negotia, M. Hodges, M.T. Bryan, P.W. Fry, M. Im, P. Fischer, D.A. Allwood, and T.J. Hayward, "*Linear transport of domain walls confined to propagating 1-D potential wells*," J. Appl. Phys. **114**(16), 163901 (2013).

2013NP& D. Nam, Park J, Gallagher-Jones M, Kim S, Kim S, Kohmura Y, Naitow H, Kunishima N, Yoshida T, Ishikawa T et al.: *Imaging fully hydrated whole cells by coherent X-ray diffraction microscopy*. Phys. Rev. Lett., 110:098103 (2013) **HI**

2013NS& S.H. Noh, M.H. Seo, J.K. Seo, P. Fischer, and B. Han, "*First principles computational study on the electrochemical stability of Pt-Co nanocatalysts* ," Nanoscale **5**, 8625 (2013).

2013NT& H Nakajima, A Tong-on, N Sumano, K Sittisard, S Rattanasuporn, C Euaruksakul, R Supruangnet, N Jearanaikoon, P Photongkam, N Chanlek and P Songsiriritthigul, *Photoemission Spectroscopy and Photoemission Electron Microscopy Beamline at the Siam Photon Laboratory*, J. Phys. Conf Ser. **425** 132020 (2013)

2013OA&a T. Ohigashi, H. Arai, N. Kondo, M. Sakai, K. Hayashi, E. Shigemasa, A. P. Hitchcock, N. Kosugi, M. Katoh, *Commissioning of a Scanning Transmission X-ray Microscope and Beamline,* UVSOR Act. Rep.**40**, 43 (2013)

2013OA&b T. Ohigashi, H. Arai, T. Araki, N. Kondo, E. Shigemasa, A. Ito, N. Kosugi, and M. Katoh, *"Construction of the Scanning Transmission X-ray Microscope Beamline at UVSOR*", Journal of Physics: Conference Series, **463**, 012006 (2013).

2013OB& I.C. Olson, R.A. Metzler, N. Tamura, M. Kunz, C.E. Killian and P. Gilbert, *Crystal nucleation and near-epitaxial growth in nacre* J. Struct. Biol. **184** 454-463 (2013)

2013OM& I.C. Olson, R.A. Metzler, N. Tamura, M. Kunz, C.E. Killian and P. Gilbert, *Crystal lattice tilting in prismatic calcite*, J. Struct. Biol. **183** 180-190 (2013)

2013P Pohlker, C., "*Microscopic and spectroscopic analysis of biogenic aerosols*," doctoral dissertation, Max Planck Institute of Chemistry, Mainz, Germany, 2013, advisor Ulrich Pöschl

2013PB&a V. Pasini, D. Brunelli, P. Dumas, C. Sandt, J. Frederick, K. Benzerara, S. Bernard, and B. Menez, "*Low temperature hydrothermal oil and associated biological precursors in serpentinites from Mid-Ocean Ridg*e," Langmuir **178**, 84-95 (2013).

2013PB&b Prather, K., T. Bertram, V.H. Grassian, G.B. Deane, M.D. Stokes, P.J. DeMott, L.I. Aluwihare, B.P. Palenik, F. Azam, J.H. Seinfeld, R.C. Moffet, M. Molina, C. Cappa, F.M. Geiger, G. Roberts, L.M. Russell, A.P. Ault, J. Baltrusaitis, D. Collins, C.E. Corrigan, L.A. Cuadra-Rodriguez, C. Ebben, S.D. Forestieri, T. Guasco, S.P. Hersy, M. Kim, W. Lambert, R. Modini, W. Mui, B. Pedler, M. Ruppel, O.S. Ryder, N. Schoepp, R.C. Sullivan, and D. Zhao, "B*ringing the ocean into the laboratory to probe the chemical complexity of sea spray aerosol*," Proc. Natl. Acad. Sci. USA **110**(19), 7550-7555 (2013). **(HI)**

2013PG&a Poitry-Yamate C, Gianoncelli A, Kaulich B, Kourousias G, Magill AW, Lepore M, Gajdosik V, Gruetter R , *Feasibility of direct mapping of cerebral fluorodeoxy-D-glucose metabolism in situ at subcellular resolution using soft X-ray fluorescence,* J. Neuroscience Research **91**, 1050 (2013)

2013PG&b L. Pascolo, A. Gianoncelli, G. Schneider, M. Salomé, M. Schneider, C. Calligaro, M. Kiskinova, M. Melato and C. Rizzardi, *The interaction of asbestos and iron in lung tissue revealed by synchrotron-based scanning X-ray microscopy* Scientific Reports, **3** 1123 (2013) **(HI)**

2013PM&a D.Y. Parkinson, L.R. McDermott, M.A. Le Gros, R.M. Boudreau, and C.A. Larabell, *Nanoimaging cells using soft X-ray tomography,* Methods in Molecular Biology **950**, 457-481 (2013)

2013PM&b H.S. La Pierre, S.G. Minasian, M. Abubekerov, S.A. Kozimor, D.K. Shuh, T. Tyliszczak, J. Arnold, R.G. Bergman, and F.D. Toste, *Vanadium Bisimide Bonding Investigated by X-ray Crystallography, (51)V and (13)C Nuclear Magnetic Resonance Spectroscopy, and V L_{23}-Edge X-ray Absorption Near-Edge Structure Spectroscopy*, Inorganic Chemistry 52, 11650-11660 (2013).

2013PV& P. Pongrac, K. Vogel-Miku, L. Jeromel, P. Vavpeti, P. Pelicon, B. Kaulich, A. Gianoncelli, D. Eichert, M. Regvar and I. Kreft, *Spatially resolved distributions of the mineral elements in the grain of tartary buckwheat (Fagopyrum tataricum),* Food Research International, **54**, 125-131 (2013)

2013RB& S. Redfern, O. Branson, H. Elderfield, T. Tyliszczak, and C. Rau, *Geochemical proxy nanostructure of foraminifera by X-ray imaging: STXM and tomography*, Mineralogical Magazine **77**, 762 (2013).

2013RE& M. Regvar, D. Eichert, B. Kaulich, A. Gianoncelli, P. Pongrac and K. Vogel-Miku, *Biochemical characterization of cell types within leaves of metal-hyperaccumulating Noccaea praecox (Brassicaceae)* Plant Soil **373** 1-15 (2013)

2013RG Rebiscoul D, Gin S, *Impact of iron on nuclear glass alteration in geological repository*, Applied Geochemistry. **31**, 159-172 (2013).

2013RM& C. Rivard, E. Montarges-Pelletier, D. Vantelon, M. Pelletier, C. Karunakaran, L.J. Michot, F. Villieras and N. Michau, *Combination of multi-scale and multi-edge X-ray spectroscopy for investigating the products obtained from the interaction between kaolinite and metallic iron in anoxic conditions at 90°C*, Phys. Chem. Minerals **40**, 115-132 (2013)

2013RSF B. Rösner, A. Späth and R.H. Fink, *The role of solvation effects in the growth of TCNQ-based charge-transfer salts*, J. Crystal Growth, **380**, 34–38 (2013)

2013SA Swaraj, S., and H. Ade, "*Differences in NEXAFS of odd/even long chain n-alkane crystals,*" J. Electron Spectrosc. **191**, 60-64 (2013).

2013SA& M. Stylo, D.S. Alessi, P.P. Shao, J.S. Lezama-Pacheco, J.R. Bargar, and R. Bernier-Latmani, "Biogeochemical Controls on the Product of Microbial U(VI) Reduction," Environmental Science and Technology **47**(21), 12351-12358 (2013)

2013SB& D. Susac, V. Berejnov, A.P. Hitchcock and J. Stumper, *STXM Characterization of PEM Fuel Cell Catalyst Layers*, ECS Transactions **50** 405 (2013)

2013SC&a E.A. Smith, B.P. Cinquin, G. McDermott, M.A. Le Gros, D.Y. Parkinson, H.T. Kim, and C.A. Larabell, *Correlative microscopy methods that maximize specimen fidelity and data completeness, and improve molecular localization capabilities*, J. Struct. Biol. **184**(1), 12-20 (2013).

2013SC&b H. W. Shiu, L. Y. Chang, K.-H. Lee, H.-Y. Chen, S. Gwo, and C.-H. Chen, *Graphene as Tunable Transparent Electrode Material on GaN: Layer-number-dependent Optical and Electrical Properties,* Appl. Phys. Lett. **103** , 081604 (2013)

2013SCH D.L. Sparks and C. Chen, *The Role of Mineral Complexation and Metal Redox Coupling in Carbon Cycling and Stabilization* in Functions of Natural Organic Matter in Changing Environment, eds. J. Xu et al. (Zhejiang University Press and Springer Science+Business Media Dordrecht, 2013) 7-12.

2013SF& L Serrano-Ramon., A. Fernandez-Pacheco, M.R. Ibarra, D. Petit, R.P. Cowburn, T. Tyliszczak, and J.M. De Teresa, *Modification of domain-wall propagation in Co nanowires via Ga+ irradiation*," Eur. Phys. J. B **86**(3), 97 (2013).

2013SG& J. Stodolna, Z. Gainsforth, H. Leroux, A.L. Butterworth, T. Tyliszczak, D. Jacob, and A.J. Westphal, *Iron valence state of fine-grained material from the Jupiter family comet 81P/Wild 2 - A coordinated TEM/STEM EDS/STXM study,* Geochim. Cosmochim. Acta **122**, 1-16 (2013).

2013SH&a M R Soman, D J Hall, J H Tutt, N J Murray, A D Holland, T Schmitt, J Raabe and B Schmitt, *Improving the spatial resolution of soft X-ray detection using an Electron-Multiplying Charge-Coupled Device*, J. Instrumentation **8**, C01046 (2013)

2013SH&b Soman MR, Hall DJ, Tutt JH, Murray NJ, Holland AD, Schmitt T, et al. *Developing a CCD camera with high spatial resolution for RIXS in the soft X-ray range*, NIM A **731,** 47-52 (2013).

2013SL&a H. W. Shiu, L. Y. Chang, J. L. Lou, C. P. Wu, and C.-H. Chen, *Does Scandium Resemble Transition or Rare Earth Metals When It Is Grown on Silicon Surfaces?*, J. Appl. Phys. **113 ,** 043701 (2013)

2013SL&b K.M. Shakya, S. Liu, S. Takahama, L.M. Russell, M.M. Galloway, J.E. Shilling, N. Hiranuma, C. Song, H. Kim, S.E. Paulson, L. Pfaffenberger, P. Barmet, J. Slowik, A.S.H. Prevot, J. Dommen, and U. Baltensperger, "*Similarities in STXM-NEXAFS Spectra of Atmospheric Particles and Secondary Organic Aerosol Generated from Glyoxal, α-Pinene, Isoprene, 1,2,4-Trimethylbenzene, and d-Limonene*," Aerosol Science and Technology **47**(5), 543-555 (2013).

2013SMB N. Stojić, T.O. Menteş, N. Binggeli, *Self-organization in Pd/W(110): interplay between surface structure and stress* J. Phys. Condens. Matter **25**, 355010 (2013)

2013SM& S. Stevenson, C. Moutafis, G. Heldt, R.V. Chopdekar, C. Quitmann, L. Heyderman and J. Raabe, *Dynamic stabilization of nonequilibrium domain configurations in magnetic squares with high amplitude excitations*, Physical Review B **87**, 054423 (2013)

2013SR& D Shapiro, S Roy, R Celestre, W Chao, D Doering, M Howells, S Kevan, D Kilcoyne, J Kirz, S Marchesini, K A Seu, A Schirotzek, J Spence, T Tyliszczak, T Warwick, D Voronov and H A Padmore *Development of coherent scattering and diffractive imaging and the COSMIC facility at the Advanced Light Source*, **425**, 192011 (2013)

2013ST&a M.S. Saha, M. Tam, V. Berejnov, D. Susac, S. McDermid, A.P. Hitchcock and J. Stumper, *Characterization and Performance of Catalyst Layers Prepared by Inkjet Printing Technology*, ECS Transactions, **58** 797 (2013)

2013ST&b Y.-T. Shih, C.-W. Tsai, C.-Y. Su, W. Pan*, D.-H. Wei, Y.-L. Chan, and H.-C. Chang, "*Spin Alignment of Surface Oxidized CoxNi1–x/Cu(001)*", J. Appl. Phys. **113** , 17B518 (2013)

2013ST&c A.C. Stuart, J.R. Tumbleston,, H. Zhou, W. Li, S. Liu, H.W. Ade, and W. You, "*Fluorine Substituents Reduce Charge Recombination and Drive Structure and Morphology Development in Polymer Solar Cells*," Journal of the American Chemical Society **135**(5), 1806-1815 (2013).

2013SY& J. Strachan, J.J. Yang, L.A. Montoro, C.A. Ospina, A.J. Ramirez, A.L. Kilcoyne, G. Medeiros-Ribeiro, and R.S. Williams, "*Characterization of electroforming-free titanium dioxide memristors*," Beilstein Journal of Nanotechnology **4**(1), 467-473 (2013).

2013SZ& M. Shimizu, J. Zhou, C. Schröder, M. Obst, A. Kappler, and T. Borch, "*Dissimilatory reduction and transformation of ferrihydrite-humic acid coprecipitates*," Environ. Sci. Technol. **47**, 13375-13384 (2013).

2013TB& Tuniz C., Bernardini F., Cicuttin A., Crespo M.L., Dreossi D., Gianoncelli A., Mancini L., Mendoza Cuevas A., Sodini N., Tromba G., Zanini F., Zanolli C. , *The ICTP-Elettra X-ray laboratory for cultural heritage and archaeology ,* Nuclear Instruments and Methods in Physics Research Section A: **711** 106-110 (2013)

2013TF& Takamura, Y., E. Folven, J.R. Shu, K.R. Lukes, B. Li, A. Scholl, A.T. Young, S.T. Retterer, T. Tybell, and J.K. Grepstad, "*Spin-Flop Coupling and Exchange Bias in Embedded Complex Oxide Micromagnets*," Physical Review Letters **111**, 107201 (2013). **HI**

2013TG&a S. Takahama, J. Guzman Morales, L.M. Russell, R. Duran, G. Rodriguez, J. Zheng, R. Zhang, D. Toom-Sauntry, and W.R. Leaitch, "*Submicron organic aerosol in Tijuana, Mexico, from local and Southern Californiasources during the CalMex campaign*," Atmospheric Enviroment **70C**, 500-512 (2013).

2013TG&b J.R. Tumbleston, A.D. Gadisa, Y. Liu, B.A. Collins, E. Thaddeus, R. Lopez, and H.W. Ade, "*Modifications in Morphology Resulting from Nanoimprinting Bulk Heterojunction Blends for Light Trapping Organic Solar Cell Designs*," ACS Applied Materials and Interfaces **5**(16), 8225-8230 (2013).

2013TK& Thieme, J., D. Kilcoyne, T. Tyliszczak, and K. Haselwandter, "*Spatially resolved NEXAFS spectroscopy of siderophores in biological matrices*," Journal of Physics: Conference Series **463**, 012037-012042 (2013)

2013TM Y. Tang and C. Mcneill, *All-Polymer Solar Cells Utilizing Low Band Gap Polymers as Donor and Acceptor,* J. Polymer Science Part B-Polymer Physics **51**, 403 (2013).

2013TS& Tumbleston, J.R., A.C. Stuart, E.H. Gann, W. You, and H.W. Ade, "*Fluorinated Polymer Yields High Organic Solar Cell Performance for a Wide Range of Morphologies*," Advanced Functional Materials **23**(27), 3463-3470 (2013).

2013TU& K. Takemoto, K. Usui, T. Ohigashi, T., Fujii, H., Yoshimura, M., Namba, H., & Kihara, H.. *Improvement of cryogenic 3-dimensional observation system of soft x-ray microscope at the SR center of Ritsumeikan University*. Jo. Physics: Conference Series, **463**, 012009 (2013).

2013TZ& J. Thompson, J. Zhou, J. Olson, E. Bergen, J. Reid, L. Van Loon, E. Stavitski, G. Belev, J. Wang, R.I.R. Blyth, J.N. Cutler, *The Swiss army knife of science: Synchrotron techniques for non-destructive testing of aerospace materials*, SAMPE 2013 Proceedings: Education & Green Sky – Materials Technology for a Better World (Long Beach, CA, May 6-9, 2013). 2194 (2013).

2013UH& Ulum, S., N. Holmes, D. Darwis, K. Burke, D. Kilcoyne, X. Zhou, W.J. Belcher, and P. Dastoor, "*Determining the Structural Motif of P3HT:PCBM Nanoparticulate Organic Photovoltaic Devices,*" **110**, 43-48 (2013).

2013UU& V. Uhlir, M. Urbanek, L. Hladik, J. Spousta, M. Im, P. Fischer, N. Eibagi, J.J. Kan, E.E. Fullerton, and T. Sikola, "*Dynamic switching of the spin circulation in tapered magnetic nanodisks*," Nature Nanotechnology **8**, 341-346 (2013). **(HI)**

2013V Van Der Laan, G. *Recent Advances in Circular and Linear X-ray Magnetic Dichroism: Experiment and Theory* Synchrotron Radiation News **26**, 6 - 11, (2013)

2013VDM C. Vasconcelos, M. Dittrich and J. McKenzie, *Evidence of microbiocoenosis in the formation of laminae in modern stromatolites*, Facies **59**, 800-811 (2013).

2013VM& Vaz CAF, Moutafis C, Buzzi M, Raabe J, *X-ray excited optical luminescence of metal oxide single crystals*, Journal of Electron Spectroscopy and Related Phenomena. **189**, 1-4 (2013).

2013WB& S. Wintz, C. Bunce, A. Neudert, M.Körner, T. Strache, M. Buhl, A. Erbe, S. Gemming, J.Raabe, C. Quitmann, and J. Fassbender, *Topology and Origin of Effective Spin Meron Pairs in Ferromagnetic Multilayer Elements*, Phys. Rev. Lett. **110**, 177201 (2013) **(HI)**

2013WF& M. Wohlgenannt, M.E. Flatte, N.J. Harmon, F. Wang, A.D. Kent, F. Macia, P. Fischer, and M. Im, "*A new twist on organic spintronics: controlling transport in organic sandwich devices using fringe fields from ferromagnetic films*," Proc. SPIE **8813**, 88130O (2013).

2013WH&a C.-C. Weng, J.-C. Hsueh, J.-D. Liao, C.-H. Chen, and M. Yoshimura, *Rapid Micro-scale Patterning of Alkanethiolate Self-assembled Monolayers on Au Surface by Atmospheric Micro-plasma Stamp*", Plasma Process. Polym. **10** , 345 (2013)

2013WH&b B.-Y. Wang, J.-Y. Hong, K.-H. O. Yang, Y.-L. Chan, D.-H. Wei, H.-J. Lin, and M.-T. Lin, "*How Antiferromagnetism Drives the Magnetization of a Ferromagnetic Thin Film to Align Out of Plane*", Phys. Rev. Lett. **110** , 117203 (2013) **(HI)**

2013WR& P. Wohlhüter, J. Rhensius, C.A.F. Vaz, J. Heidler, H.S. Körner, A. Bisig, M. Foerster, L Méchin, F. Gaucher, A. Locatelli, M.A. Niño, S. El Moussaoui, F. Nolting, E. Goering, L.J. Heyderman, and M. Kläui, *The effect of magnetic anisotropy on the spin configurations of patterned* $La_{0.7}Sr_{0.3}MnO_3$ *elements,* J. Phys.: Condens. Matter **25,** 176004 (2013)

2013WZ& J.Wang, J. Zhou, Y. Hu, and T. Regier, *Chemical Interaction and Imaging of Single* Co_3O_4*/Graphene Sheet Studied by Scanning Transmission X-ray Microscopy and X-ray Absorption Spectroscopy*, Energy Environ. Sci. **6**,926-934 (2013)

2013XB& T.Xie, L. Bai, J. Liu, G. Zhao, X. Sun amd J. Zhong, *X-ray induced carbon coating on carbon nanotubes*, Carbon **56** 383 (2013)

2013YH& Y.-S. Yu, D.-S. Han, M.-W. Yoo, K.-S. Lee, Y.-S. Choi, H. Jung, J. Lee, M. Im, P. Fischer, and S.-K. Kim, "*Resonant amplification of vortex-core oscillations by coherent magnetic-field pulses*," Scientific Reports **3**, 1301 (2013).

2013YNK Z. Yangquanwei, S. Neethirajan and . Karunakaran, *Cytogenetic analysis of quinoa chromosomes using nanoscale imaging and spectroscopy techniques*, Nanoscale Research Letters, **8** 463 (2013)

2013YW& H. Yan, C. Wang, A.R. McCarn, and H.W. Ade, "*Accurate and Facile Determination of the Index of Refraction of Organic Thin Films Near the Carbon 1s Absorption Edge*," Physical Review Letters **110**(17), 177401 (2013). **(HI)**

2013ZM& R. Zdyb, T. O. Menteş, A. Locatelli, M. A. Niño, and E. Bauer, *Inelastic mean free path from reflectivity of slow electrons,* Phys. Rev. B **87**, 075436 (2013)

2013ZW&a J. Zhong, J. Wang, J. Zhou, B.H. Mao, C.H. Liu, H.B. Liu, Y.L. Li, T.K. Sham, X.H. Sun, and S.D. Wang, *Electronic Structure of Graphidyne Probed by X-Ray Absorption Spectroscopy and Scanning Transmission X-Ray Microscopy*, J. Phys. Chem. C**117** 5931 **(**2013)

2013ZW&b Jigang Zhou, Jian Wang, Yongfeng Hu, Tom Regier, Hailiang Wang, Yuan Yang, Yi Cui and Hongjie Dai, *Imaging state of charge and its correlation to interaction variation in* $LiMn_{0.75}Fe_{0.25}P_4$ *nanorods-graphene hybrid*, Chem. Commun. 49 (2013) 1765-1767.

2013ZW&c K. Zeissler, S.K. Walton, S. Ladak, D. Read, T. Tyliszczak, L.F. Cohen, and W.R. Branford, *The non-random walk of chiral magnetic charge carriers in artificial spin ice,* Scientific Reports **3**, 1252 (2013)

2013ZW&d Zhang, W., P.K. Wong, J. Wu, S.A. Morton, X.R. Wang, X.F. Hu, Y.B. Xu, A. Scholl, A. Young, I. Barsukov, M. Farle, and G. van der Laan, "*Observation of current-driven oscillatory domain wall motion in Ni80Fe20/Co bilayer nanowire,*" Applied Physics Letters **103**, 042403-042404 (2013)

2014AA& Ahlberg S, Antonopulos A, Diendorf J, Dringen R, Epple M, Flöck R, et al., *PVP-coated, negatively charged silver nanoparticles: a multi-center study of their physicochemical characteristics, cell culture and in vivo experiments*, Beilstein Journal of Nanotechnology. **5**, 1944-1965 (2014).

2014AB& H. Al-Qahtani, M.T. Bryan, T.J. Hayward, M.P. Hodges, M.-Y. Im, P. Fischer, M. Grell, and D.A. Allwood, "Planar organic spin valves using nanostructured $Ni_{80}Fe_{20}$ magnetic contacts," *Organic Electronics* **15**(1), 276-280 (2014).

2014AC& DJ Adams, S. Chappellet, F. Lincker, M. Ibn-Elhaj, B. Watts, M. Iannuzzi, D. Jung, CA Pignedoli and D. Passerone, *Identifying Photoreaction Products in Cinnamate-Based Photoalignment Materials,* J. Physical Chemistry C **118**, 15422-15433 (2014).

2014AH& R.D. Arrua, A.P. Hitchcock, W.B. Hon, M. West and E.F. Hilder, *Characterisation of Polymer Monoliths Containing Embedded Nanoparticles by Scanning Transmission X-Ray Microscopy (STXM)*, Analytical Chemistry **86** 2876–2881 (2014)

2014AT& S. Albrecht, J.R. Tumbleston, S. Janietz, I. Dumsch, S. Allard, U. Scherf, H. Ade, and D. Neher, "*Quantifying Charge Extraction in Organic Solar Cells: The Case of Fluorinated PCPDTBT*," J. Physical Chemistry Letters **5**(7), 1131-1138 (2014)

2014AV& S. Albrecht, K. Vandewal, J.R. Tumbleston, F.S. Fischer, J.D. Douglas, J. Frechet, S. Ludwigs, H.W. Ade, A. Salleo, and D. Neher, "*On the Efficiency of Charge Transfer State Splitting in Polymer: Fullerene Solar Cells*," Advanced Materials **26**(16), 2533-2539 (2014).

2014B E. Bauer, *surface Microscopy with Low Energy Electrons*, (Springer, NY, 2014)

2014BA&a P.Bocchetta, M. Amati, B. Bozzini, M. Catalano, A. Gianoncelli, L. Gregoratti, A. Taurino and M. Kiskinova, *Quasi-in situ single-grain photoelectron microspectroscopy of Co/PPy nanocomposites under Oxygen Reduction Reaction*, ACS Appl. Mater. Interfaces **6** 19621−19629 (2014)

2014BA&b H. E. van der Bij, L.R. Aramburo, Bjørnar Arstad, James J. Dynes, Jian Wang, Bert M. Weckhuysen, *Phosphatation of Zeolite H-ZSM-5: A Combined Microscopy and Spectroscopy Study*, ChemPhysChem **15** 283-292 (2014)

2014BA&c J. Bufon , M. Ahangarianabhari , P. Bellutti , G. Bertuccio , S. Carrato , G. Cautero , S. Fabiani , G. Giacomini , A. Gianoncelli , D. Giuressi , M. Grassi , P. Malcovati , R.H. Menk , A. Picciotto , C. Piemonte , I. Rashevskaya , A. Rachevski , A. Stolfa , A. Vacchi , G. Zampa , N. Zampa , *A novel multi-cell silicon drift detector for Low Energy X-Ray Fluorescence (LEXRF) spectroscopy,* Journal of Instrumentation, **9** C12017 (2014)

2014BB&a B. Bozzini, P. Bocchetta, A. Gianoncelli, C. Mele and M. Kiskinova, *Electrodeposition of Co/CoO Nanoparticles Onto Graphene for ORR Electrocatalysis: a Study Based on Micro-X-ray Absorption Spectroscopy and X-ray Fluorescence Mapping* Acta Chimica Slovenica, **61** 263-271 (2014)

2014BB&b AR Biedermann, C. Bender Koch, WEA Lorenz and AM Hirt, *Low-temperature magnetic anisotropy in micas and chlorite* Tectonophysics **629** 63 (2014).

2014BB&c Bendele M., Barinov A., Joseph B., Innocenti D., Iadecola A., Bianconi A., Takeya H., Mizuguchi Y., Takano Y., Noji T., Hatakeda T., Koike Y., Horio M., Fujimori A., Ootsuki D., Mizokawa T., Saini N.L. , *Spectromicroscopy of electronic phase separation in $K_xFe_{2-y}Se_2$ superconductor*, Scientific Reports, **4** 5592, (2014) **HI**

2014BC& H.E van der Bij, D. Cicmil, Jian Wang, Florian Meirer, Frank M. F. de Groot, and Bert M. Weckhuysen, *Aluminum-Phosphate Binder Formation in Zeolites as Probed with X-ray Absorption Microscopy*, J. Am. Chem. Soc. **136** 17774-17787. (2014)

2014BF&a E. Buchaca-Domingo, A.J. Ferguson, F.C. Jamieson, T. McCarthy-Ward, S. Shoaee, J.R. Tumbleston, O.G. Reid, L. Yu, M.B. Madec, M. Pfannmoller, F. Hermerschmidt, R.R. Schroder, S.E. Watkins, N. Kopidakis, G. Portale, A. Amassian, M. Heeney, H. Ade, G. Rumbles, J.R. Durrant, and N. Stingelin, "*Additive-assisted supramolecular manipulation of polymer:fullerene blend phase morphologies and its influence on photophysical processes*," Materials Horizons **1**(2), 270-279 (2014).

2014BF&b Bechtel, H.A., G.J. Flynn, C. Allen, D. Anderson, A. Ansari, S. Bajt, R. Bastien, N. Bassim, J. Borg, F.E. Brenker, J. Bridges, D.E. Brownlee, M. Burchell, M. Burghammer, A.L. Butterworth, H. Changela, P. Cloetens, A.M. Davis, R. Doll, C. Floss, D.R. Frank, Z. Gainsforth, E. Grün, P.R. Heck, J.K. Hillier, P. Hoppe, B. Hudson, J. Huth, B. Hvide, A. Kearsley, A.J. King, B. Lai, J. Leitner, L. Lemelle, H. Leroux, A. Leonard, R. Lettieri, W. Marchant, L. Nittler, R.C. Ogliore, W.J. Ong, F. Postberg, M.C. Price, S.A. Sandford, J. Sans Tresseras, S. Schmitz, T. Schoonjans, G. Silversmit, A.S. Simionovici, V.A. Solé, R. Srama, F.J. Stadermann, T. Stephan, V.J. Sterken, J. Stodolna, R.M. Stroud, S. Sutton, M. Trieloff, P. Tsou, A. Tsuchiyama, T. Tyliszczak, B. Vekemans, L. Vincze, J. Von Korff, A.J. Westphal, N. Wordsworth, D. Zevin, and M. Zolensky, *"Stardust Interstellar Preliminary Examination III: Infrared spectroscopic analysis of interstellar dust candidates*," Meteoritics & Planetary Science **49**, 1548-1561 (2014).

2014BG&a B. Bozzini, A. Gianoncelli, C. Mele, I. Sgura and M. Kiskinova, *Electrodeposition of a MnCuZnO Hybrid Material for Supercapacitors: A Soft X-ray Fluorescence and Absorption Microspectroscopy Study,* ChemElectroChem, **1** 392-399 (2014).

2014BG&b B. Bocchetta, A. Gianoncelli, MK Abyaneh, M. Kiskinova, M. Amati, L. Gregoratti, D. Jezersek, C. Mele and B. Bozzini, *Electrosynthesis of Co/PPy nanocomposites for ORR electrocatalysis: a study based on quasi-in situ X-ray absorption, fluorescence and in situ Raman spectroscopy* Electrochimica Acta, **137** 535-545 (2014)

2014BG&c B. Bozzini, A. Gianoncelli, C. Mele, MK Abyaneh, D. Jezersek, I.Sgura and M. Kiskinova, *Pulse-Plating of MnCuZnO for Supercapacitors: A Study Based on Soft X-ray Fluorescence and Absorption Microspectroscopy* ChemElectroChem, **1** 1161-1172 (2014)

2014BG&d M. Balestrieri, M. Gallart, M. Ziegler, P. Bazylewski, G. Ferblantier, G. Schmerber, G. S. Chang, P. Gilliot, D. Muller, A. Slaoui, S. Colis, A. Dinia, *Luminescent Properties and Energy Transfer in Pr3+ Doped and Pr3+-Yb3+ Co-doped ZnO Thin Films*, J. Phys. Chem. C **118** 13775 (2014)

2014BG&e Bozzini B., Gianoncelli A., Bocchetta P., Dal Zilio S., Kourousias G., *Fabrication of a Sealed Electrochemical Microcell for in Situ Soft X-ray Microspectroscopy and Testing with in Situ Co-Polypyrrole Composite Electrodeposition for Pt-Free Oxygen Electrocatalysis,* Analytical Chemistry, **86** 664-670 (2014)

2014BJ& Baio, J. E., Jaye, C., Fischer, D. A., & Weidner, T. *High-Throughput Analysis of Molecular Orientation on Surfaces by NEXAFS Imaging of Curved Sample Arrays*. *ACS Combinatorial Science*, **16**, 449–453 (2014)

2014BK&a VF Bondici, NH Khan, GD Swerhone, JJ Dynes, JR Lawrence, E Yergeau, GM Wolfaardt, J Warner and DR Korber *Biogeochemical activity of microbial biofilms in the water column overlying uranium mine tailings*. J Appl. Microbiol. **117** 1079 (2014)

2014BK&b I.-S. Byun, W. Kim, D. W. Boukhvalov, I. Hwang, J. W. Son, G. Oh, J. S. Choi, D. Yoon, H. Cheong, J. Baik, H.-J. Shin, H. W. Shiu, C.-H. Chen, Y.-W. Son, and B. H. Park, *Electrical Control of Nanoscale Functionalization in Graphene by the Scanning Probe Technique*, NPG Asia Mater. **6** , e102 (2014)

2014BM&s E. Bauer, K.L. Man, A. Pavlovska, A. Locatelli, T.O. Menteş, M.A. Niño and M. Altman, *Fe_3S_4 (Greigite) formation by vapor-solid reaction,* J. Mater. Chem. A **2**, 1903-1913 (2014).

2014BM&b H. E van der Bij, F. Meirer, Sam Kalirai, Jian Wang, Bert M Weckhuysen, *Hexane Cracking over Steamed Phosphated Zeolite H-ZSM-5: Promotional Effect on Catalyst Performance and Stability*, Chemistry - A European Journal, **20**) 1722 (2014)

2014BN& R.E. O'Brien, A. Neu, S.A. Epstein, A.C. MacMillan, B. Wang, S.T. Kelly, S.A. Nizkorodov, A. Laskin, R.C. Moffet, and M.K. Gilles, "*Physical properties of ambient and laboratory-generated secondary organic aerosol,*" Geophys. Res. Lett. **41**(12), 4347-4353 (2014)

2014BP Bernard, S., and D. Papineau, "Graphitic Carbons and Biosignatures," Elements 10(6), 435-440 (2014).

2014BS& K. Benzerara, F. Skouri-Panet, J. Li, C. Férard, M. Gugger, T. Laurent, E. Couradeau, M. Ragon, J. Cosmidis, N. Menguy, I. Margaret-Oliver, R. Tavera, P. Lopez-García, and D. Moreira, *"Intracellular Ca-carbonate biomineralization is widespread in cyanobacteria*," Proceedings of the National Academy of Sciences of the United States of America **111**, 10933 (2014)

2014BT& S.A. Bennett, B.M. Toner, R. Barco, and K.J. Edwards, "*Carbon adsorption onto Fe oxyhydroxide stalks produced by a lithotrophic iron-oxidizing bacteria,*" Geobiology **12**(2), 146-156 (2014).

2014BW H.k E. van der Bij, B.M. Weckhuysen, *Local Silico-Aluminophosphate Interfaces within Phosphated H-ZSM-5 Zeolites*, Phys. Chem. Chem. Phys. **16** 9892-9903. (2014)

2014BW&a A.L. Butterworth, A.J. Westphal, T. Tyliszczak, Z. Gainsforth, J. Stodolna, D.R. Frank, C. Allen, D. Anderson, A. Ansari, S. Bajt, R.K. Bastien, N. Bassim, H. Bechtel, J. Borg, F. Brenker, J. Bridges, D.E. Brownlee, M. Burchell, M. Burghammer, and e.t. al, *Stardust Interstellar Preliminary Examination IV: Scanning transmission X-ray microscopy analyses of impact features in the Stardust Interstellar Dust Collector*, Meteoritics & Planetary Science **49**(9), 1562-1593 (2014)

2014BW&b Brenker, F.E., A. Westphal, L. Vincze, M. Burghammer, S. Schmitz, T. Schoonjans, G. Silversmit, B. Vekemans, C. Allen, D. Anderson, A. Ansari, S. Bajt, R.K. Bastien, N. Bassim, H.A. Bechtel, J. Borg. , J. Bridges, D.E. Brownlee, A,M. Davis, R. Doll, C. Floss, G. Flynn, P. Fougeray, D.R. Frannk, Z. Gainsforth, E. Grun , P.R. Heck, J.K. Hillier, P. Hoppe, B. Hudson, J. Huth, B. HVide, A. Kearsley, A.J. King, B. Lai, J. Leitner, L. Lemelle, H. Leroux, A. Leonard, R. Lettieri, W. Marchant, L. Nittler, R.C. Ogliore, W.J. Ong, F. Postberg, M.C. Price, S.A. Sanford, J.S. Tresseras, A.S. Simionovici, V.A. Sole, R. Srama, F. Staderrmann, T. Stephan, V.J. Sterken, J. Stodolna, R.M. Stroud, S. Sutton, M. Trieloff, P. Tsuo, A. Tsuchiyama, T. Tyliszczak, J.V. Korff, N. Wordworth, D. Zevin, and M.E. Zolensky, "*Stardust Interstellar Preliminary Examination V: XRF analyses of interstellar dust candidates at ESRF ID13*," Meteoritics & Planetary Science **49**, 1594-1611 (2014).

2014BY& C. J. Butler, H.-H. Yang, J.-Y. Hong, S.-H. Hsu, R. Sankar, C.-I. Lu, H.-Y. Lu, K.-H. O. Yang, H.-W. Shiu, C.-H. Chen, C.-C. Kaun, G.-J. Shu, F.-C. Chou, and M.-T. Lin, *Mapping Polarization Induced Surface Band Bending on the Rashba Semiconductor BiTeI*, Nature. Commun. **5** , 4066 (2014) **(HI)**

2014CB J. Cosmidis and K. Benzerara *Soft X-ray Scanning Transmission Spectromicroscopy*. In *Biomineralization Sourcebook*, E. DiMasi and L.B. Gower;, eds CRC Press, London, UK 2014)

2014CB& J. Cosmidis, K. Benzerara, G. Morin, V. Busigny, O. Lebeau, G. Othmane, G. Dublet, and V. Noel, "*Biomineralization of iron-phosphates in the water column of Lake Pavin (Massif Central, France),*" Geochimica et Cosmochimica Acta **126**, 78-96 (2014)

2014CC A. Caneschi and M. B. Casu, *Substrate-induced effects in thin films of a potential magnet composed of metal-free organic radicals deposited on Si(111)* Chem. Commun. **50**, 13510 (2014)

2014CC&a I. A. Chioar, B. Canals, D. Lacour, M. Hehn, B. Santos Burgos, T. O. Menteş, A. Locatelli, F. Montaigne, and N. Rougemaille; *Kinetic pathways to the magnetic charge crystal in artificial dipolar spin ice*, Phys. Rev. B **90**, 220407 (2014).

2014CC&b H.-M. Chien, M.-C. Chuang, H.-C. Tsai, H.-W. Shiu, L.-Y. Chang, C.-H. Chen, S.-W. Lee, J. D. White, and W.-Y. Woon *On the Nature of Defects Created on Graphene by Scanning Probe Lithography under Ambient Conditions*, Carbon **80,** 318 (2014)

2014CC&d P.-Y. Cheng, M.-R. Chiang, Y.-L. Chan, Y.-J. Hsu, P.-C. Wang, and D. H. Wei, "*Deep Co Penetration and Spin-polarization of C60 Molecules at Hybridized Co-C60 Interfaces*", Appl. Phys. Lett. **104** , 043303 (2014)

2014CD&a C. Chen, J. J. Dynes, J. Wang, C. Karunakaran and D.L. Sparks, *Soft X-ray Spectromicroscopy Study of Mineral-Organic Matter Associations in Pasture Soil Clay Fractions*, Env. Science & Technology **48** 6678 (2014)

2014CD&b C. Chen, J. J. Dynes, J. Wang, and D.L. Sparks, *Properties of Fe-Organic Matter Associations via Coprecipitation versus Adsorption*. Environmental Science & Technology **48** 13751 (2014)

2014CD&c B.P. Cinquin, M. Do, G. McDermott, A.D. Walters, M.J. Myllys, E.A. Smith, O. Cohen-Fix, M.A. Le Gros, and C.A. Larabell, *Putting molecules in their place*, J. Cell. Biochem. **115**, 209-216 (2014).

2014CD&d R. Carzaniga, Domart, M. C., Duke, L., Collinson, L. M. *Correlative Cryo-Fluorescence and Cryo-Soft X-Ray Tomography of Adherent Cells at European Synchrotrons*, Methods Cell Biology **124** 151-78 (2014)

2014CGM G. Collodetti, , P.JP. Gleize, and P.JM. Monteiro, "Exploring the potential of siloxane surface modified nano-SiO_2 to improve the Portland cement pastes hydration properties," Construction & Building Materials **54**, 99-105 (2014)

2014CJ& R. Copping, B. Jeon, C.D. Pemmaraju, S. Wang, S.J. Teat, M.R. Janousch, T. Tyliszczak, A. Canning, N. Grenbech-Jensen, D. Prendergast, and D.K. Shuh, *Toward Equatorial Planarity about Uranyl: Synthesis and Structure of Tridentate Nitrogen-Donor UO_2^{2+} Complexes,* Inorganic Chemistry **53**(5), 2506-2515 (2014)

2014CK& Choi, J.W., H.-J. Kim, K.-H. Kim, A. Scholl, and J. Chang, "*Uniaxial magnetic anisotropy in epitaxial Fe/MgO films on GaAs(001)*," Journal of Magnetism and Magnetic Materials 360, 109-112 (2014).

2014CR&a S. Da Col, S. Jamet, N. Rougemaille, A. Locatelli, T.O. Menteş, B. Santos Burgos, R. Afid, M. Darques, L. Cagnon, J. C. Toussaint, and O. Fruchart, *Observation of Bloch-point domain walls in cylindrical magnetic nanowires;, P*hys. Rev. B 89, 180405 (2014).

2014CR&b A. Cruz-Adalia, G. Ramirez-Santiago, C. Calabia-Linares, M. Torres-Torresano, L. Feo, M. Galán-Díez, E.Fernández-Ruiz, E. Pereiro, P. Guttmann, M. Chiappi, G. Schneider, J. López Carrascosa, F. J. Chichón, G. Martínez del Hoyo, F. Sánchez-Madrid, E. Veiga, *T Cells Kill Bacteria Captured by Transinfection from Dendritic Cells and Confer Protection in Mice,* Cell Host & Microbe, **15**, 5 (2014).

2014CS& S.L. Cousin, F. Silva, Teichmann S, Hemmer M, Buades B and Biegert J *High-flux table-top soft x-ray source driven by sub-2-cycle, CEP stable, 1. 85 μm 1 kHz pulses for carbon K-edge spectroscop*y Opt. Lett. 39 5383–6 (2014).

2014DH& D. Darwis, N. Holmes, D. Elkington, A.L. Kilcoyne, G. Bryant, X. Zhou, P. Dastoor, and W.J. Belcher, "Surfactant-free Nanoparticulate Organic Photovoltaics," Solar Energy Materials and Solar Cells **121**, 99-107 (2014).

2014DM& RT DeVol, RA Metzler, L Kabalah-Amitai, B Pokroy, Y Politi, A Gal, L Addadi, S Weiner, A Fernandez-Martinez, R Demichelis, JD Gale, J Ihli, FC Meldrum, AZ Blonsky, CE Killian, CB Salling, AT Young, MA Marcus, A Scholl, A Doran, C Jenkins, HA Bechtel, and PUPA Gilbert.*Oxygen spectromicroscopy and polarization-dependent imaging contrast mapping of calcium carbonate minerals and biominerals.* J. Phys. Chem. B **118** 8449-8457 (2014)

2014DR& S. Da Col, S. Jamet, N. Rougemaille, A. Locatelli, T.O. Menteş, B. Santos Burgos, R. Afid, M. Darques, L. Cagnon, J. C. Toussaint, and O. Fruchart, *Observation of Bloch-point domain walls in cylindrical magnetic nanowires*, Phys. Rev. B **89**, 180405 (2014).

2014DZ& Y. Du, Y. Zhao, Y. Qu, C.-H. Chen, C.-M. Chen, C.-H. Chuang, and Y. Zhu, *Enhanced Light-matter Interaction of Graphene-gold Nanoparticle Hybrid Films for High-performance SERS Detection*", J. Mater. Chem. C **2** , 4683 (2014)

2014EC&a J. Everett, E. Cespedes, L.R. Shelford, C. Exley, J.F. Collingwood, J. Dobson J., G. van der Laan G., C. A.,Jenkins, E. Arenholz and N.D. Telling, *Ferrous iron formation following the co-aggregation of ferric iron and the Alzheimer's disease peptide beta-amyloid (1-42)*, J. Royal Society Interface **11,** 20140165 (2014).

2014EC&b J. Everett, E. Cespedes, L.R. Shelford, C. Exley, J.F. Collingwood, J. Dobson J., G. van der Laan G., C. A.,Jenkins, E. Arenholz and N.D. Telling, *Evidence of Redox-Active Iron Formation Following Aggregation of Ferrihydrite and the Alzheimer's Disease Peptide beta-Amyloid* Inorganic Chemistry **53,** 2803-2809 (2014).

2014EK& T. Ejima, M. Kado, M. Aoyama, K. Yasuda and T. Tamotsu, *Absorption Spectra of Bio-cell Organelles in Cultural Fluid*, UVSOR Ann Rep. 149 (2014)

2014EO& E.M. Eickhoff, M. Obst, C.Schröder, A.P. Hitchcock, T. Tyliszczak, R.E. Martinez, L.J. Robbins, K.O. Konhauser and A. Kappler, *Nickel partitioning in biogenic and abiogenic ferrihydrite: the influence of silica and implications for ancient environments*, Geochim Cosmochim Acta **140**, 65-79 (2014)

2014Fa P. Fischer, "*X-ray imaging of magnetic structures*," IEEE Transactions on Magnetics **PP**(99), 1 (2014).

2014Fb P. Fischer, "F*rontiers in imaging magnetism with polarized x-rays*," Fronteirs in Physics **2**, 82 (2014).

2014FG& Fernandes VR, Gustafson J, Svenum I-H, Farstad MH, Walle LE, Blomberg S, Lundgren E, Borg A *Reduction Behavior of Oxidized Pd(100) and $Pd_{75}Ag_{25}$(100) Surfaces Using CO*. Surf. Sci. **621**, 31 (2014)

2014FKO H. Fukidome, M. Kotsugi, M. *Oshima, Complementary use of soft X-ray operando spectromicroscopies on the development of next-generation devices,* Spring8 Ann Rep, 54-55, (2014)

2014FR& A.A. Frossard, L.M. Russell, P. Massoli, T.S. Bates, and P.K. Quinn, "*Side-by-Side Comparison of Four Techniques Explains the Apparent Differences in the Organic Composition of Generated and Ambient Marine Aerosol Particles*," Aerosol Science and Technology **48**(3), v-x (2014)

2014FS S. Forti and U. Starke, *Epitaxial graphene on SiC: from carrier density engineering to quasi-free standing graphene by atomic intercalation*. J. Phys. D - Applied Physics **47**, 094013 (2014)

2014FS&a S.S. Farvid, T. Sabergharesou, L.N. Hutfluss, M. Hegde, E. Prouzet, and P.V. Radovanovic, *Evidence of Charge-Transfer Ferromagnetism in Transparent Diluted Magnetic Oxide Nanocrystals: Switching the Mechanism of Magnetic Interactions*, J. Am. Chem. Soc. **136** 7669 (2014)

2014FS&b Flynn, G.J., S.R. Sutton, B. Lai, S. Wirick, C. Allen, D. Anderson, A. Ansari, S. Bajt, R.K. Bastien, N. Bassim, H.A. Bechtel, J. Borg, F.E. Brenker, J. Bridges, D.E. Brownlee, M. Burchell, M. Burghammer, A.L. Butterworth, H. Changela, P. Cloetens, A.M. Davis, R. . Doll, C. Floss, D. Frank, Z. Gainsforth, E. Grün, P.R. Heck, J.K. Hillier, P. Hoppe, B. Hudson, J. Huth, B. Hvide, A. Kearsley, A.J. King, J. Leitner, L. Lemelle, H. Leroux, A. Leonard, R. Lettieri, W. Marchant, L. Nittler, R.C. Ogliore, W.J. Ong, F. Postberg, M.C. Price, S.A. Sanford, J.S. Tresseras, S. Schmitz, T. Schoonjans, G. Silversmit, A.S. Simionovici, V.A. Sol, R. Srama, F.J. Stadermann, T. Stephan, V. Sterken, J. Stodolna, R.M. Stroud, M. Trieloff, P. Tsou, A. Tsuchiyama, T. Tyliszczak, B. Vekemans, L. Vincze, J. Von Korff, A.J. Westphal, N. Wordsworth, D. Zevin, and M.E. Zolensky, "*Stardust Interstellar Preliminary Examination VII: Synchrotron X-ray fluorescence analysis of six Stardust interstellar candidates measured with the Advanced Photon Source 2-ID-D microprobe,*" Meteoritics & Planetary Science **49**, 1626-1644 (2014)

2014FW& D.R. Frank, A.J. Westphal, M.E. Zolensky, Z. Gainsforth, A.L. Butterworth, R.K. Bastien, C. Allen, A. Anderson, A. Ansari, S. Bajt, N. Bassim, H.A. Bechtel, J. Borg, F.E. Brenker, J. Bridges, D.E. Brownlee, M. Burchell, M. Burghammer, H. Changela, P. Cloetens, A.M. Davis, R. Doll, C. Floss, G. Flynn, E. Grun, P.R. Heck, J.K. Hillier, P. Hope, B. Hudson, J. Huth, B. Hvide, A. Kearsley, A.J. King, J. Leitner, L. Lamelle, H. Leroux, A. Leomard, R. Leittieri, W. Marchant, L. Nittler, R.C. Ogliore, W.J. Ong, F. Postberg, T. Schoonjans, G. Silversmit, A.S. Simionovici, V.A. Sole, R. Srama, T. Stephan, V.J. Sterken, J. Stodolna, R.M. Stroud, S. Sutton, M. Trieloff, P. Tsou, A. Tsuchiyama, T. Tyliszczak, B. Vekemmans, L. Vincze, J.V. Korff, N. Wordsworth, and D. Zevin, *Stardust Interstellar Preliminary Examination II: Curating the interstellar dust collector, picokeystones, and sources of impact tracks,* Meteoritics & Planetary Science **49**(9), 1522-1547 (2014).

2014G P. Gilbert, *Photoemission spectromicroscopy for the biomineralogist*. in "Biomineralization Sourcebook, Characterization of Biominerals and Biomimetic Materials" Gower and E DiMasi Editors,, CRC Press, Boca Raton, FL, 135-151. (2014)

2014GB&a Z. Gainsforth, F.E. Brenker, A.S. Simionovici, S. Schmitz, M. Burghammer, A.L. Butterworth, P. Cloetens, L. Lemelle, B. Vekemans, L. Vincze, A.J. Westphal, C. Allen, D. Anderson, A. Ansari, S. Bajt, R.K. Bastien, N. Bassim, H.A. Bechtel, H. Changela, A.M. Davis, R. Doll, C. Floss, G. Flynn, P. Fougeray, D. Frank, E. Grün, P.R. Heck, J.K. Hillier, P. Hoppe, B. Hudson, J. Huth, B. Hvide, A. Kearsley, A.J. King, B. Lai, J. Leitner, H. Leroux, A. Leonard, R. Lettieri, W. Marchant, L.R. Nittler, R. Ogliore, W.J. Ong, F. Postberg, M.C. Price, S.A. Sandford, R. Srama, T. Stephan, V. Sterken, J.

Stodolna, R.M. Stroud, S. Sutton, M. Trieloff, P. Tsou, A. Tsuchiyama, T. Tyliszczak, J. Von Korff, D. Zevin, and M.E. Zolensky, *Stardust Interstellar Preliminary Examination VIII: Identification of crystalline material in two interstellar candidates*, Meteoritics & Planetary Science **49**(9), 1645-1665 (2014)

2014GB&b Le Guillou, C., S. Bernard, A.J. Brearley, and L. Remusat, "*Evolution of organic matter in Orgueil, Murchison and Renazzo during parent body aqueous alteration: in-situ investigations*," Geochim. Cosmochim. Acta **131**, 388-392 (2014)

2014GK& A Gal, K Kahil, N Vidavsky, RT DeVol, PUPA Gilbert, P Fratzl, S Weiner, L Addadi. *Particle accretion mechanism underlies biological crystal growth from an amorphous precursor phase.* Adv Funct Mater 24 5420-5426 (2014).

2014GM&a S. Günther, T.O. Menteş, M.A. Nino, A. Locatelli, S. Böcklein, and J. Wintterlin, *Desorption kinetics from a surface derived from direct imaging of the adsorbate layer***,** Nat. Comm. **5**, 3853 (2014) **HI**

2014GM&b D.C. Grinter, C. Muryn, B. Santos, B.-J. Shaw, T.O. Menteş, A. Locatelli, and G. Thornton, Spectromicroscopy of a Model Water–Gas Shift Catalyst: Gold Nanoparticles Supported on Ceria, J. Phys. Chem. C **118** 19194–19204 (2014)

2014GN& E. Groopman, L.R. Nittler, T. Bernatowicz, and E.K. Zinner, "*NanoSIMS, TEM, and XANES studies of a Unique Presolar Supernova Graphite Grain*," The Astrophysical Journal Volume **790**(1), 9 (2014).

2014GP& Grinter, D.C., Pang, C.L., Muryn, C.A., Maccherozzi, F., Dhesi, S.S., Thornton, G., *Characterising ultrathin ceria films at the nanoscale: Combining spectroscopy and microscopy.* Journal of Electron Spectroscopy and Related Phenomena 195, 13–17 (2014).

2014GS&a Gregor Schmid, Fabian Zeitvogel, Likai Hao, Pablo Ingino, Wolfgang Kuerner, James J. Dynes, Chithra Karunakaran, Jian Wang, Yingshen Lu, Travis Ayers, Chuck Schietinger, Adam P. Hitchcock and Martin Obst, *Synchrotron-based chemical nano-tomography of microbial cell-mineral aggregates in their natural, hydrated state*, Microscopy & Microanalysis **20**, 531-536 **(**2014)

2014GS&b B.T. De Gregorio, R.M. Stroud, L.R. Nittler, G. Cody and A. L. D.Kilcoyne, *Coordinated Electron and X-ray Microscopy of Cometary Organic Matter Collected by the NASA Stardust Mission*, Microscopy & Microanalysis **20** S3 1694 (2014)

2014GSM R. E Goacher, M.J Selig and E.R Master, *Advancing lignocellulose bioconversion through direct assessment of enzyme action on insoluble substrates*, Current Opinion in Biotechnology **27** 123 (2014)

2014GZ& J. Gao, J. Zhong, L. Bai, J. Liu, G. Zhao & X. Sun, *Revealing the Role of Catalysts in Carbon Nanotubes and Nanofibers by Scanning Transmission X-ray Microscopy*, Scientific Reports **4,** 3606 (2014) **HI**

2014HB&a A.P. Hitchcock, V. Berejnov, V. Lee, M.M. West, M. Dutta, V. Colbow and S. Wessel, *Carbon corrosion of Proton Exchange Membrane Fuel Cell Membrane Fuel Cell catalyst layers studied by Scanning Transmission X-ray Microscopy*, J. Power Sources **266** 66-78, (2014)

2014HB&b A. P. Hitchcock, V. Berejnov, V. Lee, D. Susac and J. Stumper, *In situ methods for analysis of polymer electrolyte membrane fuel cell materials by soft X-ray scanning transmission x-ray microscopy*, Microscopy & Microanalysis **20 S3** 1532-1533 (2014)

2014HB&c M.P.P. Hodges, M.T. Bryan, P.W. Fry, M.-Y. Im, P. Fischer, and T.J. Hayward, *Suppression of stochastic pinning in magnetic nanowire devices using "virtual" domain walls*," J. Appl. Phys. **116**(12), 123914 (2014).

2014HB&d Heron, J.T., J.L. Bosse, Q. He, Y. Gao, M. Trassin, L. Ye, J.D. Clarkson, C. Wang, J. Liu, S. Salahuddin, D.C. Ralph, D. Schlom, J. Iniguez, B.D. Huey, and R. Ramesh, "*Deterministic switching of ferromagnetism at room temperature using an electric field*," Nature 516(7531), 370-373 (2014). **HI**

2014HH& D. Hernández-Cruz,, C.W. Hargis, S. Bae, P.A. Itty, C. Meral, J. Dominowski, M.J. Radler, A.L. Kilcoyne, and P.J.M. Monteiro, *Multiscale characterization of chemical-mechanical interactions between polymer fibers and cementitious matrix*, Cement and Concrete Composites **48**, 9-18 (2014)

2014HM& X. He, S. Mukherjee, S. Watkins, M. Chen, T. Qin, L. Thomsen, H. Ade and C. McNeill, *Influence of Fluorination and Molecular Weight on the Morphology and Performance of PTB7:PC71BM Solar Cells,* J. Physical Chemistry C **118**, 9918 (2014).

2014HT A.P. Hitchcock and M.F. Toney, *Spectromicroscopy and coherent diffraction imaging: focus on energy materials applications*. J. Synchrotron Radiation **21** 1019-1030 (2014)

2014HU& Holmes, N., S. Ulum, P. Sista, K. Burke, M. Wilson, M. Stefan, X. Zhou, P. Dastoor, and W. Belcher, "*The effect of polymer molecular weight on P3HT:PCBM nanoparticulate organic photovoltaic device performance*," Solar Energy Materials and Solar Cells **128**, 369-377 (2014).

2014HW& Y.E. Huang, W. Wen, S. Mukherjee, H. Ade, E.J. Kramer, and G. Bazan, "H*igh-Molecular-Weight Insulating Polymers Can Improve the Performance of Molecular Solar Cells,*" Advanced Materials **26**(24), 4168-4172 (2014).

2014HY& J.-Y. Hong, K.-H. O. Yang, B.-Y. Wang, K.-S. Li, H.-W. Shiu, C.-H. Chen, Y.-L. Chan, D.-H. Wei, F.-H. Chang, H.-J. Lin, W.-C. Chiang*, and M.-T. Lin, *"Interfacial Spectroscopic Characterization of Organic/Ferromagnet Hetero-junction of 3,4,9,10-perylene-teracarboxylic Dianhydride-based Organic Spin Valves*", Appl. Phys. Lett. **104** , 083301 (2014)

2014IL& M. Im, K.-S. Lee, A.Vogel, J.-I. Hong, G. Meier, and P. Fischer, "S*tochastic formation of magnetic vortex structures in asymmetric disks triggered by chaotic dynamics*," Nature **5**, 5620 (2014). **HI**

2014IO& A. Ito, T. Ohigashi, K. Shinohara, S. Tone, M. Kado, Y. Inagaki and N. Kosugi, Chemical Mapping of DNA and Protein in Isolated Cell Nuclei during apoptotic processes uising STXM, UVSOR Ann Rep. 151 (2014)

2014IW& G. R.S. Iyer, J.Wang, G. Wells, S.Guruvenket, S. Payne, M. Bradley and F. Borondics, *Large Area Freestanding Single Layer Graphene-Gold: A Novel Plasmonic Nanostructure*, ACS Nano **8** 6353 (2014)

2014JA& L. I. Johansson , R. Armiento1, J. Avila , C. Xia , S. Lorcy , I.A. Abrikosov1, M.C. Asensio and C. Virojanadara, *Multiple p-bands and Bernal stacking of multilayer graphene on C-face SiC, revealed by nano-Angle Resolved Photoemission* Nature Scientific Reports **4** 4157 (2014)

2014JC& J. Wang, J.A. Colón Santana, N. Wu, C. Karunakaran, J. Wang, P.A. Dowben and C. Binek, *Magnetoelectric Fe_2TeO_6 thin films*, J. Phys. Condens. Matter **26** 055012 (2014)

2014JE& M.W. M. Jones, K. Elgas, M.D. Junker , M.B. Luu, M. T. Ryan, A.G. Peele and G. A. van Riessen, *Mapping biological composition through quantitative phase and absorption X-ray ptychography*, Scientific Reports **4**, 06796 (2014)

2014JG& D. Jeremic , R. E Goacher , R. Yan, C. Karunakaran and E.R. Master, *Direct and up-close views of plant cell walls show a leading role for lignin-modifying enzymes on ensuing xylanases*, Biotechnology for Biofuels **7**, 496 (2012)

2014JS& J. Jamroskovic, P.P. Shao , E. Suvorova , I. Barak & R. Bernier-Latmani, *Combined scanning transmission X-ray and electron microscopy for the characterization of bacterial endospores,* FEMS Microbiol Lett **358** 188–193 (2014).

2014JV LI Johansson and C. Virojanadara, *Properties of epitaxial graphene grown on C-face SiC compared to Si-face*., J. Mater. Res. **29**, 426 (2014)

2014K Kumar, S., "*Mechanisms of resistance switching in various transition metal oxides*," doctoral dissertation, Stanford University, Stanford, CA, 2014, advisor Yoshio Nishi.

2014KA&a D.A.Knopf, P.A. Alpert, B. Wang, R.E. O'Brien, S.T. Kelly, A. Laskin, M.K. Gilles, and R.C. Moffet, "*Microspectroscopic imaging and characterization of individually identified ice nucleating particles from a case field study*," J. Geophysical Reserch: Atmospheres **119**(17), 10365 (2014).

2014KA&b Kapaklis, V., U.B. Arnalds, A. Farhan, R.V. Chopdekar, A. Balan, A. Scholl, L.J. Heyderman, and B. Hjörvarsson, "*Thermal fluctuations in artificial spin ice,*" Nature Nanotechnology **9**, 514-519 (2014). **HI**

2014KD& Klannik K., Vogel-Miku¡ K., Kelemen M., Vavpeti P., Pelicon P., Kump P., JezerÅ¡ek D., Gianoncelli A., Gaberscik A., *Leaf optical properties are affected by the location and type of deposited biominerals,* Journal of Photochemistry and Photobiology B: Biology **140** 276 (2014)

2014KE& S. Kumar, R. Esfandyarpour, R. Davis, and Y. Nishi, "*Surface charge sensing by altering the phase transition in VO 2*," J.Applied Physics **116**(7), 074511 (2014)

2014KL& Kinane, C.J., Loving, M., Vries, M.A. de, Fan, R., Charlton, T.R., Claydon, J.S., Arena, D.A., Maccherozzi, F., Dhesi, S.S., Heiman, D., Marrows, C.H., Lewis, L.H., Langridge, S. *Observation of a temperature dependent asymmetry in the domain structure of a Pd-doped FeRh epilayer.* New Journal of Physics 16, 113073 (2014)

2014KP& S. Kalirai, P.P. Paalanen, J. Wang, F. Meirerand B.M. Weckhuysen, *Visualizing Dealuminiation of a single zepoite domain in a real life catalytic cracking particle*, Ang. Chem. Int. ed. **55** 1134-1138 (2016)

2014KV& K. Klancnik, K. Vogel-Mikus, M. Kelemen,P. Vavpetic, P Pelicon, P Kump, D. Jezersek, A. Gianoncelli, A. Gaberscik, *Leaf optical properties are affected by the location and type of deposited biominerals* J.Photochemistry and Photobiology B: Biology **140** 276-285 (2014)

2014KZ& Y. Kebukawa, M.E. Zolensky, A.L.D. Kilcoyne, Z. Rahman, P. Jenniskens, and G.D. Cody, "*Diamond xenolith and matrix organic matter in the Sutter's Mill meteorite measured by C-XANES*," Meteoritics & Planetary Science **49**(11), 2095-2103 (2014).

2014LA&a W. Li, S. Albrecht, L. Yang, S. Roland, J.R. Tumbleston, T. McAfee, L. Yan, M.A. Kelly, H. Ade, D. Neher, and W. You, "*Mobility-Controlled Performance of Thick Solar Cells based on Fluorinated Copolymers*," J. American Chemical Society **136**, 15566-15576 (2014)

2014LA&b Li, J., T. Ali, K.W. Moon, A. Doran, M.A. Marcus, A.T. Young, E. Arenholz, S. Ma, R.F. Yang, C. Hwang, and Z.Qiang. Qiu, "*Antivortex states from ferromagnetic Fe into antiferromagnetic NiO in epitaxial NiO/Fe/Ag(001) microstructures*," Applied Physics Letters **104**, 112407 (2014).

2014LB&a V. Lee, V. Berejnov, M.M. West, S. Kundu, D. Susac, J. Stumper, R.T. Atanasoski, M.Debe and A.P. Hitchcock, *STXM Investigations of Nano Structured Thin Film Catalysts for Proton-Exchange-Membrane Fuel Cell Applications*, J. Power Sources **263** 163-174 (2014)

2014LB&b J. Liu, L.Bai, J.Wang, G. Zhao, X.Sun and J. Zhong, *Measuring inside damage of individual carbon nanotubes using scanning transmission X-ray microscopy*, Appl. Phys. Lett. **104** 241602 (2014) **HI**

2014LB&c J. Li, S. Bernard, K. Benzerara, O. Beyssac, T. Allard, J. Cosmidis, J. Moussou, *Impact of biomineralization on the preservation of microorganisms during fossilization: An experimental perspective*, Earth and Planetary Science Letters **400** 113 (2014)

2014LD& I. Lezcano-Gonzalez, U. Deka, H.E. van der Bij, P. Paalanen, B. Arstad, B.M. Weckhuysen, A.M. Beale, *Chemical deactivation of Cu-SSZ-13 ammonia selective catalytic reduction (NH3-SCR) systems*, Applied Catalysis B: Environmental **154-155** 339 (2014)

2014LE& Li, Y., F. El Gabaly, T.R. Ferguson, R.B. Smith, N.C. Bartelt, J.D. Sugar, K.R. Fenton, D.A. Cogswell, A.L. D. Kilcoyne, T. Tyliszczak, M.Z. Bazant, and W.C. Chueh, *Current-induced transition from particle-by-particle to concurrent intercalation in phase-separating battery electrodes*, Nature Materials **13**, 1149-1156 (2014). **(HI)**

2014LG& E. Luchinat, A. Gianoncelli, T. Mello, A. Galli and L/Banci , *Combining in-cell NMR and X-ray fluorescence microscopy to reveal intracellular maturation states of human superoxide dismutase 1* , Chem. Commun.**51**, 584 (2014)

2014LL&a X. Li, K.-W. Lin*, H.-Y. Liu, D.-H. Wei, G. J. Li, and P. W. T. Pong, "*Effect of Field Cooling Process and Ion-beam Bombardment on the Exchange Bias of NiCo/(Ni, Co)O Bilayers*", Thin Solid Films **570** , 383 (2014)

2014LL&b J. Laskin, A. Laskin, S.A. Nixkorodov, P. Roach, P. Eckert, M.K. Gilles, B. Wang, H.J. Lee, and Q. Hu, "*Molecular Selectivity of Brown Carbon Chromophores*," Environmental Science and Technology **48**(20), 12047-12055 (2014).

2014LMa A. Locatelli and T.O. Menteş, *Chemical and Magnetic Imaging with X-Ray Photoemission Electron Microscopy* in *Synchrotron Radiation*, S. Mobilio et al. (eds.); Springer-Verlag Berlin Heidelberg, 2014

2014LMb Lerotic, M.; Mak, R.; Wirick, S.; Meirer, F.; Jacobsen, C. *MANTiS: a program for the analysis of X-ray spectromicroscopy dat*a. J. Synchrotron Radiation **21,** 1206-1212 (2014)

2014LP& C. Lenser, M. Patt, S. Menzel, A. Köhl, C. Wiemann, C.M. Schneider, R. Waser and R. Dittmann, *Insights into Nanoscale Electrochemical Reduction in a Memristive Oxide: the Role of Three-Phase Boundaries* Adv. Functional Materials **24**, 4466–4472 (2014)

2014LQ& Ling S, Qi Z, Watts B, Shao Z, Chen X, *Structural determination of protein-based polymer blends with a promising tool: Combination of FTIR and STXM spectroscopic imaging,* Physical Chemistry Chemical Physics. **16**: 7741-7748 (2014).

2014LS& C.-Y. Lin, H.-W. Shiu, L.-Y. Chang, C.-H. Chen, C.-S. Chang, and F. S.-S. Chien, *Core-level Shift of Graphene with Number of Layers Studied by Microphotoelectron Spectroscopy and Electrostatic Force Microscopy*", J. Phys. Chem. C **118 ,** 24898 (2014)

2014LT&a J. Li, A. Tan, S. Ma, R. F. Yang, E. Arenholz, C. Hwang, and Z. Q. Qiu, "*Chirality switching and winding/unwinding of the antiferromagnetic NiO domain walls in Fe/NiO/Fe/CoO/Ag(001),*" Physical Review Letters **113**, 147207 (2014). **(HI)**

2014LT&b M. Li, B.M. Toner, B.J. Baker, J.A. Breier, C.S. Sheik, and G.J. Dick, *"Microbial iron uptake as a mechanism for dispersing iron from deep-sea hydrothermal vents,*" Nature Communications **5**, 3192 (2014). **(HI)**

2014LT&c Li, J., A. Tan, M.K. Moon, A. Doran, M.A. Marcus, A.T. Young, E. Arenholz, S. Ma, R.F. Yang, C. Hwang, and Z.Qiang. Qiu, "*Tailoring the topology of an artificial magnetic skyrmion,*" Nature Communications **5**, 4704 (2014). **(HI)**

2014LT&d Li, J., A. Tan, M.K. Moon, A. Doran, M.A. Marcus, A.T. Young, E. Arenholz, S. Ma, R.F. Yang, C. Hwang, and Z.Qiang. Qiu, "*Stabilizing a magnetic vortex/antivortex array in single crystalline Fe/Ag(001) microstructure*s," Applied Physics Letters **104**, 262409-262409-5 (2014).

2014LY& Li, W., L. Yang, J.R. Tumbleston, L. Yan, H.W. Ade, and W. You, "*Controlling Molecular Weight of a High Efficiency Donor-Acceptor Conjugated Polymer and Understanding Its Significant Impact on Photovoltaic Properties,*" Advanced Materials **26**(26), 4456-4462 (2014)

2014LZM A. Locatelli, G. Zamborlini, T.O. Menteş, *Growth of single and multi-layer graphene on Ir(100)*, Carbon **74**, 237–248 (2014)

2014MBK J. Miot, K. Benzerara and A. Kappler, *Investigating microbe-mineral interactions: recent advances in X-ray and electron microscopy and redox-sensitive methods*, Annual Review of Earth & Planetary Sciences **42**, 271 (2014).

2014MB& S. Mandal, R. Belkhou, F. Maccherozzi and K.S.R. Menon, *Magnetic skin layer of NiO(100) probed by polarization-dependent spectromicroscopy ,Applied Physics Letters,* **104** 24214 (2014)

2014MC& C.K. Materese, D.P. Cruikshank, S.A. Sandford, H. Imanaka, M. Nuevo, and D.W. White, "*Ice chemistry on outer solar system bodies: carboxylic acids, nitriles, and urea detected in refractory residues produced from the uv photolysis of n_2:ch_4:co-containing ices*," The Astrophysical Journal **788**(2), 111 (2014)

2014MI& E. Malucelli, S. Iotti, A. Gianoncelli, M. Fratini, L. Merolle, A. Notargiacomo, C. Marraccini, A. Sargenti, C. Cappadone, G. Farruggia, I. Bukreeva, M. Lombardo, C. Trombini, JA Maier and S. Lagomarsino, *Quantitative Chemical Imaging of the Intracellular Spatial Distribution of Fundamental Elements and Light Metals in Single Cells* Analytical Chemistry, **86** 5108-5115 (2014)

2014MK&a S.G. Minasian, J.M. Keith, E.R. Batista, K.S. Boland, D.L. Clark, S.A. Kozimor, R.L. Martin, D.K. Shuh, and T. Tyliszczak, *New evidence for 5f covalency in actinocenes determined from carbon K-edge XAS and electronic structure theory,* Chemical Science **5,** 351-359 (2014)

2014MK&b Mukome, F.N., A.L. Kilcoyne and S.J. Parikh, "*Alteration of biochar carbon chemistry during soil incubations: SR-FTIR and NEXAFS investigation*," Soil Science Society of America Journal, **78**(5), 1632-1640 (2014)

2014MK&c NM Martin, Klacar S, Gronbeck H, Knudsen J, Schnadt J, Blomberg S, Gustafson J, Lundgren E, *High-Coverage Oxygen-Induced Surface Structures on Ag(111)*., J. Phys. Chem C **118**, 15324 (2014)

2014MI& Malucelli E., Iotti S., Gianoncelli A., Fratini M., Merolle L., Notargiacomo A., Marraccini C., Sargenti A., Cappadone C., Farruggia G., Bukreeva I., Lombardo M., Trombini C., Maier J.A., Lagomarsino S. , *Quantitative Chemical Imaging of the Intracellular Spatial Distribution of Fundamental Elements and Light Metals in Single Cells ,* Analytical Chemistry, **86** 5108-5115 (2014)

2014ML&a F. Montaigne, D. Lacour, I. A. Chioar, N. Rougemaille, D. Louis, S. Mc Murtry, H. Riahi, B. Santos Burgos, T. O. Menteş, A. Locatelli, B. Canals, M. Hehn, *Size distribution of magnetic charge domains in thermally activated but out-of equilibrium artificial spin ice,* Sci. Rep. **4,** 5702 (2014)

2014ML&b J.Miot, J. Li, K. Benzerara, M. T. Sougrati, G. Ona-Nguema, S. Bernard, J.-C. Jumas and F. Guyot, *Formation of single domain magnetite by green rust oxidation promoted by microbial anaerobic nitrate-dependent iron oxidation*, Geochimica et Cosmochimica Acta **139** 327 (2014)

2014ML&c L.G. de A. Melo, V. Lee, D. Susac, V. Berejnov J. Stumper, G.A. Botton and A.P. Hitchcock, *Effects of Sample Preparation Technique on Quantitative Analysis of Automotive Fuel Cell Catalyst Layers*, Microscopy & Microanalysis **20** S3 472-473 (2014)

2014ML&d C. Mu, P. Liu, W. Ma, K. Jiang, J. Zhao, K. Zhang, Z. Chen, Z. Wei, Y. Yi, J. Wang, S. Yang, F. Huang, A. Facchetti, H. Ade, and H. Yan, "*High-Efficiency All-Polymer Solar Cells Based on a Pair of Crystalline Low-Bandgap Polymers*," Advanced Materials **26** 7224-7230 2014)

2014MM&a P. Moras, T.O. Menteş, P. Sheverdyaeva, A. Locatelli, C. Carbone, *Coexistence of multiple silicene phases in silicon grown on Ag(111),* J.Physics: Condensed Matter **26**, 185001 (2014)

2014MM&b K.F. Mccarty, M. Monti, S. Nie, D.A. Siegel, E. Starodub, F. El Gabaly, A.H. McDaniel, A. Shavorskiy, T. Tyliszczak, H. Bluhm, N.C. Bartelt, and J. de la Figuera, *Oxidation of Magnetite(100) to Hematite Observed by in Situ Spectroscopy and Microscopy,* J. Physical Chemistry C **118**, 19768-19777 (2014).

2014MP&a K.L. Man, A. Pavlovska, E. Bauer, A. Locatelli, T.O. Menteş, M.A. Nino, G. Wong, I. Sou, M.S. Altman, *Growth, Reaction and Nanowire Formation of Fe on the ZnS(100) Surface* J. Phys.: Condens. Matter **26**, 315006 (2014)

2014MP&b E. Miniussi, M. Pozzo, T.O. Menteş, M.A. Nino, A. Locatelli, E. Vesselli, G. Comelli, S. Lizzit, D. Alfé, A. Baraldi, *The competition for graphene formation on Re(0001): a complex interplay between carbon segregation, dissolution and carburization***,** Cabon **73**, 389–402 (2014)

2014MR&a R. Metzler and P. Rez, *Polarization dependence of aragonite calcium L-edge XANES spectrum indicates c- and b- axis orientation*, J. Phys. Chem. B **118** 6758 (2014)

2014MR&b J. Miot, N. Recham, D. Larcher, F. Guyot, J. Brest and J.-M. Tarascon, *Biomineralized α-Fe_2O_3: texture and electrochemical reaction with Li*, Energy & Environmental Science, **7,** 451 (2014).

2014MT& W. Ma, J.R. Tumbleston, L. Ye, C. Wang, J. Hou, and H. Ade, "*Quantification of Nano- and Mesoscale Phase Separation and Relation to Donor and Acceptor Quantum Efficiency, Jsc, and FF in Polymer:Fullerene Solar Cells,*" Advanced Materials **26**(25), 4234-4251 (2014).

2014MZ&a T. O. Menteş, G. Zamborlini, A. Sala and A. Locatelli, *Cathode lens spectromicroscopy: methodology and applications,* Beilstein J. Nanotechnol. **5**, 1873–1886 (2014)

2014MZ&b Ferrihydrite-Humic Acid precipitates - FIND

2014MZ&c S. Mitsunobu, M. Zhu, M., Takeichi, Y., Ohigashi, T., Suga, H., Makita, H., Sakata, M., Ono, K., Mase, K., & Takahashi, Y. *Nanoscale Identification of Extracellular Organic Substances at the Microbe–Mineral Interface by Scanning Transmission X-ray Microscopy*. Chemistry Letters, ***44*** 91–93 (2015).

2014NK&a H.W. Nho, J. Y. Kim, J.Wang, H.J. Shin, S.Y. Choi and T.H. Yoon, *Scanning transmission X-ray microscopy probe for in situ mechanism study of graphene-oxide-based resistive random access memory*, J. Synchrotron Rad. **21** 170 (2014)

2014NK&b H. Noh, J.H. Kang, D.H. Kwak, P. Fischer, and B.C. Han, "*First principles thermodynamic studies for recycling spent nuclear fuels using electrorefining with a molten salt electrolyte*," Energy **68**, 751 (2014).

2014NV& J. Normandeau, C. Van Kessel,, D. Nicholson, B. Rahusaar Routledge, A. Fawcett, L. Lim-Cole, C. Condy, N. Sylvain, T. Walker and F. Borondics, *Spider silk protein structure analysis by FTIR and STXM spectromicroscopy techniques*, Canadian Young Scientists **#L2014** 35 (2014)

2014NW& M. S. Nevius, F. Wang, C. Mathieu, N. Barrett, A. Sala, T. O. Menteş, A. Locatelli, and E. H. Conrad, *The Bottom-up Growth of Edge Specific Graphene Nanoribbons*, Nano Lett. **14**, 6080–6086 (2014)

2014OB& IC Olson, AZ Blonsky, N Tamura, M Kunz, B Pokroy, CP Romao, MA White, and PUPA Gilbert, *Crystal nucleation and near-epitaxial growth in nacre*. J. Struct. Biol. **184**, 454-463 (2013).

2014OH& L. Omiciuolo, E. Hernández, E. Miniussi, F. Orlando, P. Lacovig, S. Lizzit, T. O. Menteş, A. Locatelli, R. Larciprete, M. Bianchi, S. Ulstrup, P. Hofmann, D. Alfè, and A. Baraldi, *Bottom-up approach for the low-cost synthesis of graphene-alumina nanosheet interfaces using bimetallic alloys,* Nature Communications **5**, 5062 (2014) **HI**

2014OI&a H. Ohtori, K. Iwano, C. Mitsumata, M. Yano, A. Kato, T. Shoji, A. Manabe and K. Ono, *Dipolar energy of Nd-Fe-B nanocrystalline magnets in magnetization reversal process* J. Applied Physics **115**, 17A717 (2014)

2014OI&b Ohtori H, Iwano K, Mitsumata C, Takeichi Y, Yano M, Kato A, et al. *Visualization of magnetic dipolar interaction based on scanning transmission X-ray microscopy*, In: Kumai R, Murakami Y, eds. 1st conference on light and particle beams in materials science 2013 (LPBMS2013). Vol. 502. Journal of physics: conference series. sine loco: IOP Publishing; 2014.

2014OS M. Obst, G. Schmid, *3D Chemical Mapping: Application of Scanning Transmission (Soft) X-ray Microscopy (STXM) in Combination with Angle-Scan Tomography in Bio-, Geo-, and Environmental Sciences*, John Kuo (ed.), Electron Microscopy: Methods and Protocols, Methods in Molecular Biology, vol. 1117, (Springer Science+Business Media New York 2014) 757-781

2014PB&a L. Pascolo, B. Bortot, N. Benseny-Cases, A. Gianoncelli, G. Tosi, B. Ruozi, C. Rizzardi, E. De Martino, MA Vandelli and GM. Severini, *Detection of PLGA-based nanoparticles at a single-cell level by synchrotron radiation FTIR spectromicroscopy and correlation with X-ray fluorescence microscopy* Int. J. Nanomedicine, **9** 2791 (2014)

2014PB&ab Parkes, D.E., Beardsley, R., Bowe, S., Isakov, I., Warburton, P.A., Edmonds, K.W., Campion, R.P., Gallagher, B.L., Rushforth, A.W., Cavill, S.A., *Voltage controlled modification of flux closure domains in planar magnetic structures for microwave applications*. Appl. Phys. Lett. **105**, 062405 (2014)

2014PC& Pemmaraju, C.D., R. Copping, S. Wang, M. Janousch, S.J. Teat, T. Tyliszcak, A. Canning, D.K. Shuh, and D. Prendergast, "*Bonding and Charge Transfer in Nitrogen-Donor Uranyl Complexes: Insights from NEXAFS Spectra*," Inorganic Chemistry **53**, 11415-11425 (2014).

2014PG& L. Pascolo, A. Gianoncelli, C. Rizzardi, V. Tisato, M. Salome, C. Calligaro, F. Salvi, D. Paterson, P. Zamboni, *Calcium micro-depositions in jugular truncular venous malformations revealed by Synchrotron-based XRF imaging,* Scientific Reports **4** 6540 (2014)

2014PH& Postberg, F., J.K. Hillier, S.P. Armes, S. Bugiel, A.L. Butterworth, D. Dupin, L.A. Fielding, S. Fujili, Z. Gainsforth, E. Grün, Y.W. Li, R. Srama, V. Sterken, J. Stodolna, M. Trieloff, A.J. Westphal, C. Achilles, C. Allen, A. Ansari, S. Bajt, N. Bassim, R.K. Bastien, H.A. Bechtel, J. Borg, F. Brenker, D.E. Brownle, J. Bridges, J. Bridges, M. Burchell, P. Cloetens, H. Changela, M. Burghammer, C. Floss, R. Doll, A. Davis, G. Flynn, P. Heck, D. Frank, A. Kearsley, J. Huth, G. Huss, P. Hoppe, A. King, B. Lai, J. Leitner, L. Lemelle, A. Leonard, H. Leroux, R. Lettieri, W. Marchant, L. Nittler, R.C. Ogliore, W.J. Ong, M.C. Price, S.A. Sandford, J. Sans Tressaras, S. Schmitz, T. Schoonjans, K. Schreiber, G. Silversmit, A.S. Simionovici, V.A. Solé , F. Stadermann, T. Stephan, R. Stroud, S. Sutton, P. Tsou, A. Tsuchiyama, T. Tyliczszak, B. Vekemans, L. Vincze , D. Zevin, and M.E. Zolensky,

"Stardust Interstellar Preliminary Examination IX: High-speed interstellar dust analog capture in Stardust flight-spare aerogel," Meteoritics & Planetary Science 49(9), 1666-1679 (2014)

2014PL& Pascolo L., Gianoncelli A., Rizzardi C., Tisato V., Salome M., Calligaro C., Salvi F., Paterson D., Zamboni P. , *Calcium micro-depositions in jugular truncular venous malformations revealed by Synchrotron-based XRF imaging ,* Scientific Reports, **4** 6540 (2014) **HI**

2014PM& Phillips, L.C., Maccherozzi, F., Moya, X., Ghidini, M., Yan, W., Soussi, J., Dhesi, S.S., Mathur, N.D., *Tuning La0.67Sr0.33MnO3 surface magnetism using LaMnO3 and SrTiO3 caps*. Journal of Magnetism and Magnetic Materials **355**, 331–333 (2014).

2014PO& P. Pan-In, T. Ohigashi, N. Kosugi and S. Wanichwecharungruang, *Skin Penetration Study of Drug Carriers using Soft X-ray Microscopy,* UVSOR Ann Rep. 152 (2014)

2014RE& A. Ritchie, S.Eger, C.Wright, D.Chelladurai, Cu.Borrowman, W. Olovsson, M. Magnuson, J. Verma, D. Jena, H.Grace Xing, C.Dubuc and S.G. Urquhart, *Strain sensitivity in the nitrogen 1s NEXAFS spectra of gallium nitride*, Appl. Surf.Sci. **316** 232 (2014)

2014RL& T. Rema, J.R. Lawrence, J.J. Dynes, A. P. Hitchcock and D.R. Korber, *Chlorhexidine-tolerance in Delftia acidovorans biofilms: microscopic and spectroscopic analyses*, Antimicrobial Agents and Chemotherapy **58** 5673-5686 (2014).

2014RM& J. E. Rault, T.O. Menteş, A. Locatelli, N. Barrett; *Reversible switching of in-plane polarized ferroelectric domains in $BaTiO_3$ with very low energy electrons*, Scientific Reports, 6792 (2014) **HI**

2014RZ& B. Roesner, N. Zeilmann, U. Schmidt and R.H. Fink, *Employing microspectroscopy to track charge trapping in operating pentacene OFETs,* Organic Electronics **15**, 435 (2014)

2014SA& R.M Stroud, C. Allen, A. Ansari, D. Anderson, S. Bajt, N. Bassim, R.S. Bastien, H.A. Bechtel, J. Borg, F.E. Brenker, J. Bridges, D.E. Brownlee, M. Burchell, M. Burghammer, A.L. Butterworth, H. Changela, P. Cloetens, A.M. Davis, R. Doll, C. Floss, G. Flynn, D.R. Frank, Z. Gainsforth, E. Grün, P.R. Heck, J.K. Hillier, P. Hoppe, J. Huth, B. Hvide, A. Kearsley, A.J. King, P. Kotula, B. Lai, J. Leitner, L. Lemelle, H. Leroux, A. Leonard, R. Lettieri, W. Marchant, L. Nittler, R.C. Ogliore, W.J. Ong, F. Postberg, M.C. Price, S.A. Sandford, J.S. Tresseras, S. Schmitz, T. Schoonjans, K. Schreiber, G. Silversmit, A.S. Simionovici, V.A. Solé, R. Srama, T. Stephan, V.J. Sterken, J. Stodolna, S. Sutton, M. Trieloff, P. Tsou, A. Tsuchiyama, P. Tyliszczak, B. Vekemans, L. Vincze, A.J. Westphal, J.V. Korff, D. Zevin, and M.E. Zolensky, "*Stardust Interstellar Preliminary Examination XI: Identification and elemental analysis of impact craters on Al foils from the Stardust Interstellar Dust Collector*," Meteoritics & Planetary Science **49**(9), 1698-1719 (2014).

2014SCB P.P. Shao, , L.R. Comolli, and R. Bernier-Latmani, "*Membrane vesicles as a novel strategy for shedding encrusted cell surfaces*," Materials **4**(1), 74-88 (2014).

2014SC& M. Schubert, B.A. Collins, H. Mangold, I.A. Howard, W. Schindler, K. Vanewal, S. Roland, J. Behrends, F. Kraffert, R. Seyrleuthner, Z. Chen, K. Fostiropoulos, R. Bittl, A. Salleo, A. Facchetti, F. Laquai, H.W. Ade, and D. Neher, "*Correlated Donor/Acceptor Crystal Orientation Controls Photocurrent Generation in All-Polymer Solar Cells*," Advanced Functional Materials **24**(26), 4068-4081 (2014).

2014SD&a B.J. Schultz, R.V. Dennis, Vincent Lee, and Sarbajit Banerjee, *An Electronic Structure Perspective of Graphene Interfaces*, Nanoscale **6**, 3444-3466 (2014)

2014SD& Speller S.C., Dudin P., Fitzgerald S., Hughes G.M., Kruska K., Britton T.B., Krzton-Maziopa A., Pomjakushina E., Conder K., Barinov A., Grovenor CRM , *High-resolution characterization of microstructural evolution in Rb_xFe_2-ySe crystals on annealing ,* Physical Review B, **90** 024520 (2014)

2014SE& J.D. Sugar, F. El Gabaly, W.C. Chueh, K.E. Fenton, T. Tyliszczak, P.G. Kotula, and N.C. Bartelt, *"High-resolution chemical analysis on cycled LiFePO4 battery electrodes using energy-fltered transmission electron microscopy*," J. Power Sources **246**, 512-521 (2014).

2014SH& X. Sun, M. Hegde, J. Wang, Y. Zhang, P. Radovanovic, and B. Cui, *Structure and Electrochemical Studies of Carbon-Coated Li4Ti5O12 Particles Anode for Li-Ion Battery*, ECS Transactions **58** 79 (2014)

2014SK& K.M. Seemann, F. Kronast, A. Horner, S. Valencia, A. Wixforth, A.V. Chaplik, and P. Fischer, "*Attenuation of surface acoustic waves by spin-wave excitations in CoFeB*," **4**, 1 (2014).

2014SL&a A.S. Simionovici, L. Lemelle, P. Cloetens, V.A. Solé, J.S. Tresseras, A.L. Butterworth, A.J. Westphal, Z. Gainforth, J. Stodolna, C. Allen, D. Anderson, A. Ansari, S. Bajt, N. Bassim, R.K. Bastien, H.A. Bechtel, J. Borg, F.E. Brenker, J. Bridges, D.E.. Brownlee, M. Burchell, M. Burghammer, H. Changela, A.M. Davis, R. Doll, C. Floss, G. Flynn, D.R. Frank, E. Grün, P.R. Heck, J.K. Hillier, P. Hoppe, B. Hudson, J. Huth, B. Hvide, A. Kearsley, A.J. King, B. Lai, J. Leitner, A. Leonard, H. Leroux, R. Lettieri, W. Marchant, L. Nittler, R.C. Ogliore, W.J. Ong, F. Postberg, M.C. Price, S.A. Sanford,

S. Schmitz, T. Schoonjans, G. Silversmit, R. Srama, F.J. Stadermann, T. Stephan, V.J. Sterken, R.M. Stroud, S. Sutton, M. Trieloff, P. Tsou, A. Tsuchiyama, T. Tyliszczak, B. Vekemans, L. Vincze, J.V. Korff, N. Wordsworth, D. Zevin, and M.E. Zolensky, "*Stardust Interstellar Preliminary Examination VI: Quantitative elemental analysis by synchrotron X-ray fluorescence nanoimaging of eight impact features in aerogel,*" Meteoritics & Planetary Science **49**, 1612-1625 (2014).

2014SL&b Steimer SS, Lampimäki M, Coz E, Grzinic G, Ammann M, The influence of physical state on shikimic acid ozonolysis: A case for in situ microspectroscopy, Atmospheric Chemistry and Physics. **14,** 10761-10772 (2014).

2014SM&a M. Stampanoni, M. Menzel, B. Watts, K.S. Maderand O. Bunk, *Coherent X-ray Imaging: Bridging the Gap between Atomic and Micro-scale Investigations*, CHIMIA **68**, 66-72 (2014)

2014SM&b A. Spaeth, H. Minami, T. Suzuki and R.H. Fink, *Morphology changes of ionic liquid encapsulating polymer microcontainers upon X-ray irradiation*, RSC Advances **4**, 3272 (2014).

2014SM&c Streubel, R., D. Makarov, D. Karnaushenko, L. Han, O.G. Schmidt, J. Lee, S.-K. Kim, R. Schaefer, M. Im, and P. Fischer, "*Magnetic microstructure of rolled-up single-layer ferromagnetic nanomembranes*," Advanced Materials **26**, 316-323 (2014).

2014SN& A. Shavorskiy, S. Neppl, D.S. Slaughter, J.P. Cryan, K.R. Siefermann, F. Weise, M-F. Lin, C. Bacellar, M.P. Ziemkiewicz, I. Zegkinoglou, M.W. Fraund, C. Khurmi, M.P. Hertlein, T.W. Wright, N. Huse, R.W. Schoenlein, T. Tyliszczak, G. Coslovich, J. Robinson, R.A. Kaindl, B.S. Rude, A. Ölsner, S. Mähl, H. Bluhm, and O. Gessner, *Sub-nanosecond time-resolved ambient-pressure X-ray photoelectron spectroscopy setup for pulsed and constant wave X-ray light sources*, *Rev. Sci. Instrum.* **85**, 093102 (2014)

2014SO& Saini N.L., Ootsuki D., Paris E., Joseph B., Barinov A., Tanaka M., Takano Y., Mizokawa T. , *Electronic structure of $LaO_{1-x}F_xBiSe_2$ (x=0.18) revealed by photoelectron spectromicroscopy,* Physical Review B, **90** 214517 (2014)

2014SS&a A. Spaeth, S, Schoell, C. Riess, D. Schmidtel, G. Paradossi, J. Raabe, J. Hornegger and R. Fink, *STXM goes 3D: Digital reconstruction of focal stacks as novel approach towards confocal soft x-ray microscopy*, Ultramicroscopy **144**, 19 (2014).

2014SS&b K. Sentker, F.-U. Stein, L. Bocklage, T. Matsuyama, M.-Y. Im, P. Fischer, and G. Meier, "*Fast generation of domain walls with defined chirality*," Applied Physics Letters **104**, 172404 (2014).

2014SW&a A. Spaeth, B. Watts, LT Wasserthal and RH Fink, *Quantitative study of contrast enhancement in soft X-ray micrographs of insect eyes by tissue selective mass loss* **J.** Synchrotron Radiation **21** 1153 (2014)

2014SW&b S.B. Singh, Y.F. Wang, Y.C. Shao, H.Y. Lai, S.H. Heish, M.V. Limaye, H.T. Wang, K.T. Lin, H.C. Hsueh, J.W. Chiou, H.M. Tsai, C.W. Pao, C.H. Chen, H.J. Lin, J.F. Lee, C.T. Wu, J.J. Wu, W.F. Pong, T. Ohigashi, N. Kosugi, J. Wang, J.G. Zhou, T. Regier and T.K. Sham, *Observation of the origin of d0 magnetism in ZnO nanostructures using X-ray-based microscopic and spectroscopic techniques*, Nanoscale **6** 9166 (2014)

2014SW&c Y. Sano, S. Watanabe, H. Matsuura and A. Nezu, *STXM analysis of Adsorbent for Effective Recovery of Radioactive Elements*, UVSOR Ann Rep, 128 (2914)

2014SW&b Sterken, V.J., A.J. Westphal, N. Altobelli, E. Grün, J.K. Hillier, F. Postberg, R. Srama, C. Allen, D. Anderson, A. Ansari, S. Bajt, R.S. Bastien, N. Bassim, H.A. Bechtel, J. Borg, F.E. Brenker, J. Bridges, D.E. Brownlee, M. Burchell, M. Burghammer, A.L. Butterworth, H. Changela, P. Cloetens, A.M. Davis, R. Doll, C. Floss, G. Flynn, D. Frank, Z. Gainsforth, P.R. Heck, P. Hoppe, B. Hudson, J. Huth, B. Hvide, A. Kearsley, A.J. King, B. Lai, J. Leitner, L. Lemelle, H. Leroux, A. Leonard, R. Lettieri, W. Marchant, L. Nittler, R.C. Ogliore, W.J. Ong, M.C. Price, S.A. Sandford, J.S. Tresseras, S. Schmitz, T. Schoonjans, G. Silversmit, A.S. Simionovici, V.A. Solé, T. Stephan, J. Stodolna, R.M. Stroud, S. Sutton, M. Trieloff, P. Tsou, A. Tsuchiyama, T. Tyliszczak, B. Vekemans, L. Vincze, J.V. Korff, N. Wordsworth, D. Zevin, and M.E. Zolensky, "*Interstellar Preliminary Examination X: Impact speeds and directions of interstellar grains on the Stardust dust collector*," Meteoritics & Planetary Science **49**(9), 1680-1697 (2014).

2014SW&c Shashi B. Singh, Yu-Fu Wang, Yu-Cheng Shao, Hsuan-Yu Lai, Shang-Hsien Hsieh, Mukta V. Limaye, Chen-Hao Chuang, Hung-Chung Hsueh, Hsaiotsu Wang, Jau-Wern Chiou, Hung-Ming Tsai, Chih-Wen Pao, Chia-Hao Chen, Hong-Ji Lin, Jyh-Fu Lee, Chun-Te Wu, Jih-Jen Wu, Way-Faung Pong, Takuji Ohigashi, Nobuhiro Kosugi, Jian Wang, Jigang Zhou, Tom Regier and Tsun-Kong Sham, *"Observation of the origin of d0 magnetism in ZnO nanostructures using X-ray-based microscopic and spectroscopic techniques*", Nanoscale, **6**, 9166-9176 (2014).

2014SY& D.A. Shapiro, Y.-S. Yu, T. Tyliszczak, J. Cabana, R. Celestre, W. Chao, K.V. Kaznatcheev, A.L. Kilcoyne, F. Maia, S. Marchesini, Y.S. Meng, T. Warwick, L.L. Yang, and H.A. Padmore, "Chemical composition mapping with nanometre resolution by soft X-ray microscopy," Nature Photonics 8(10), 765-769 (2014) **(HI)**

2014SZ&a S.Ling, Z. Qi, B. Watts, Z.H.Shao and X. Chen, *Structural determination of protein-based polymer blends with a promising tool: combination of FTIR and STXM spectroscopic imaging,* Physical Chemistry Chemical Physics **16**, 7741-7748 (2014).

2014SZ&b G. Schmid, Fabian Zeitvogel, L. Hao, P. Ingino, M. Floetenmeyer, Y.-D. Stierhof, B. Schroeppel, C. J. Burkhardt, A. Kappler, M. Obst, *3-D analysis of bacterial cell-(iron)mineral aggregates formed during Fe(II) oxidation by the nitrate-reducing Acidovorax sp. strain BoFeN1 using complementary microscopy tomography approaches*, Geobiology, **12** 340 (2014)

2014SZ&b G. Schmid, F. Zeitvogel, L. Hao, P. Ingino, W. Kuerner, J. J. Dynes, C. Karunakaran, J. Wang, Y. Lu, T. Ayers, C. Schietinger, A.P. Hitchcock and M. Obst, *Synchrotron-based chemical nano-tomography of microbial cell-mineral aggregates in their natural, hydrated state*, Microscopy & Microanalysis **20,** 531-536 (2014)

2014TC&a J.R. Tumbleston, B.A. Collins, L. Yang, A.C. Stuart, E. Gann, W. Mai, W. You, and H. Ade, *The influence of molecular orientation on organic bulk heterojunction solar cells*, Nature Photonics **8**, 385-381 2014). **(HI)**

2014TC&b E. Tebandeke E, Coman C, Guillois K, Canning G, Ataman E, Knudsen J, Wallenberg LR, Ssekaalo H, Schnadt J, Wendt OF *Epoxidation of olefins with molecular oxygen oxidant using gold catalysts supported on polyoxometalates*. Green Chemistry 16, 1586 (2014)

2014TGM P. Thibault, M. Guizar-Sicairos, M. & A. Menzel,. *Coherent imaging at the diffraction limit* J. Synchrotron Rad. **21**, 1011–1018 (2014).

2014TI& Y. Takeichi, N. Inami, H. Suga,. K. Ono and Y. Takahashi, *Development of a Compact Scanning Transmission X-ray Microscope (STXM) at the Photon Factory*, Chem. Lett. **43** 373-375 (2014).

2014TSF G. Tzvetkov, A. Spath and R.H. Fink, *Soft X-ray induced damage in PVA-based membranes in water environment monitored by X-ray absorption spectroscopy*, Radiation Physics and Chemistry **103**, 84 - 88 (2014)

2014TY& Tumbleston, J.R., L. Yang, W. You, and H. Ade, "*Morphology linked to miscibility in highly amorphous semi-conducting polymer/fullerene blends*," Polymer **55**(19), 4884-4889 (2014).

2014UN M. Uesugi and A. Nakato, *Evaluation of Sample Damage of XANES and application to the analysis of carbonaceous materials in Hayabus-returned samples,* UVSOR Ann Rep. 148, (2014)

2014UN& M. Uesugi, H. Naraoka, M. Ito, H. Yabuta, F. Kitajima, Y. Takano, H. Mita, I. Ohnishi, Y. Kebukawa, T. Yada, Y. KArouji, Y. Ishibashi, T. Okada and M. Abe, "*Sequential analysis of carbonaceous materials in Hayabusa-returned samples for the determination of their origin"*, Earth, Planets and Space, **66**, 102 (2014).

2014VA& H.E. van der Bij, L. R. Aramburo, B. Arstad, J. J. Dynes, .Wang and B. M. Weckhuysen, *Phosphatation of Zeolite H-ZSM-5: A Combined Microscopy and Spectroscopy Study*, ChemPhysChem **15** 283 **(**2014)

2014VC& H.E van der Bij, D. Cicmil, J. Wang, F.Meirer, F.M. F. de Groot, and B.M. Weckhuysen, *Aluminum-Phosphate Binder Formation in Zeolites as Probed with X-ray Absorption Microscopy*, J. Am. Chem. Soc. **136** 17774 (2014)

2014VDM Vasconcelos C, Dittrich M, McKenzie JA, *Evidence of microbiocoenosis in the formation of laminae in modern stromatolites*, Facies. **60**, 3-13 (2014).

2014VD& F. Vollnhals, M. Drost, F. Tu, E. Carrasco, A. Spaeth, RH Fink, HP Steinrueck and H. Marbach, *Electron-beam induced deposition and autocatalytic decomposition of* $Co(CO)_3NO$, Beilstein J. Nanotechnology **5**, 1175-1185 (2014).

2014VK& S. Vlaic, A. Kimouche, J. Coraux, B. Santos, A. Locatelli and N. Rougemaille, *Cobalt intercalation at the graphene/iridium(111) interface: Influence of rotational domains, wrinkles, and atomic steps,* Appl. Phys. Lett. **104**, 101602 (2014).

2014VM& H. E van der Bij, F.Meirer, S. Kalirai, J. Wang and , B.M Weckhuysen, *Hexane Cracking over Steamed Phosphated Zeolite H-ZSM-5: Promotional Effect on Catalyst Performance and Stability*, Chemistry - A European Journal, **20** 17224 (2014)

2014VR& A. Vogt, F. Rancan, S. Ahlberg, B. Nazemi, C.S. Choe, M.E. Darvin, S. Hadam, U. Blume-Peytavi, K. Loza, J. Diendorf, M. Epple, C. Graf, E. Rühl, M.C. Meinke und J. Lademann, "*Interaction of dermatologically relevant nanoparticles with skin cells and skin*", Beilstein J. Nanotech. **5,** 2363-2373 (2014).

2014VW H.E. van der Bij and Bert M. Weckhuysen, *Local Silico-Aluminophosphate Interfaces within Phosphated H-ZSM-5 Zeolites*, Phys. Chem. Chem. Phys. **16** 9892 (2014)

2014W B. Watts, *Calculation of the Kramers-Kronig transform of X-ray spectra by a piecewise Laurent polynomial method* Optics Express. **22** 23628-23639 (2014).

2014WA& D.J Watson, S. Acharya, r.E. Nicklin and G. Held, *Observing the in situ chiral modification of Ni nanoparticles using scanning transmission X-ray microspectroscopy*, Surface Science **629**, 108-113 (2014).

2014WC& J. Wang, J.A Colón Santana, Ning Wu, Chithra Karunakaran, Jian Wang, Peter A. Dowben and Christian Binek, *Magnetoelectric Fe_2TeO_6 thin films*, J. Phys. Condens. Matter **26** 055012. (2014).

2014WH&a B.-Y. Wang, J.-Y. Hong, N.-Y. Jih, K.-H. O. Yang, L.-R. Chen, H.-J. Lin, Y.-L. Chan, D.-H. Wei, and M.-T. Lin, *Probing Magnetoelastic Effects of Ultrathin Antiferromagnets via Magnetic Domain Imaging in Ferromagnetic-antiferromagnetic Bilayers*, Phys. Rev. B **90** , 224424 (2014)

2014WH&b Z. Wang, X. Hao, S., Gerhold, P. Mares, M. Wagne, R. Bliem, K. Schulte, M. Schmid, . Franchini and U. Diebold, *Stabilizing Single Ni Adatoms on a Two-Dimensional Porous Titania Overlayer at the SrTiO3(110) Surface*. J. Phys. Chem. C **118**, 19904 (2014)

2014WK& X. Wang, D. J. Keavney, M. Asmat-Uceda, K. S. Buchanan, A. Melikyan and X. M. Cheng, *Time-resolved photoemission electron microscopy imaging of mode coupling between three interacting magnetic vortices*, App. Phys. Lett. **105**, 102408 (2014)

2014WL& Wen, X.D., M.W. Loble, E.R. Batista, E. Bauer, K.S. Boland, A.K. Burrell, S.D. Conradson, S.R. Daly, S.A. Kozimor, S.G. Minasian, R.L. Martin, T.M. McCleskey, B.L. Scott, D.K. Shuh, and T. Tyliszczak, "*Electronic structure and O K-edge XAS spectroscopy of UO_8,*" Journal of Electron Spectroscopy and Related Phenomena 194, 81-87 (2014).

2014WM&a M.D Ward, A. Mesbah, S.G. Minasian, D.K. Shuh, T. Tyliszczak, M. Lee, E.S. Choi, S. Lebegue, and J.A. Ibers, "*Synthesis and Characterization of Eight Compounds of the MU 8Q 17 Family: ScU 8S 17, CoU 8S 17, NiU 8S 17, TiU 8Se 17, VU 8Se 17, CrU 8Se 17, CoU 8Se 17, and NiU 8Se 17*," Inorganic Chemistry **53**, 6920-6927 (2014).

2014WM&b Wunderer C.B., Marras A., Bayer M., Correa J., Lange S., Shevyakov I., Smoljanin S., Viti M., Xia Q., Zimmer M., Cautero G., Gianoncelli A., Giuressi D., Menk R.H., Stebel L., Yousef H., Tartoni N., Marchal J., Rees N., Thompson J., Turchetta R., Sedgwick I., Das D., Marsh B., Graafsma H. , *Percival: An International Collaboration to Develop a MAPS-based Soft X-ray Imager,* Synchrotron Radiation News, **27** 30-34 (2014)

2014WO& Wang, B., R.E. O'Brien, S.T. Kelly, J.E. Shilling, R.C. Moffet, M.K. Gilles, and A. Laskin, "*Reactivity of Liquid and Semi-solid Secondary Organic Carbon with Chloride and Nitrate in Atmospheric Aerosols.,*" Journal of Physical Chemistry A **119**, 4498 (2014).

2014WS& A.J. Westphal, R.M. Stroud, H.A. Bechtel, F.E. Brenker, A.L. Butterworth, G.J. Flynn, D.R. Frank, Z. Gainsforth, J.K. Hillier, F. Postberg, A.S. Simionovici, V.J. Sterken, L.R. Nittler, C. Allen, D. Anderson, A. Ansari, S. Bajt, R.K. Bastien, N. Bassim, J. Bridges, D.E. Brownlee, M. Burchell, M. Burghammer, H. Changela, P. Cloetens, A.M. Davis, R. Doll, C. Floss, E. Grün, P.R. Heck, P. Hoppe, B. Hudson, J. Huth, A. Kearsley, A.J. King, B. Lai, J. Leitner, L. Lamelle, A. Leonard, H. Leroux, R. Lettieri, W. Marchant, R. Ogliore, W.J. Ong, M.C. Price, S.A. Sandford, J.A. Sans Tresseras, S. Schmitz, T. Schoonjans, K. Schreiber, G. Silversmit, V.A. Solé, R. Srama, F. Stadermann, T. Stephan, J. Stodolna, S. Sutton, M. Trieloff, P. Tsou, T. Tyliszczak, B. Vekemans, L. Vincze, J. Von Korff, N. Wordsworth, D. Zevin, and M.E. Zolensky, *Evidence for interstellar origin of seven dust particles collected by the Stardust spacecraft,* Science **345** 786-791 (2014). **(HI)**

2014WT& C.-L. Wang, S.-J. Tsai, J.-W. Chen, H.-W. Shiu, L.-Y. Chang, K.-H. Lin, H.-C. Hsu, Y.-C. Chen, C.-H. Chen, and C.-L. Wu, *Imaging and Characterization of Piezoelectric Potential in a Single Bent ZnO Microwire*, Appl. Phys. Lett. **105** , 123115 (2014)

2014WW& Z.Wang, J. Wang, T.K. Sham, and S. Yang, *Origin of the Luminescence from ZnO/CdS Core/shell Nanowire Arrays*, Nanoscale **6** 9783 (2014)

2014XJ& Xia C, Johansson LI, Zakharov AA, Hultman L, Virojanadara C, *Effects of Al on epitaxial graphene grown on 6H-SiC(0001)*. Mater. Res. Innov. **1**, 015606 (2014)

2014YH&a S. Yoon, S., J. Ha, S.R. Chae, A.L. Kilcoyne, and P.J.M. Monteiro, *X-ray spectromicroscopic study of interactions between NaCl and calcium silicate hydrates*" Magazine of Concrete Research **66**, 141-149 (2014)

2014YH&b Yang, J.-C., Q. He, Y.-M. Zhu, J.-C. Lin, H.-J. Liu, Y.-H. Hsieh, P.-C. Wu, Y.-L. Chen, S.-F. Lee, Y.-Y. Chin, H.-J. Lin, C.-T. Chen, Q. Zhan, E. Arenholz, and Y.-H. Chu, "*Magnetic Mesocrystal-Assisted Magnetoresistance in Manganite*," Nano Letters **14**, 6073-6079 (2014).

2014YL& J.Yang, J. Liu, J. J. Dynes, D. Peak, T. Regier, J. Wang, S. Zhu, J. Shi and J.S. Tse, *Speciation and distribution of copper in a mining soil using multiple synchrotron-based bulk and microscopic techniques*, Env. Science and Pollution Research **21** 2943 (2014)

2014YO& K. Yamamoto, T. Ohigashi, ….. N. Kosugi, E. Ruhl, *Quantitative Penetration Profiles of Free and Nanocarrier bound Dexamethasome in human skin studied by soft X-ray spectromicroscopy,* UVSOR Ann Rep. 147 (2014)

2014YT& H. Yabuta, A. Takahashi, Y. Inagaki and T. Ohigashi, *Evaluation of FIB Damage in XANES Spectra of organics in meteorites: Preliminary measurements for a Cosmochemistry Research Base at UVSOR BL4U*, UVSOR Ann Rep. 150 (2014).

2014YU& H. Yabuta , M. Uesugi , Hiroshi Naraoka, Motoo Ito , A L David Kilcoyne , Scott A Sandford, Fumio Kitajima , Hajime Mita Yoshinori Takano, Toru Yada , Yuzuru Karouji, Yukihiro Ishibashi, Tatsuaki Okada and Masanao Abe, *X-ray absorption near edge structure spectroscopic study of Hayabusa category 3 carbonaceous particles* Earth, Planets and Space **66**, 156 (2014)

2014ZG& Zhang, M..., X. Guo, W. Ma, S. Zhang, L. Huo, H.W. Ade, and J. Hou, "*An Easy and Effective Method to Modulate Molecular Energy Level of the Polymer Based on Benzodithiophene for the Application in Polymer Solar Cells,*" Advanced Materials **26**(13), 2089-2095 (2014)

2014ZH&a X.H. Zhu, A.P. Hitchcock, T. Tyliszczak and D.A. Bazylinski, *Probing Magnetic Polarities of Magnetotactic Bacteria by X-ray Magnetic Circular Dichroism in a Scanning Transmission X-ray Microscope*, Microscopy & Microanalysis **20 S3** 1176-1177 (2014).

2014ZH&b J. Zhou, Da Hong, Jian Wang, Yongfeng Hu, Xiaohua Xie and Hai-Tao Fang, *Electronic structure variation at the surface and bulk of LiNi0.5Mn1.5O4 cathode as a function of state of charge: X-ray absorption spectroscopic study*, Phys. Chem. Chem. Phys. **16**13838-13842 (2014)

2014ZH&c J. Zhou, Y. Hu, Jian Wang, Yanguang Li, Xiaoqi Chen, Tom Regier, and Hongjie Dai, *X-ray absorption spectroscopic study of the Fe based active site in carbon nanotube-graphene complex for oxygen reduction*, Phys. Chem. Chem. Phys. **16** 15787-15791 (2014)

2014ZJ H.M. Zhang and L.S.O. Johansson,*Electronic structure of PTCDA on Sn/Si(111)-2√3 x 2√3*. Chem. Phys. **439**, 71 (2014)

2014ZO& X.H. Zhu, T. Ohigashi , Yu-Fu Wang, T. Horigome, A.P. Hitchcock, C. Bittencourt, P. Umek and P. Krüger, *X-ray linear dichroism of sodium titanate nanoribbons measured with in situ azimuthal sample rotation in STXM*, 2013 UVSOR Activity report (2014) 72.

2014ZW&a Li-Juan Zhang, Jian Wang, Yi Luo, Hai-Ping Fang, Jun Hu, *A novel water layer structure inside nanobubbles at room temperature*, Nuclear Science and Techniques **25** 060503 (2014)

2014ZWS C. Zhou, J.Wang, and J.A. Szpunar, *X-ray Chemical Imaging and Electronic Structure of a Single Nanoplatelet Ni/Graphene Composite*, Chem. Commun. **50** 2282 (2014)

2014ZZ& J. Zhong, H. Zhang, Xuhui Sun, and Shuit-Tong Lee, *Synchrotron Soft X-ray Absorption Spectroscopy Study of Carbon and Silicon Nanostructures for Energy Applications*, Adv. Mater. **26** 7786-7806. (2014)

2015AA& Andreae, M.O., O.C. Acevedo, A. Araùjo, P. Artaxo, C.G. Barbosa, H.J. Barbosa, J. Brito, S. Carbone, X. Chi, B.L. Cintra, N.F. Da Silva, N.L. Dias, C.Q. Dias-Júnior, F. Ditas, R. Ditz, A.Locateli. Godoi, R.M. Godoi, M. Heimann, T. Hoffmann, J. Kesselmeier, T. Könemann, M.L. Krüger, J.V. Lavric, A.O. Manzi, A.P. Lopes, D.L. Martins, E.F. Mikhailov, D. Moran-Zuloaga, B.W. Nelson, A.C. Nölscher, D. Santos Nogueira, M.F. Piedade, C. Pohlker, U. Pöschl, C.A. Quesada, L.V. Rizzo, C.-U. Ro, N. Ruckteschler, L.A. Sá, M. De Oliveira Sá, C.B. Sales, R.N. Dos Santos, J. Saturno, J. Schöngart, M. Sörgel, C.M. De Souza, R.F. De Souza, H. Su, N. Targhetta, J. Tóta, I. Trebs, S. Trumbore, A. Van Eijck, D. Walter, Z. Wang, B. Weber, J. Williams, J. Winderlich, F. Wittmann, S. Wolff, and A.M. Yáñez-Serrano, "T*he Amazon Tall Tower Observatory (ATTO): overview of pilot measurements on ecosystem ecology, meteorology, trace gases, and aerosols*," Atmospheric Chemistry and Physics **15**(18), 10723-1077 (2015).

2015AB& J. Alleon, S. Bernard, L. Remusat and F. Robert, *Estimation of nitrogen-to-carbon ratios of organics and carbon materials at the submicrometer scale* Carbon **84** 290 –298 (2015)

2015AG& M. Aslani, C.a. Garner, S. Kumar, D. Nordlund, P.A. Pianetta, and Y. Nishi, "*Characterization of electronic structure of periodically strained graphene*," Applied Physics Letters **107**, 183507 (2015).

2015AP& Altman, A.B., C. D. Pemmaraju, Clément Camp, John Arnold, S.G. Minasian, David Prendergast, D.K. Shuh, and T. Tyliszczak, *"Theory and X-ray Absorption Spectroscopy for Aluminum Coordination Complexes – Al K-Edge Studies of Charge and Bonding in (BDI)Al, (BDI)AlR $_2$, and (BDI)AlX $_2$ Complexes*," J. American Chemical Society **137**(32), 10304-1031 (2015).

2015BA& Bozzini B., Altissimo M., Amati M., Bocchetta P., Gianoncelli A., Gregoratti L., Kourousias G., Mancini L., Mele C., Kiskinova M. *In Situ and Ex Situ X-Ray Microspectroelectrochemical Methods for the Study of Zinc-Air Batteries* Reference Module in Chemistry, Molecular Sciences and Chemical Engineering (2015) . doi: 10.1016/B978-0-12-409547-2.11452-0

2015BBG Bozzini B., Bocchetta P., Gianoncelli A. , *Coelectrodeposition of Ternary Mn-Oxide/Polypyrrole Composites for ORR Electrocatalysts: A Study Based on Micro-X-ray Absorption Spectroscopy and X-ray Fluorescence Mapping ,* Energies**, 8** 8145-8164 (2015)

2015BB&a Baldasseroni, C., C. Bordel, C. Atonakos, A. Scholl, K.Hunter. Stone, J.B. Kortright, and F. Hellman, "*Temperature-driven growth of antiferromagnetic domains in thin-film FeRh* ," J. Physics: Condensed Matter **27**, 256001 (2015).

2015BB&b Bernard, S., K. Benzerara, O. Beyssac, E. Balan, and G.E. Brown Jr., "*Evolution of the macromolecular structure of sporopollenin during thermal degradation*," Heliyon **1**, e00034 (2015).

2015BB&c Bozzini B., Bocchetta P., Gianoncelli A., Mele C., Kiskinova M. , *Electrodeposition and Ageing of Mn-Based Binary Composite Oxygen Reduction Reaction Electrocatalysts ,* ChemElectroChem **2** 1541 (2015)

2015BB&d Bozzini B., Bocchetta P., Aleman B., Amati M., Gianoncelli A., Gregoratti L., Sezen H., Taurino A., Kiskinova M. , *Electrodeposition and pyrolysis of Mn/polypyrrole nanocomposites: a study based on soft X ray absorption, fluorescence and photoelectron microspectroscopies,* J. Materials Chemistry A **3** 19155 (2015)

2015BB&e Bozzini B., Bocchetta P., Gianoncelli A., Kourousias G., Kiskinova M., Dal Zilio S. , *In situ soft x-ray fluorescence and absorption microspectroscopy: A study of Mn-Co/polypyrrole electrodeposition ,* J.Vacuum Science & Technology A **33**, 031102 (2015)

2015BK& Branson, O., K. Kaczmarek, S.AT. Redfern, S. Misra, G. Langer, T. Tyliszczak, J. Bijma, and H. Elderfield, *The coordination and distribution of B in foraminiferal calcite* Earth and Planetary Science Letters, **416**, 67-72 (2015).

2015BQ& C. Blanco-Roldán, C. Quirós, A. Sorrentino, A. Hierro-Rodríguez, L.M. Álvarez-Prado, R. Valcárcel, M. Duch, N. Torras, J. Esteve, J.I. Martín, M. Vélez, J.M. Alameda, E. Pereiro, S. Ferrer, *Nanoscale imaging of buried topological defects with quantitative X-ray magnetic microscopy*, Nature Communications, **6**, 8196 (2015)

2015BS& Baio, J. E., Spinner, M., Jaye, C., Fischer, D. A., Gorb, S. N., & Weidner, T. . Evidence of a molecular boundary lubricant at snakeskin surfaces. *J. Royal Society Interface*, **12** 20150817 (2015).

2015BT&a Bae, S., R. Taylor, D. Hernández-Cruz, S. Yoon, D. Kilcoyne, and P.M. Monteiro, "*Soft X-ray Spectromicroscopic Investigation of Synthetic C-S-H and C 3S Hydration Products*," J. American Ceramic Society **98**(9), 2914-2920 (2015).

2015BT&b S. Bae, R. Taylor, David Shapiro, P. Denes, John Joseph, R. Celestre, S. Marchesini, H.A. Padmore, T. Tyliszczak, Tony Warwick, David Kilcoyne, Pierre Levitz, and Paulo J. M Monteiro, "*Soft X-ray Ptychographic Imaging and Morphological Quantification of Calcium Silicate Hydrates (C-S-H)*," .J. American Ceramic Society **98** 4090-4095 (2015)

2015BW H.E. van der Bij and B.M. Weckhuysen. *Phosphorus promotion and poisoning in zeolite-based materials: synthesis, characterisation and catalysis.* Chem. Soc. Rev. **44** 7406-7428 (2015)

2015BW&a R.E. O'Brien, B. Wang, A. Laskin, N. Riemer, M. West, Q. Zhang, Y. Sun, X.Y. Yu, P.A. Alpert, D.A. Knopf, M.K. Gilles, and R.C. Moffet, "*Chemical Imaging of Ambient Aerosol Particles: Observational Constraints on Mixing State Parameterization*," J. Geophysical Research: Atmospheres **120**(18), 9591-9605 (2015)

2015BW&b O'Brien, R., B. Wang, S.Thomas. Kelly, N. Lundt, Y. You, A.K. Bertram, S.R. Leone, A. Laskin, and M.K. Gilles, "*Liquid-Liquid Phase separation in Aerosol Particles: Imaging at the nanometer scal*e," Environmental Science and Technology **49**(8), 4995-5002 (2015).

2015C M.B. Casu, *Growth, structure, and electronic properties in organic thin films deposited on metal surfaces investigated by low energy electron microscopy and photoelectron emission microscopy***;** J. El. Spec. Rel. Phen. **204**A,39-48 (2015)

2015CB& J. Cosmidis, K. Benzerara, N. Nassif, T. Tyliszczak and F. Bourdelle, *Characterization of Ca-phosphate biological materials by scanning transmission X-ray microscopy (STXM) at the Ca $L_{2,3}$-, P $L_{2,3}$- and C K-edges*, Acta Biomaterialia, **12** 260-269 (2015)

2015MB& Mendoza Cuevas A., Bernardini F., Gianoncelli A., Tuniz C., *Energy dispersive X-ray diffraction and fluorescence portable system for cultural heritage applications ,* X-Ray Spectrometry, **44** 105-115 (2015)

2015CM& D. Cicmil, J. Meeuwissen, A. Vantomme, Jian Wang, Ilse K. van Ravenhorst, Hendrik E. van der Bij, and Bert M. Weckhuysen, *Polyethylene with Reverse Co-monomer Incorporation: From an Industrial Serendipitous Discovery to Fundamental Understanding*, Angew. Chem. Int. Ed. **54** 13073-130799 (2015)

2015CS C.Chen, D.L. Sparks, *Multi-elemental scanning transmission X-ray microscopy–near edge X-ray absorption fine structure spectroscopy assessment of organo–mineral associations in soils from reduced environments*, Environ. Chem. **12** 64–73 (2015)

2015CW&a Y.X. Chen, Y.F. Wang, J.W. Chiou, C.L. Dong, W.F. pong, T. Ohigashi and N. Kosugi, *Effect of Fe_2O_3 coating on ZnO Nanorod Probed by STXM*, UVSOR Annual Report, **43** 72 (2015)

2015CW&b M. Cao, Wang, P.; Kou, Y.; Wang, J.; Liu, J.; Li, Y.; Li, J.; Wang, L.; Chen, C. Gadolinium(III)-Chelated Silica Nanospheres Integrating Chemotherapy and Photothermal Therapy for Cancer Treatment and Magnetic Resonance Imaging. *ACS Applied Materials & Interfaces* **7**, 25014–25023 (2015)

2015CX& X. Chen, J. Xiao, Jian Wang, Dehui Deng, Yongfeng Hu, Jigang Zhou, Liang Yu, Thomas Heine, Xiulian Pan and Xinhe Bao, *Visualizing electronic interactions between iron and carbon by X-ray chemical imaging and spectroscopy*, Chem. Sci. **6** 3262-3267 (2015)

2015DB& P.A. Dowben, C. Binek, and D. E. Nikonov, *The potential of nonvolatile magnetoelectric devices for spintronic applications*, Chapter 11 in Silicon Nanoelectronics**;** 2nd edition; edited by Shuni Oda and David Ferry; Taylor and Francis (CRC Press) (2015)

2015DC& T. Ducic, E. Carboni, B. Lai, S. Chen, B. Michalke, D.F. Lázaro, T.F. Outeiro, M. Bähr, E. Barski, P. Lingor, A*lpha-Synuclein Regulates Neuronal levels of Manganese and Calcium*, ACS Chemical Neuroscience, **6**, 1769 (2015)

2015DG& J.J. De Yoreo, P.A. Gilbert, N.M. Sommerdijk, R.L. Penn, S. Whitelam, D. Joester, H. Zhang, J.D. Rimer, A. Navrotsky, J. Banfield, A.F. Wallace, F.M. Michel, F. Meldrum, H. Colfen, and P.M. Dove, "*Crystallization by particle attachment in synthetic, biogenic, and geologic environments*," Science **349**, aaa6760 (2015). **HI**

2015DH&a H.F. Dam, N.P. Holmes, T.R. Andersen, T.T. Larsen-Olsen, M. Barr, A.L.D. Kilcoyne, X. Zhou, P.C. Dastoor, F.C. Krebs, and W.J. Belcher, *"The effect of mesomorphology upon the performance of nanoparticulate organic photovoltaic devices*," Solar Energy Materials & Solar Cells **138**, 102-108 (2015).

2015DH&b J. Donatelli, M. Haranczyk, A. Hexemer, H. Krishnan, X. Li, L. Lin, F. Maia, S. Machesini, D.Y. Parkinson, T. Perciano, D. Shapiro, D. Ushizima, C. Yang, and J.A. Sethian, "*CAMERA: The Center for Advanced Mathematics for Energy Research Applications*," Synchrotron Radiation News **28**(2), 4-9 (2015).

2015DM& Dhar J, Mukhopadhay T, Yaacobi-Gross N, Anthopoulos TD, Salzner U, Swaraj S, et al., *Effect of chalcogens on electronic and photophysical properties of vinylene-based diketopyrrolopyrrole copolymers,* J. Physical Chemistry B. **119** 11307-11316 (2015).

2015DR& J.J. Dynes, T.W.. Regier, I. Snape, S.D., Siciliano and D. Peak, *Validating the Scalability of Soft X-ray Spectromicroscopy for Quantitative Soil Ecology and Biogeochemistry Research*. Environ. Sci. Technol.**49** 1035–1042 (2015)

2015DS&a A. Devaraj, C. Szymanski, P. Yan, C. M. Wang, V. Murgesan, J. M. Zheng, et al., "*Nanoscale Characterization of Li-ion Battery Cathode Nanoparticles by Atom Probe Tomography Correlated with Transmission Electron Microscopy and Scanning Transmission X-Ray Microscopy,*" Microscopy and Microanalysis, **21** 685-686 (2015).

2015DS&b R.T. DeVol, C.Y. Sun, M.A. Marcus, S.N. Coppersmith, S.C.B. Myneni, and P.U.P.A. Gilbert, *Nanoscale Transforming Mineral Phases in Fresh Nacre* J. Am. Chem. Soc. **137**,13325–13333 (2015)

2015DS&c De Gregorio, B.T., R.M. Stroud, D.K. Burden, K.P. Fears, R... Everett, and K... Wahl, "*Shell Structure and Growth in the Base Plate of the Barnacle Amphibalanus amphitrite*," ACS Biomaterials Science & Engineering **1**, 1085 (2015).

2015EB& A Elmaleh, F. Bourdelle, F. Caste, K. Benzerara, H. Leroux, and B. Devouard, "*Formation and transformations of Fe-rich serpentines by asteroidal aqueous alteration processes: A nanoscale study of the Murray chondrite*," Geochim. Cosmochim. Acta **158**, 162-178 (2015)

2015EM& Elzo, M., Moubah, R., Blouzon, C., Sacchi, M., Grenier, S., Belkhou, R., Dhesi, S., Colson, D., Torres, F., Kiwi, M., Viret, M., Jaouen, N., 2015. *Coupling between an incommensurate antiferromagnetic structure and a soft ferromagnet in the archetype multiferroic $BiFeO_3$/cobalt system.* Phys. Rev. B 91, 014402 (2015)

2015Fa P. Fischer, *"X-ray imaging of magnetic structures,*" IEEE Transactions on Magnetics **51**(2), 0800131 (2015).

2015Fb P. Fischer, "*Frontiers in imaging magnetism with polarized x-rays*," Frontiers of Physics **2**, 82 (2015).

2015FB& Fraile Rodríguez, A., A.C. Basaran, R. Morales, M. Kovylina, J. Llobet, X. Borrisé, M.A. Marcus, A. Scholl, I.K. Schuller, X. Batlle, and A. Labarta,

"*Manipulation of competing ferromagnetic and antiferromagnetic domains in exchange-biased nanostructures*," Physical Review B **92**, 174417 (2015)

2015FK& S. Finizio, A. Kronenberg, M. Vafaee, M. Foerster, K. Litzius, A. de Lucia, T.O. Menteş, L. Aballe, B Krüger., M Jourdan*, Magnetic configurations in nanostructured Co2MnGa thin film elements,* New J. Phys. **17**, 083030 (2015)

2015FL& Folven, E., J. Linder, O.V. Gomonay, A. Scholl, A. Doran, A.T. Young, S.T. Retterer, V. Malik, P.M. Tybell, Y. Takamura, and J.K. Grepstad, "*Controlling the switching field in nanomagnets by means of domain-engineered antiferromagnets*," Physical Review B: **92**, 094421 (2015).

2016FO& Fischer, P., and H. Ohldag, "*X-rays and magnetism*," Reports on Progress in Physics **78**(9), 094501 (2015).

2015GB P. Guttmann and C. Bittencourt, *Overview of nanoscale NEXAFS performed with soft X-ray microscopes*, Beilstein J. Nanotechnol. **6**, 595–604 (2015).

2015GB& Z. Gainsforth., Anna.L. Butterworth, Julien. Stodolna, Andrew. Westphal, Gary.R. Russ, Kazu. Nagashima, Ryan. Ogliore, Donald.E Brownlee, David. Joswiak, Tolek. Tyliszczak, and Alexandr Simionovici, "*Constraints on the formation environment of two chondrule-like igneous particles from comet 81P/Wild 2,*" Meteoritics & Planetary Science **50**(5), 976-1004 (2015).

2015GCB C. Le Guillou, H.G. Changela, and A.J. Brearley, *"Widespread oxidized and hydrated amorphous silicates in CR chondrites matrices: Implications for alteration conditions and H 2 degassing of asteroids*," Earth and Planetary Science Letters **420**, 162-173 (2015).

2015GD& C. Le Guillou, . Dohmen, D. Rogalla, Thomas Müller, Christian Vollmer, Hans-Werner Becker, *New experimental approach to study aqueous alteration of amorphous silicates at low reaction rates*, Chemical Geology **412** 179-192 (2015)

2015GG& Gianetti, Thomas L, Grégory Nocton, S.G. Minasian, Nikolas Kaltsoyannis, A.L. Kilcoyne, S.A. Kozimor, D.K. Shuh, T. Tyliszczak, Robert G Bergman, and John Arnold, "*Electron localization in a mixed-valence diniobium benzene complex*," Chemical Science 6(2), 993-1003 (2015).

2015GM&a De Giudici G., Medas D., Meneghini C., Casu M.A., Gianoncelli A., Iadecola A., Podda S., Lattanzi P. *Microscopic biomineralization processes and Zn bioavailability: a synchrotron-based investigation of Pistacia lentiscus L. roots ,* Environmental Science and Pollution Research,**22** 1-10 (2015)

2015GM&b D.A Gilbert, B.B. Maranville, A.L. Balk, B.J. Kirby, P. Fischer, D.T. Pierce, J. Unguris, J.A. Borchers, and K. Liu, "R*ealization of ground-state artificial skyrmion lattices at room temperature*," Nature Communications **6**, 8462 (2015) **HI**

2015GM&b M.Ghidini, F. Maccherozzi, X. Moya, L.C. Phillips, W.Yan, J.Soussi, *et al. Perpendicular Local Magnetization Under Voltage Control in Ni Films on Ferroelectric BaTiO* Advanced Materials **27** 1460-1465 (2015)

2015GN&a C. Graf, D. Nordmeyer, S. Ahlberg, J. Raabe, A. Vogt, J. Lademann, F. Rancan und E. Rühl, "*Penetration of spherical and rod-like gold nanoparticles into intact and barrier- disrupted human skin*" Proc. SPIE **9338**, 93381L-1 (2015).

2015GN&b T.L. Gianetti, G. Nocton, S.G. Minasian, N. Kaltsoyannis, A.L. Kilcoyne, S.A. Kozimor, D.K. Shuh, T. Tyliszczak, R.G. Bergman, and J. Arnold, "*Electron localization in a mixed-valence diniobium benzene complex*," Chemical Science **6**(2), 993-1003 (2015).

2015GN&c Z. Gu, M.E. Nowakowski, D.B. Carlton, R.H. Storz, M. Im, J. Hong, W. Chao, B.James. Lambson, P. Bennett, M.Tanvir. Alam, M.A. Marcus, A. Doran, A. Young, A. Scholl, P. Fischer, and J. Bokor, *"Sub-nanosecond signal propagation in anisotropy-engineered nanomagnetic logic chains*," Nature Communications 6, 6466 (2015). **HI**

2015GS& A. Gianoncelli Sgura I., Bocchetta P., Lacitignola D., Bozzini B. , *High-lateral resolution X-ray fluorescence microspectroscopy and dynamic mathematical modelling as tools for the study of electrodeposited electrocatalysts,* X-Ray Spectrometry, **44** 263-275 (2015)

2015GT& G. Geng, R. Taylor, S. Bae, D. Hernandez-Cruz, D.A. Kilcoyne, A. Emwas, And P.J. Monteiro, " *Atomic and nano-scale characterization of a 50-year-old hydrated C3S paste*" Cement and Concrete Research **77**, 36-46 (2015).

2015GV& A. Gianoncelli, Vaccari L., Kourousias G., Cassese D., Bedolla D.E., Kenig S., Storici P., Lazzarino M., Kiskinova M. , *Soft X-Ray Microscopy Radiation Damage On Fixed Cells Investigated With Synchrotron IR Microscopy,* Scientific Reports, **5** 10250 (2015) **HI**

2015GW&a X. Guo, Z. Wang, Jin Wu, Yongfeng Hu, Jian Wang, Ying-Jie Zhu and Tsun-Kong Sham, *Tracking the transformations of mesoporous microspheres of calcium silicate hydrate at the nanoscale upon ibuprofen release: a XANES and STXM study*, CrystEngComm **17** 4117- 4124 (2015).

2015GW&b X. Guo, Z. Wang, Jin Wu, Jian Wang, Ying-Jie Zhu and Tsun-Kong Sham, *Imaging of drug loading distributions in individual microspheres of calcium silicate hydrate – an X-ray spectromicroscopy study*, Nanoscale **7** 6767-6773.(2015)

2015Ha A.P. Hitchcock, *Soft X-ray spectromicroscopy and ptychography*, J. Electron Spectroscopy & Related Phenomena **200** 49-63 (2015)

2015Hb Holmes, N.P., "*Morphology and performance of nanoparticle organic photovoltaics*," Doctoral Dissertation, University of Newcastle, Newcastle, NSW, 2015

2015HB& M. Hesse, B. von Boehn, A. Locatelli, A. Sala, T.O. Menteş, and R. Imbihl, **I***sland ripening via a polymerization/depolymerization mechanism***,** Phys. Rev. Lett. **115,** 136102 (2015)

2015HE& R. Hansson, L K.E. Ericsson, N.P. Holmes, J. Rysz, A. Opitz, M. Campoy-Quiles, E. Wang, M.G. Barr, A L.D. Kilcoyne, X. Zhou, P. Dastoor, and E. Moons, *Vertical and lateral morphology effects on solar cell performance for a thiophene–quinoxaline copolymer:PC70BM blend* J. Materials Chemistry A **3**, 6970-6979 (2015)

2015HHR M. Hegde, .D. Hosein, and P.V. Radovanovic, *Molecular Origin of Valence Band Anisotropy in Single β-Ga_2O_3 Nanowires Investigated by Polarized X-ray Absorption Imaging*, J. Phys. Chem. C **119** 17450-17457 (2015)

2015HH& K.L. Harding, S. Kalirai, R. Hayes, V. Ju, G. Cooper, A.P. Hitchcock, and M.R. Thompson, "*Inner-shell excitation spectroscopy of peroxides,*" Chemical Physic*s* **461**, 117-124 (11 2015)

2015HK& K.L. Harding, S. Kalirai, R. Hayes, V. Ju, G. Cooper, A. P. Hitchcock and M.R. Thompson, *Inne*

2015HM& J. Höcker, T.O. Menteş, A. Sala, A. Locatelli, Th. Schmidt, J. Falta, S.D. Senanayake and J.I. Flege, *Unraveling the Dynamic Nanoscale Reducibility ($Ce4^+$ –> $Ce3^+$) of CeOx–Ru in Hydrogen Activation***,** Adv. Mater. Interfaces 2(18), 1500314 (2015)

2015HN& N.P.Holmes, N. Nicolaidis, K. Feron, M. Barr, K.B. Burke, M. Al-Mudhaffer, P. Sista, A L.D. Kilcoyne, M.C. Stefan, X. Zhou, P.C. Dastoor, and W.J. Belcher, *Probing the origin of photocurrent in nanoparticulate organic photovoltaics* Solar Energy Materials & Solar Cells **140**, 412-421 (2015)

2015HP& Husanu M.A., Popescu D.G., Tache C.A., Apostol N.G., Barinov A., Lizzit S., Lacovig P., Teodorescu C.M., *Photoelectron spectroscopy and spectro-microscopy of Pb(Zr,Ti)O_3 (111) thin layers: Imaging ferroelectric domains with binding energy contrast,* Applied Surface Science, **352** 73-81 (2015)

2015HR& Holler M, Raabe J, *Error motion compensating tracking interferometer for the position measurement of objects with rotational degree of freedom*, Optical Engineering. **54** 54101 (2015). https://doi.org/10.1117/1.OE.54.5.054101(link is external)

2015HS& Hertlein, M.P., A. Scholl, A.A. Cordones, J.H. Lee, K.Craig. Engelhorn, T.Ernest. Glover, B. Barbrel, C. Sun, C. Steier, G.J. Portmann, and D.S. Robin, *"X-rays only when you want them: optimized pump-probe experiments using pseudo-single-bunch operation*," J. Synchrotron Radiation **22**, 729-735 (2015).

2015HW& W. Huang, H. Wang, Jigang Zhou, Jian Wang, Paul N. Duchesne, David Muir, Peng Zhang, Na Han, Feipeng Zhao, Min Zeng, Jun Zhong, Chuanhong Jin, Yanguang Li, Shuit-Tong Lee and Hongjie Dai, *Highly Active and Ultra-Durable Methanol Oxidation Electrocatalysis Enabled by Defective Ni(OH)2 in Platinum-Hydroxide-Graphene Ternary Hybrids*, Nature Communications **6** 10035:1-8 (2015) **HI**

2015HS& Huang, C., J. Zhou, V. Tra, R. White, R. Trappen, A. N'Diaye, M. Spencer, C.J. Frye, G. Cabrera, V. Nguyen, J. LeBeau, Y. Chu, and M.B. Holcomb, "*Imaging magnetic and ferroelectric domains and interfacial spins in magnetoelectric La 0.7Sr 0.3MnO 3/PbZr 0.2Ti 0.8O 3 heterostructures*," Journal of Physics: Condensed Matter 27(50), 504003 (2015)

2015IO& A. Ito, T. Ohigashi, K Shinohara, S. Tone, M. Kado, Y. Inagaki and N. Kosugi, *Distribution of DNA and Protein in Mammalian Cell Nuclei, from N-K and O-K NEXAFS profiles,* UVSOR Annual Report, **43**, 143 (2015) H. Ikegaya, Suzuki, S., Ichise, S., Furuta, S., Wakabayashi, S., Ohigashi, T., Bamba, D., Namba, H., Kihara, H., Kishimoto, N., & Takemoto, K. *Estimation of Organic Carbon Content of the Cyanobacterium Synechococcus sp. By Soft X-ray Microscopy*. Geomicrobiology Journal, , 827–835 (2015).

2015JC& Jia, Y., R.V. Chopdekar, E. Arenholz, A.T. Young, M.A. Marcus, A. Mehta, and Y. Takamura, "*Exchange coupling in (111)-oriented La0.7Sr0.3MnO3/La0.7Sr0.3FeO3 superlattices*," Physical Review B: **92**, 094407 (2015).

2015JD& S. Jamet, S. Da Col, N. Rougemaille, A. Wartelle, A. Locatelli, T. O. Menteş, B. Santos Burgos, R. Afid, L. Cagnon, S. Bochmann, J. Bachmann, O. Fruchart, and J. C. Toussaint, *Quantitative analysis of shadow x-ray magnetic circular dichroism photoemission electron microscopy,* Phys. Rev. B 92, 144428 (2015).

2015JY& W. Jin, P.-C. Yeh, N. Zaki, D. Chenet, G. Arefe, Y. Hao, A. Sala, T.O. Mentes, J.I. Dadap, A. Locatelli, J. Hone, and R.M. Osgood, Jr., *Tuning the electronic structure of monolayer graphene/MoS_2 van der Waals heterostructures via interlayer twist***,** Phys. Rev. B 92, 201409(R) (2015)

2015IW& G.R. S. Iyer, J. Wang, Garth Wells, Michael P. Bradley and Ferenc Borondics, *Polarization Dependent N-Mapping of Nitrogen Doped Large Area Freestanding Single Layer Graphene*, Nanoscale **7** 2289-2294 (2015).

2015KA& Könnecke M, Akeroyd FA, Bernstein HJ, Brewster AS, Campbell SI, Clausen B, et al.. *The NeXus data format*, J. Applied Crystallography. **48,** 301-305 (2015).

2015KB& M. Keiluweit, J. J. Bougoure, P.S. Nico, J. Pett-Ridge,, P.K.Weber and M. Kleber, *Mineral protection of soil carbon counteracted by root exudates,* Nature Climate Change **5**, 588 (2015) **HI**

2015KC& Y. Kalegowda, Y.-L. Chan, D.-H. Wei, and S. L. Harmer, *X-PEEM, XPS and ToF-SIMS Characterisation of Xanthate Induced Chalcopyrite Flotation: Effect of Pulp Potential*, Surf. Sci. **635** , 70 (2015)

2015KG& S. Kumar, C. E. Graves, J. P. Strachan, A. L. D. Kilcoyne, T. Tyliszczak, Y. Nishi, and R. S. Williams, *In-operando synchronous time-multiplexed O K-edge x-ray absorption spectromicroscopy of functioning tantalum oxide memristors,* J. Applied Physics **118**, 034502 (2015)

2015KL& C. Karunakaran, R. Lahlali, V. Perumal, C.R. Christensen, L.M. Blair; S.S. Miller and A. P. Hitchcock, *Introduction of soft X-ray spectromicroscopy as an advanced technique for plant biopolymers research*, PLOS One **10** e0122959 (2015)

2015KM& Kopittke P.M., Moore K.L., Lombi E., Gianoncelli A., Ferguson B.J., Blamey FPC, Menzies N.W., Nicholson T.M., McKenna B.A., Wang P., Gresshoff P.M., Kourousias G., Webb R.I., Green K., Tollenaere A. , *Identification of the Primary Lesion of Toxic Aluminum in Plant Roots* **,** Plant Physiology, **167**1402-1411 (2015)

2015KP& Kourousias G., Pascolo L., Marmorato P., Ponti J., Ceccone G., Kiskinova M., Gianoncelli A. , *High-resolution scanning transmission soft X-ray microscopy for rapid probing of nanoparticle distribution and sufferance features in exposed cells,* X-Ray Spectrometry, **44** 163-168 (2015

2015LB& J R.I. Lee, M. Bagge-Hansen, R. Tunuguntla, K. Kim, M. Bangar, T.M. Wiley, I.C. Tran, D.A. Kilcoyne, A. Noy, and T. van Buuren, *Ordering in bio-inorganic hybrid nanomaterials probed by in situ scanning transmission X-ray microscopy* Nanoscale **7**, 9477-9486 (2015)

2015LD& X. Lv, J. Deng, J. Wang, J. Zhong, X. H. Sun, *Carbon-coated α-Fe2O3 Nanostructures for Efficient Anode of Li-ion Battery*, J. Mater. Chem. A **3**, 5183-5188.(2015)

2015LG&a Li, Q., Y. Ge, G. Geng, S. Bae, and P.M. Monteiro, "C*aCl 2-Accelerated Hydration of Tricalcium Silicate: A STXM Study Combined with 29Si MAS NMR*," J. Nanomaterials **2015**, 215371 (2015).

2015LG&b Luchinat E., Gianoncelli A., Mello T., Galli A., Banci L. , *Combining in-cell NMR and X-ray fluorescence microscopy to reveal the intracellular maturation states of human superoxide dismutase 1,* Chem. Commun., **51** 584-587 (2015)

2015LK& M.W. Loble, J.M. Keith, A.B. Altman, S.C.E. Stieber, E.R. Batista, K.S. Boland, S.C. Conradson, D.L. Clark, J.L. Pacheco, S.A. Kozimor, R.L. Martin, S.G. Minasian, A.C. Olsen, B.L. Scott, D.K. Shuh, T. Tyliszczak, M.P. Wilkerson, and R.A. Zehnder, "*Covalency in Lanthanides. An X-ray Absorption Spectroscopy and Density Functional Theory Study of LnCl6x- (x = 3, 2)*," Journal of the American Chemical Society **137**, 2506-2523 (2015).

2015LL& M.W. Lin, Y.L. Lai, M.H. Cao, T. Oigashi, N. Kosugi, Q. Zhang and Y.J. Hsu, *Mapping Oxygen Activation on different facets of Pd Nanocrystals for Organic Catalysis,* UVSOR Annual Report, **43**, 73 (2015)

2015LM&a Y. Li, S. Meyer, J. Lim, S. Lee, W. Gent, S. Marchesini, H. Krishnan, T. Tyliszcak, D. Shapiro, A. Kilcoyne, and W.C. Chueh, *"Effects of Particle Size and Incoherent Nanoscale Crystallite Domains on the Sequence of Lithiation in LiFePO4 Porous Electrodes*," Advanced Materials, **27,** 6591–6597 (2015)

2015LM&b Lacour D, Montaigne F, Rougemaille N, Belkhou R, Raabe J, Hehn M, *Indirect localization of a magnetic domain wall mediated by quasi walls*, Scientific Reports. **5**, 9815 (2015). **HI**

2015LN& Y. Li, J. Nelson Weker, W.E. Gent, D.Nikolaus. Mueller, J. Lim, D.A. Cogswell, T. Tyliszczak, and W.C. Chueh, "*Dichotomy in the lithiation pathway of ellipsoidal and platelet $LiFePO_4$ particles revealed through nanoscale operando state-of-charge imaging*," Advanced Functional Materials **25**(24), 3677-3687 (2015).

2015LT& P.J. Lam, B.S. Twining, C. Jeandel, A. Roychoudhury, J.A. Resing, P.H. Santschi, and R.F. Anderson, "*Methods for analyzing the concentration and speciation of major and trace elements in marine particles*," Progress in Oceanography **133**, 32-42 (2015).

2015LW&b J. Li, . Wang, Ankang Zhao, Jian Wang, Yang Song, Tsun-Kong Sham, *Nanoscale Clarification of the Electronic Structure and Optical Properties of TiO_2 Nanowire with an Impurity Phase upon Sodium Intercalation*, J. Phys. Chem. C **119** 17848-17856 (2015)

2015MBH L.G. A. Melo, G.A. Botton and Adam P. Hitchcock, *Quantification of the critical dose for radiation damage to perfluorosulfonic acid membranes using soft X-ray microscopy,* Microscopy & Microanalysis **21**, S-3, 2443-2444 (2015)

2015MB& C.A. Mendoza, Bernardini F., Gianoncelli A., Tuniz C., *Energy dispersive X-ray diffraction and fluorescence portable system for cultural heritage applications ,* X-Ray Spectrometry, **44** 105-115 (2015)

2015MC& Materese, C.K., D.P. Cruikshank, S.A. Sandford, H. Imanaka, and M. Nuevo, "*Ice Chemistry on Outer Solar System Bodies: Electron Radiolysis of N 2-, CH 4-, and Co-containing Ices*," The Astrophysical Journal **812**(2), 150 (2015).

2015MD& Rioult, M., Datta, S., Stanescu, D., Stanescu, S., Belkhou, R., Maccherozzi, F., Magnan, H., Barbier, A., *Tailoring the photocurrent in BaTiO3/Nb:SrTiO3 photoanodes by controlled ferroelectric polarization*. Appl. Phys. Lett. **107**, 103901 (2015).

2015MG&a M.C. Aslani, M. Garner, S. Kumar, D. Nordlund, P.A. Pianetta, and Y. Nishi, "*Characterization of electronic structure of periodically strained graphene*," Applied Physics Letters **107**, 183507 (2015).

2015MG&b Medas D., De Giudici G., Casu M.A., Musu E., Gianoncelli A., Iadecola A., Meneghini C., Tamburini E., Sprocati A.R., Turnau K., Lattanzi P. , *Microscopic Processes Ruling the Bioavailability of Zn to Roots of Euphorbia pithyusa L. Pioneer Plant,* Environmental Science and Technology, **49** 1400-1408 (2015)

2015MJ& D. Macholdt, K.P. Jochum, C. Pöhlker, B. Stoll, U. Weis, B. Weber, M. Müller, M. Kappl, S. Buhre, A.L. Kilcoyne, M. Weigand, D. Scholz, A.M. Al-Amri, and M.O. Andreae, *Microanalytical methods for in-situ high-resolution analysis of rock varnish at the micrometer to nanometer scale* Chemical Geology **411**, 57-68 (2015)

2015ML& McGuirk, G.M., Ledieu, J., Gaudry, É., de Weerd, M.-C., Hahne, M., Gille, P., Ivarsson, D.C.A., Armbrüster, M., Ardini, J., Held, G., Maccherozzi, F., Bayer, A., Lowe, M., Pussi, K., Diehl, R.D., Fournée, V., *The atomic structure of low-index surfaces of the intermetallic compound InPd*. J. Chem. Phys. 143, 074705 (2015).

2015MM& E.F. Mikhailov, G.N. Mironov, C. Pöhlker, X. Chi, M.L. Krüger, M. Shiraiwa, J.D. Förster, U. Pöschl, S.S. Vlasenko, T.I. Ryshkevich, M. Weigand, A.L. Kilcoyne, and M.O. Andreae, *Chemical composition, microstructure, and hygroscopic properties of aerosol particles at the Zotino Tall Tower Observatory (ZOTTO), Siberia, during a summer campaign* Atm.c Chem. and Physics **15**, 8847-8869 (2015)

2015MP&a S. Mukherjee, C.M. Proctor, J.R. Tumbleston, G.C. Bazan, T-Q. Nguyen, and H. Ade, "*Importance of Domain Purity and Molecular Packing in Efficient Solution-Processed Small-Molecule Solar Cells,*" Advanced Materials **27** 1105-1111 (2015).

2015MP&b Mukherjee, S., C.M. Proctor, G.C. Bazan, T.-Q. Nguyen, and H.W. Ade, "*Significance of Average Domain Purity and Mixed Domains on the Photovoltaic Performance of High-Efficiency Solution-Processed Small-Molecule BHJ Solar Cells*," Advanced Energy Materials **5**, 1500877 (2015).

2015MR M. Holler and J. Raabe, *Error motion compensating tracking interferometer for the position measurement of objects with rotational degree of freedom* Opt. Eng. **54**, 054101 (2015)

2015MS&a C. Miyamoto, H. Suga, T. Ohigashi, Y. Inagaki and Y. Takahashi, *Speciation of Sulfur and Calcium in Aerosols by STXM,* UVSOR Annual Report, **43**, 144 (2015)

2015MS&b T. O. Menteş, A. Sala, A. Locatelli, E. Vescovo, J. M. Ablett, M. A. Niño, *Phase Coexistence in Two-Dimensional* $Fe_{0.70}Ni_{0.30}$ *Films on W(110),* e-Journal of Surface Science and Nanotechnology 13, 256-260 (2015)

2015MZ&a S. Mitsunobu, M. Zhu, Y. Ohashi and T. Ohigashi, *A Key Mechanism of Bacterial Pyrite Leaching Identified by Direct STXM Analysis of cell-pyrite interface,* UVSOR Annual Report, **43** 141 (2015)

2015MZ&b S. Mitsunobu, M. Zhu, Y. Takeichi, T. Ohigashi, H. Suga, H. Makita, M. Sakata, K. Ono, K. Mase, and Y. Takahashi, "*Nanoscale Identification of Extracellular Organic Substances at the Microbe-Mineral Interface by Scanning Transmission X-ray Microscopy*", *Chemistry Letters,* **44**, 91-93 (2015)

2015NOK M. Nagasaka, T. Ohigashi and N. Kosugi, "*Local Strucuture Analysis of Eeaction by Soft X-ray Absorption Spectroscopy*, ", Bunseki Kagaku, **64**,163-172 (2015).

2015ON& T. Ohigashi, M. Nagasaka, T.Horigome, N. Kosugi, S.M. Rosendahl, and A. P. Hitchcock. ' *Development of In-Situ Sample Cells for Scanning Transmission X-Ray Microscopy at UVSOR*'. *Microscopy* **64** S-1 i38 2015). https://doi.org/10.1093/jmicro/dfv127

2015OS&a M. Olivares-Marín, A. Sorrentino, RC. Lee, E. Pereiro, NL. Wu, D. Tonti, *Spatial Distributions of Discharged Products of Lithium-Oxygen Batteries Revealed by Synchrotron X-ray Transmission Microscopy,* Nano Letters,**15**, 6932 (2015)

2015OS&b J. Otón, C. O. S. Sorzano, R. Marabini, E. Pereiro, J. M. Carazo, *Measurement of the modulation transfer function of an X-ray microscope based on multiple Fourier orders analysis of a Siemens star,* Optics Express, **23**, 8 (2015)

2015P P.J. Pauzauskie, "*Singlet-Oxygen Generation from Individual Semiconducting and Metallic Nanostructures during Near-Infrared Laser Trapping,*" ACS Photonics **2**, 559-564 (2015).

2015PB& Pascolo L., Borelli V., Canzonieri V., Gianoncelli A., Birarda G., Bedolla D.E., Salomé M., Vaccari L., Calligaro C., Cotte M., Hesse B., Luisi F., Zabucchi G., Melato M., Rizzardi C. , *Differential protein folding and chemical changes in lung tissues exposed to asbestos or particulates,* Scientific Reports,**5**, 12129 (2015) **HI**

2015PH& Popescu D.G., Husanu M.A., Trupina L., Hrib L., Pintilie L., Barinov A., Lizzit S., Lacovig P., Teodorescu C.M. , *Spectro-microscopic photoemission evidence of charge uncompensated areas in Pb(Zr,Ti)O3(001) layers ,* Phy. Chem. Chem. Phys. **17** 509-520 (2015)

2015PK&a B Pokroy, L Kabalah-Amitai, I Polishchuk, RT DeVol, AZ Blonsky, C-Y Sun, MA Marcus, A Scholl, PUPA Gilbert. *Narrowly distributed crystal orientation in biomineral vaterite*. Chem Mater. **27**, 6516-6523 (2015)

2015PK&b A. Picard, A.s Kappler, Gregor Schmid, Luca Quaroni, Martin Obst, *Experimental diagenesis of organo-mineral structures formed by microaerophilic Fe(II)-oxidizing bacteria*, Nature Communications **6** 6277 (2015) **HI**

2015PN Padeste C, Neuhaus S, Polymer micro- and nanografting, (Waltham: Elsevier; 2015). https://doi.org/10.1016/C2014-0-00670-3

2015NM& Nissen, D., D. Mitin, O. Klein, S.K. Arekapudi, S. Thomas, M. Im, P. Fischer, and M. Albrecht, "*Magnetic coupling of vortices in a two-dimensional lattice*," Nanotechnology **26**(46), 465706 (2015).

2015NO& M. Nagasaka, T. Ohigashi, H. Yuzawa and N. Kosugi, *In-situ Soft X-ray Absorption Spectroscopy Measurements of Liquid Smalpes by STXM,* UVSOR Annual Report, **43** 101 (2015)

2015NU A. Nakato and M. Uesugi, *Evaluation of FIB sample contamination from Sample Environment: Application to Organics in Carbonaceious Chondrites,* UVSOR Annual Report, **43** 147 (2015)

2015OB& K. Omari, R.C. Bradley, T.James. Broomhall, M. Hodges, M.C. Rosamond, E.H. Linfield, M. Im, P. Fischer, and T.J. Hayward, "*Ballistic rectification of vortex domain wall chirality at nanowire corners*," Applied Physics Letters **107**, 222403 (2015).

2015OI& Ohtori H, Iwano K, Mitsumata C, Yano M, Kato A, Shoji T, et al., *Dipolar energies in Nd-Fe-B nanocrystalline magnets with and without Nd-Cu infiltration,* J. Applied Physics. 117, 17B312 (2015).

2015ON& A. Ostrowski, D. Nordmeyer, A. Boreham, C. Holzhausen, L. Mundhenk, C. Graf, M. Meinke, A. Vogt, S. Haddam, J. Lademann, E. Rühl, U. Alexiev und A.D. Gruber, "*Overview on the Localization of Nanoparticles in Tissue and Cellular Context by Different Imaging Techniques*" Beilstein J. Nanotech. 6, 263-280 (2015).

2015OI& T. Ohigashi, Y.Inagaki, T. Horigome and N.Kosugi, *Observation of Morphology of a Fuel Cell by using a humidity control sample cell for STXM.* UVSOR Annual Report, **43** 69 (2015)

2015OS& J. Otón, Sorzano, C.O.S., Marabini, R., Pereiro, E., Carazo, J.M.,. *Measurement of the modulation transfer function of an X-ray microscope based on multiple Fourier orders analysis of a Siemens star*. Opt. Express, OE **23**, 9567–9572 (2015).

2015OW&a R.O'Brien, R., B. Wang, S.T. Kelly, N. Lundt, Y. You, A.K. Bertram, S.R. Leone, A. Laskin, and M.K. Gilles, *Liquid–Liquid Phase Separation in Aerosol Particles: Imaging at the Nanometer Scale* , Environmental Science and Technology **49**, 4995-5002 (2015).

2015OW&b R.E., O'Brien, B. Wang, A. Laskin, N. Riemer, M. West, Q. Zhang, Y. Sun, X.Y. Yu, P.A. Alpert, D.A. Knopf, M.K. Gilles, and R.C. Moffet, "*Chemical Imaging of Ambient Aerosol Particles: Observational Constraints on Mixing State Parameterization,*" J. Geophysical Research: Atmospheres **120** 9591-9605 (2015).

2015PY& Phillips, L.C., Yan, W., Moya, X., Ghidini, M., Maccherozzi, F., Dhesi, S.S., Mathur, N.D., *Control of Magnetization-Reversal Mechanism via Uniaxial Anisotropy Strength in $La_{0.67}Sr_{0.33}MnO_3$ Electrodes for Spintronic Devices*. Phys. Rev. Applied 4, 064004. (2015)

2015RA& Robertson, M.J., C.J. Agostino, A.T. N'Diaye, G. Chen, M. Im, and P. Fischer, "*Quantitative x-ray magnetic circular dichroism mapping with high spatial resolution full-field magnetic transmission soft x-ray spectro-microscopy*," J. Applied Physics **117**(17), 17D145 (2015)

2015RB V. Rouchon & S. Bernard. *Mapping iron gall ink penetration within paper fibres using scanning transmission X-ray microscopy.* J. Analytical Atomic Spectrometry, RSC **30**, 635 – 641 (2015)

2015RB&a N. Robin, S. Bernard, J. Miot, M.-M. Blanc-Valleron, S. Charbonnier, and G. Petit, "*Calcification and Diagenesis of Bacterial Colonies,*" Minerals **5**, 488-506 (2015).

2015RB&b Rioult, M., Belkhou, R., Magnan, H., Stanescu, D., Stanescu, S., Maccherozzi, F., Rountree, C., Barbier, A., *Local electronic structure and photoelectrochemical activity of partial chemically etched Ti-doped hematite*. Surface Science **641**, 310–313 (2015).

2015RR&a Rodríguez-Rodríguez Á, Rebollar E, Soccio M, Ezquerra TA, Rueda DR, Garcia-Ramos JV, et al. *Laser-induced periodic surface structures on conjugated polymers: poly(3-hexylthiophene)*, Macromolecules. **48** 4024-4031(2015)

2015RR&b Rösner B, Ran K, Butz B, Schmidt U, Spiecker E, Fink RH *A microspectroscopic insight into the resistivity switching of individual Ag-TCNQ nanocrystals*, Physical Chemistry Chemical Physics. **17**, 18278-18281 (2015).

2015RS&a M. Rose, P. Skopintsev, D. Dzhigaev, O. Gorobtsov, T. Senkbeil, A. von Gundlach, T. Gorniak, A. Shabalin, J. Viefhaus, A. Rosenhahn and I. Vartanyants**,** *Water window ptychographic imaging with characterized coherent X-rays* J. Synchrotron Rad. **22**, 819 (2015)

2015RS&b Rodríguez-Rodríguez Á, Soccio M, Martínez-Tong DE, Ezquerra TA, Watts B, García-Gutiérrez M-C, *Competition between phase separation and structure confinement in P3HT/PCDTBT heterojunctions: influence on nanoscale charge transport,* Polymer. **77**, 70-78 (2015).

2015RT& D. Rébiscoul, V. Tormos, N. Godon, J.-P. Mestre, M. Cabie, G. Amiard, E. Foy, P. Frugier and S. Gin, *Reactive transport processes occurring during nuclear glass alteration in presence of magnetite*, Applied Geochemistry **58**, 26–37 (2015)

2015S Scholl, A., "*Thin-film Magnetism: PEEM Studies*," Reference Module in Materials Science and Materials Engineering 2016 (2015).

2015SBO H. M. Sapers, N.R. Banerjee, .R. Osinski, *Potential for impact glass to preserve microbial metabolism*, Earth and Planetary Science Letters **430** 95-104 (2015)

2015SB& M.M. van Schooneveld, S. DeBeer, *A close look at dose: Toward L-edge XAS spectral uniformity, dosequantification and prediction of metal ion photoreduction*, J. Electron Spectrosc. Rel. Phenom. **198** 31-56 (2015)

2015SD& G.D. Saldi, D. Daval, Hua Guo, François Guyot, Sylvain Bernard, Corentin Le Guillou, James A. Davis, Kevin G. Knauss, *Mineralogical evolution of Fe–Si-rich layers at the olivine-water interface during carbonation reactions,* American Mineralogist **100** 2655-2669 (2015)

2015SF& R. Streubel, P. Fischer, M. Kopte, O.G. Schmidt, and D. Makarov, *"Magnetization dynamics of imprinted non-collinear spin textures*," Applied Physics Letters **107**(11), 112406 (2015)

2015SH& R. Streubel, L. Han, M. Im, F. Kronast, U. Robler, F. Radu, R. Abdrundan, G. Lin, O.G. Schmidt, P. Fischer, and D. Makarov, *"Manipulating Topological States by Imprinting Non-Collinear Spin Textures*," Scientific Reports **5**, 8787 (2015) **HI**

2015SK& R. Struebel, F. Kronast, P. Fischer, D.Y. Parkinson, O.G. Schmidt, and D. Makarov, "Retrieving spin textures on curved magnetic thin films with full-field soft X-ray microscopies," Nature Communications 6, 7612 (2015) **HI**

2015SL& S. Steimer, M. Lampimaeki, E. Coz, G. Grzinic amd M. Ammann, *The influence of physical state on shikimic acid ozonolysis: a case for in situ microspectroscopy* Atmospheric Chemistry & Physics **14**, 10761 (2014).

2015SM&a A. Spaeth, M. Meyer, S. Semmler and R. Fink, *Microspectroscopic soft X-ray analysis of keratin based biofibers*, Micron **70**, 34-40 (2015).

2015SM&b C.J. Szymanski, , P. Munusamy, C. Mihai, Yumei Xie, Dehong Hu, M.K. Gilles, T. Tyliszczak, S. Thevuthasan, Donald R Baer, and Galya Orr, "*Shifts in oxidation states of cerium oxide nanoparticles detected inside intact hydrated cells and organelles"*, Biomaterials **62**, 147-154 (9 2015)

2015SM&c M. Al Samarai, F. Meirer, Chithra Karunakaran, Jian Wang, Eelco T.C. Vogt, Henny W. Zandbergen, Thomas Weber, Bert M. Weckhuysen and Frank M.F. de Groot, *Unraveling the Redox Behavior of a CoMoS Hydrodesulfurization Catalyst: A Scanning Transmission X-ray Microscopy Study in the Tender X-ray Range*, J. Phys. Chem. C **119** 2530-2536 (2015)

2015SN&a H. Sohn, M.E. Nowakowski, C.-Y. Liang, J.L. Hockel, K. Wetzlar, S. Keller, B.M. McLellan, M.A. Marcus, A. Doran, A. Young, M. Kläui, G.P. Carman, J. Bokor, and R. Candler, "*Electrically Driven Magnetic Domain Wall Rotation in Multiferroic Heterostructures to Manipulate Suspended On-Chip Magnetic Particles*," ACS Nano **9**, 4814-4826 (2015).

2015SN&b H. Stoll, , Matthias Noske, Markus Weigand, Kornel Richter, Benjamin Krüger, Robert M. Reeve, Max Hänze, Christian F. Adolff, Falk-Ulrich Stein, Guido Meier, Mathias Kläui, and Gisela Schütz. 2015. "*Imaging Spin Dynamics on the Nanoscale Using X-Ray Microscopy*." Frontiers in Physic*s* 3 (2015)..

2015SN&c A. . Sorrentino, J. Nicolás, R. Valcárcel, F. J. Chichón, M. Rosanes, J. Avila, A. Tkachuk, J. Irwin, S. Ferrer, E. Pereiro, *MISTRAL: a transmission soft X-ray microscopy beamline for cryo nano-tomography of biological samples and magnetic domains imaging*, J. Synchrotron Radiation, **22,** 1112, (2015)

2015SRF A. Spaeth, J. Raabe and R.H. Fink *Confocal soft X-ray scanning transmission microscopy: setup, alignment procedure and limitations* , J. Synchrotron Radiation **22**, 133-118 (2015).

2015SR&a B.E. Smith, P.B. Roder, J.L. Hanson, S. Manandhar, A. Devaraj, D.E. Perea, W-J. Kim, A.L. Kilcoyne, and P.J. Pauzauskie, *"Singlet-Oxygen Generation from Individual Semiconducting and Metallic Nanostructures during Near-Infrared Laser Trapping*," ACS Photonics **2**, 559-564 (2015)

2015SR&b B. Smith, P.B. Roder, Xuezhe Zhou, and P.J. Pauzauskie, "H*ot Brownian thermometry and cavity-enhanced harmonic generation with nonlinear optical nanowires*," Chemical Physics Letters **639**, 310-314 (10 2015).

2015SS& G. Schot, Svenda M, Maia FRNC, Hantke M, DePonte DP, Seibert MM, Aquila A, Schulz J, Kirian R, Liang M et al.: *Imaging single cells in a beam of live cyanobacteria with an X-ray laser.* Nat. Commun. 2015, 6:5704. **HI**

2015SWK Y. Sano, S. Watanabe and S. Kibe, *STXM analysis for Effective Recovery of Radioactive Elements,* UVSOR Annual Report, **43**, 120 (2015)

2015SZ&a G. Schmid, F. Zeitvogel, L. Hao, P. Ingino, I. Adaktylou, M. Eickhoff and M. Obst, *Submicron-scale heterogeneities in nickel sorption of various cell-mineral aggregates formed by Fe(II)-oxidizing bacteria*. Environmental Science and Technology **50** 114-125 **(**2015).

2015SZ&b A. Sala, G. Zamborlini, T.O. Menteş, A. Locatelli, *Fabrication of a 2D heterojunction in graphene via low energy N_2^+ irradiation***,** Small 11(44), 5927–5931 (2015).

2015TY& J.G. Tobin, S.W. Yu, C.H. Booth, T. Tyliszczak, D.K. Shuh, G. van der Laan, D. Sorakas, D. Nordlund, T.C. Weng, and P.S. Bagus, *"Oxidation and crystal effects in uranium,*" Physical Review B: Condensed Matter and Materials Physics 92, 035111 (2015)

2015UN& M. Uesugi, A. Nakato, T. Ohigashi and Y. Inagaki, *Application of XANES to the analysis of Carbnaceous Materials in Hayabusa-Returned samples for Determination of their Origin,* UVSOR Annual Report, **43**, 142 (2015)

2015UU& M. Urbanek, V. Uhlir, C.-H. Lambert, J.J. Kan, N. Eibagi, M. Vanatka, L. Flajsman, R. Kalousek, M. Im, P. Fischer, T. Sikola, and E.E. Fullerton, "*Dynamics and effciency of magnetic vortex circulation reversal*," Physical Review B**: 91**, 094415 (2015).

2015VB& M. Viti , M. Bayer , J. Correa , P. Göttlicher , S. Lange , A. Marras , I. Shevyakov , S. Smoljanin , M. Tennert , C.B. Wunderer , Q. Xia , M. Zimmer , D. Das , N. Guerrini , B. Marsh , I. Sedgwick , R. Turchetta , G. Cautero , A. Gianoncelli , D. Giuressi , R. Menk , L. Stebel , H. Yousef , J. Marchal , N. Rees , N. Tartoni , H. Graafsma , *Spatial resolution studies for the PERCIVAL sensor ,* Journal of Instrumentation, **10** C01044 (2015)

2015VD& Vjunov A, Derewinski MA, Fulton JL, Camaioni DM, Lercher JA *Impact of zeolite aging in hot liquid water on activity for acid-catalyzed dehydration of alcohols*, Journal of the American Chemical Society. **137** 10374-10382 (2015).

2015VP& Vásquez G.C., Peche-Herrero M.A., Maestre D., Gianoncelli A., Ramírez-Castellanos J., Cremades A., González-Calbet J.M., Piqueras J. , *Laser-Induced Anatase-to-Rutile Transition in TiO2 Nanoparticles: Promotion and Inhibition Effects by Fe and Al Doping and Achievement of Micropatterning ,*Journal of Physical Chemistry C**, 119** 11965-11974 (2015)

2015VW& P. Vijayan, I. R. Willick, Rachid Lahlali, Chithra Karunakaran and Karen K. Tanino, *Synchrotron Radiation Sheds Fresh Light on Plant Research: The Use of Powerful Techniques to Probe Structure and Composition of Plants*, Plant and Cell Physiology **56** 1252-1263 (2015)

2015VY& Valkass, R. J., Yu, W., Shelford, L.R., Keatley, P.S., Loughran, T.H.J., Hicken, R.J., Cavill, S.A., van der Laan, G., Dhesi, S.S., Bashir, M.A., Gubbins, M.A., Czoschke, P.J., Lopusnik, R., *Imaging the equilibrium state and magnetization dynamics of partially built hard disk write heads.* Appl. Phys. Lett. **106**, 232404 (2015)

2015WB&a Wang, B., R.E. O'Brien, S.Thomas. Kelly, J.E. Shilling, R.C. Moffet, M.K. Gilles, and A. Laskin, "*Reactivity of Liquid and Semi-solid Secondary Organic Carbon with Chloride and Nitrate in Atmospheric Aerosols*," J. Physical Chemistry A **119**, 4498-4508 (2015)

2015WB&b Wohlhüter P, Bryan MT, Warnicke P, Gliga S, Stevenson SE, Heldt G, et al. *Nanoscale switch for vortex polarization mediated by Bloch core formation in magnetic hybrid systems*, Nature Communications. **6**, 7836 (2015). **HI**

2015WH& Y.F. Wang, S.H. Hsieh, J.W. Chiou, W.F. Pong, T. Ohigashi and N. Kosugi, *Resolving the Electronic Structure of TiO_2 Core-shell nanostructures using STXM*, UVSOR Annual Report, **43**, 71 (2015)

2015WL&a T.L. Wilson, L.A. Ladino, P.A. Alpert, Mark N. Breckels, Ian M. Brooks, J.o. Browse, Susannah Burrows, Kenneth Carslaw, J. Alex Huffman, Christop Judd, W.P. Kilthau, Ryan H. Mason, Gordon McFiggans, Lisa A. Miller, Juan J. Nájera, Elena Polishchuk, Stuart Rae, Corinne Schiller, Meng Si, Jesús Ve Temprado, Thomas F Whale, Jenny P. Wong, Oliver Wurl, Jacqueli Yakobi-Hancock, Jonathan Abbatt, Josephin Aller, Allan K. Bertram, D.A. Knopf, and Benjamin Murray, "*A marine biogenic source of atmospheric ice-nucleating particles*," Nature **525** 234-238 (2015) **HI**

2015WL&b F. Wang, G. Liu, S. Rothwell, M. Nevius, C. Mathieu, N. Barrett, A. Sala, T.O. Menteş, A. Locatelli, P.I. Cohen, L.C. Feldman, E.H. Conrad; *Pattern induced ordering of semiconducting graphene ribbons grown from nitrogen-seeded Si***,** Carbon **82**, 360–367 (2015)

2015WM& CB Wunderer , A Marras , M Bayer , J Correa , P Göttlicher , S Lange , I Shevyakov , S Smoljanin , M Tennert , M Viti , Q Xia , M Zimmer , D Das , N Guerrini , B Marsh , I Sedgwick , R Turchetta , G Cautero , A Gianoncelli , D Giuressi , R Menk , L Stebel , H Yousef , J Marchal , N. Rees , N Tartoni , H Graafsma , *The PERCIVAL soft X-ray imager,* J.Instrumentation, **10** C02008 (2015)

2015WP& Y.F. Wang, W.F. Pong, J.S. Chen, J.W. Chiou, T. Ohigashi and N. Kosugi, *Influence of the Oxygen Vacancy at Ta/TaO$_x$ interface on Resistive Switching Memories*, UVSOR Annual Report, **43**, 70 (2015)

2015WO Wang, B., R.E. O'Brien, S.T. Kelly, J.E. Shilling, R.C. Moffet, M.K. Gilles, and A. Laskin, *"Reactivity of Liquid and Semi-solid Secondary Organic Carbon with Chloride and Nitrate in Atmospheric Aerosols*.," *J. Physical Chemistry A* **119**, 4498-4508 (2015)

2015WS& Y. F. Wang, S. B. Singh, M. V. Limaye, Y. C. Shao, Shang Hsien Hsieh, L Y Chen, H C Hsueh, H. T. Wang, J. W. Chiou, Y C Yeh, Chun-Wei Chen, Chia-Hao Chen, Sekhar Ray, Jian Wang, W. F. Pong, Y Takagi, T. Ohigashi, T Yokoyama, and Nobuhiro Kosugi, *Visualizing chemical states and defects induced magnetism of graphene oxide by spatially-resolved-X-ray microscopy and spectroscopy*, Scientific Reports **5** 15439:1-12 (2015) **HI**

2015WT&a P. Wachulak, A. Torrisi, M. F. Nawaz, A. Bartnik, D.Adjei, S. Vondrová, J. Turňová, A. Jančarek, J. Limpouch, M. Vrbová and H. Fiedorowicz, *A Compact "Water Window" Microscope with 60 nm Spatial Resolution for Applications in Biology and Nanotechnology*, Microscopy and Microanalysis **21** 1214 (2015)

2015WT&b A. Wartelle, C. Thirion, R. Afid, S. Jamet, S. Da Col, L. Cagnon, J. Toussaint, J. Bachmann, S. Bochmann, A. Locatelli, T.O. Menteş, O. Fruchart, *Broadband setup for magnetic field-induced domain wall motion in cylindrical nanowires,* Magnetics, IEEE Transactions on, **51**(11), 4300403 (2015)

2015WW& Jian Wang, Zhiqiang Wang, Hyunjin Cho, Myung Jong Kim, T.K. Sham and Xuhui Sun, *Layer speciation and electronic structure investigation of freestanding hexagonal boron nitride nanosheets*, Nanoscale **7** 1718-1724 (2015).

2015YA& H. Yabuta, T. Atou, T. Ohigashi, Y. Inagaki, P. Beck, L. Bonal and E. Quirico, *Chemical Evolution of Meteoritic Organics during Impact Metamorphism,* UVSOR Annual Report, **43**, 145 (2015)

2015YF&a K. Yamamoto, R. Flesch, T. Ohigashi, S. Hedtrich, A. Klossek, P. Patoka, G. Ulrich, S. Ahlberg, F. Rancan, A. Vogt, U. Blume-Peytavi, P. Schrade, S. Bachmann, M. Schäfer-Korting, N. Kosugi und E. Rühl, *Selective Probing of the Penetration of Dexamethasone into Human Skin by Soft-X-Ray Spectromicroscopy*" Anal. Chem. **61**, 6173-6179 (2015)

2015YF&b V.V. Yashchuk, P.J. Fischer, E.R. Chan, R. Conley, W.R. McKinney, N. Artemiev, N. Bouet, S. Cabrini, G. Calafiore, I. Lacey, C. Peroz, and S. Babin, "*Binary pseudo-random patterned structures for modulation transfer function calibration and resolution characterization of a full-field transmission soft x-ray microscope*," Rev.Scientific Instruments **86**(12), 123702-1-123702-12 (2015)

2015YG& J De Yoreo, PUPA Gilbert, NAJM Sommerdijk, RL Penn, S Whitelam, D Joester, H Zhang, JD Rimer, A Navrotsky, JF Banfield, AF Wallace, FM Michel, FC Meldrum, H Cölfen, PM Dove. *Crystallization by Particle Attachment in Synthetic, Biogenic, and Geologic Environments*. Science **349**, aaa6760 (2015) **HI**

2015YK&a Yu, Y.S., C. Kim, D.A. Shapiro, M. Farmand, D. Qian, T. Tyliszczak, ALD. Kilcoyne, R.S. Celestre, S. Marchesini, J. Joseph, P. Denes, T. Warwick, F. Strobridge, C. Grey, H.A. Padmore, Y.S. Meng, R. Kostecki, and J. Cabana, *Dependence on Crystal Size of the Nanoscale Chemical Phase Distribution and Fracture in LixFePO4* Nano Letters **15**(7), 4282-4288 (2015).

2015YK&b K. Yamamoto, A. Klossek, T. Ohgashi, F. Rancon, R. Flesch, A. Vogt, U. Blume-Peytavi, P. Schrade, S. Bachmann, R. Schulz, R.R. Netz, S. Hedtrich, M. Schafer-Korting, N. Kosugi and E. Ruhl, *Probing Tacrolimus in Haman Skin by Soft X-ray Spectromicroscopy,* UVSOR Annual Report, **43**, 146 (2015)

2015YK&c Yu, W., Keatley, P.S., Gangmei, P., Marcham, M.K., Loughran, T.H.J., Hicken, R.J., Cavill, S.A., van der Laan, G., Childress, J.R., Katine, J.A., *Observation of vortex dynamics in arrays of nanomagnets*. Phys. Rev. B 91, 174425 (2015)

2015YJ&a Ye, L., X. Jiao, M. Zhou, S. Zhang, H. Yao, W. Zhao, A. Xia, H.W. Ade, and J. Hou, *"Manipulating Aggregation and Molecular Orientation in All-Polymer Photovoltaic Cells*," Advanced Materials **27**, 6046-6054 (2015).

2015YJ&b L. Ye, X. Jiao, H. Zhang, Su.Li, H.Yao, H.W. Ade, and Jianhui Hou, "*2D-Conjugated Benzodithiophene-Based Polymer Acceptor: Design, Synthesis, Nanomorphology, and Photovoltaic Performance*," Macromolecules **48**, 7156-7163 (2015).

2015YP& Yim, C.M., Pang, C.L., Hermoso, D.R., Dover, C.M., Muryn, C.A., Maccherozzi, F., Dhesi, S.S., Pérez, R., Thornton, G., *Influence of support morphology on the bonding of molecules to nanoparticles.* PNAS **112**, 7903-7908 (2015) **HI**

2015ZH& X.H. Zhu, A.P. Hitchcock, C. Bittencourt, P. Umek and P. Krüger, *Individual Titanate Nanostructures Studied by 3D-resolved Polarization Dependent X-ray Absorption Spectra Measured with Scanning Transmission X-ray Microscopy*, J. Physical Chemistry C **119** 24192-24200 (2015)

2015ZK& X.H. Zhu, S.S. Kalirai, Adam P. Hitchcock and D.A. Bazylinski, *X-ray absorption spectroscopy of biogenic and abiogenic magnetite and maghemite*, J. Electron Spectroscopy **199** 19-26 (2015)

2015ZI& G. Zamborlini, M. Imam , L.L. Patera , T.O. Menteş , N. Stojić , C.Africh , A. Sala , N. Binggeli , G. Comelli and A.Locatelli; *Nanobubbles at GPa pressure under graphene***,** Nano Lett. **15**(9) 6166 –6169 (2015)

2015ZL& Zhang, H., J. Liu, G. Zhao, Y. Gao, T. Tyliszczak, P. Glans, J. Guo, D. Ma, X. Sun, and J. Zhong, *"Probing the Interfacial Interaction in Layered-Carbon-Stabilized Iron Oxide Nanostructures: A Soft X‐ray Spectroscopic Study,*" ACS Applied Materials and Interfaces 7, 7863 (2015).

2015ZR& Zeilmann N, Roesner B, Spaeth A, Fink R, *Nanomorphology in thin films of acetamide end-functionalised quaterthiophene*, Thin Solid Films.]\ **583,** 108-114 (2015).

2015ZW& G.i Zhao, J. Wang, X.i Sun and J. Zhong, *Detecting the hollow structure of thick carbon nanotubes by scanning transmission X-ray microscopy*, RSC Advances. **5** 46904-46907 (2015)

2015ZY& K. Zhang, W. Yang, C. Ma, Y. Wang, Y. Chen, C. Sun, P. Duchesne, J. Zhou, J. Wang, Y. Hu, M.N. Banis, P. Zhang, F. Li, J.i Li, and L. Chen, *A highly active, stable and synergistic Pt nanoparticles/ Mo2C nanotube catalyst for methanol electro-oxidation*, NPG Asia Materials **7** e153 (2015)

2015ZZ& G. Zhao, J. Zhong, Jian Wang, Tsun-Kong Sham, Xuhui Sun and Shuit-Tong Lee, *Revealing the synergetic effects in Ni nanoparticle-carbon nanotube hybrids by scanning transmission X-ray microscopy and their application in the hydrolysis of ammonia borane*, Nanoscale **7** 9715-9722 (2015)

2016AB&a J. Alleon, S. Bernard, Corentin Le Guillou, Damien Daval, Feriel Skouri-Panet, Sylvain Pont, Ludovic Delbes, and François Robert, *Experimental evidence that early entombment within silica enhances the molecular preservation of microorganisms during diagenesis,* Chemical Geology **437** 98-108 (2016)

2016AB&b J. Alleon, S. Bernard, Corentin Le Guillou, Johanna Marin-Carbonne, Sylvain Pont, Kevin D. McKeegan and François Robert, *Molecular preservation of 1.88-Ga Gunflint organic microfossil as a function of temperature and associated mineralogy*, Nature Communications 7 (**2016**) 11977 **HI**

2016AC& C. Africh, C. Cepek, L.L. Patera, G. Zamborlini, P. Genoni, T.O. Menteş, A. Sala, A. Locatelli and G.Comelli, *Switchable graphene-substrate coupling through formation/dissolution of an intercalated Ni-carbide layer***,** Scientific Reports **6**, 19734 (2016) **HI**

2016AE& K. Andrianov, J Ewald, T. Nisius, L. Lühl, W. Malzer, B. Kanngießer, and T. Wilhein, *Development of a scanning transmission x-ray microscope for the beamline P04 at PETRA III DESY*, Proc. XRM2014, AIP Conf Proc. **1696** 020041 (1-4) (2016)

2016AG& F. Ahrend, U. Glebe, L. Árnadóttir, J.E. Baio, D.A. Fischer, C. Jaye, B.O. Leung, A.P. Hitchcock, T. Weidner, U. Siemeling and A. Ehresmann, *Magnetic field landscapes guiding the chemisorption of diamagnetic molecules*, Langmuir **32**, 10491-10496 (2016)

2016AK&a S. Alwani, R. Kaur, D. Michel, J.M. Chitanda, R.E. Verrall, C. Karunakaran and I.Badea, *Lysine-functionalized nanodiamonds as gene carriers: development of stable colloidal dispersion for in vitro cellular uptake studies and siRNA delivery application*, International Journal of Nanomedicine **11** 687-702 (2016).

2016AK&b D. Arrua, A. Khodabandeh, T. Ohigashi, N. Kosugi and E. Hilder, *Characterization of Macroporous Monolithic Polymers Containing Amphiphilic Macro-RAFT Agent by Scanning Transmission X-Ray Microscopy (STXM)*, UVSOR Activity Report, 107 (2016).

2016AP&a A.B. Altman, J.I. Pacold, J.Wang, W.W. Lukens and S.G. Minasian, *Evidence for 5d-σ and 5d-π Covalency in Lanthanide Sesquioxides from Oxygen K-edge X-ray Absorption Spectroscopy*, Dalton Transactions **45**, 9948-9961 (2016).

2016AP&b A.B. Altman, C.D. Pemmaraju, C. Camp, J. Arnold, S.G. Minasian, D. Prendergast, D.K. Shuh, and T. Tyliszczak, "*Theory and X-ray Absorption Spectroscopy for Aluminum Coordination Complexes - Al K-Edge Studies of Charge and Bonding in (BDI)Al, (BDI)AlR 2, and (BDI)AlX 2 Complexes*," J. American Chemical Society **137**(32), 10304-1031 (2015)

2016BBB Bonneville S, Bray AW, Benning LG, *Structural Fe(II) oxidation in biotite by an ectomycorrhizal fungi drives mechanical forcing,* Environmental Science and Technology. **50** 5589-5596 (2016) .

2016BB& L. Bertrand, S. Bernard, Federica Marone, Mathieu Thoury, Ina Reiche, Aurélien Gourrier, Philippe Sciau, Uwe Bergmann, *Emerging Approaches in Synchrotron Studies of Materials from Cultural and Natural History Collections*, Topics in Current Chemistry **374** 7 (2016).

2016BK&a S. Bae, M.Kanematsu, Daniel Hernández-Cruz, Juhyuk Moon, David Kilcoyne, and Paulo Monteiro, "I*n Situ Soft X-ray Spectromicroscopy of Early Tricalcium Silicate Hydration,*" Materials **9**, 976 (2016).

2016BK&b F. Billè, Kourousias G, Luchinat E, Kiskinova M, Gianoncelli A, *X-ray fluorescence microscopy artefacts in elemental maps of topologically complex samples: Analytical observations, simulation and a map correction method ,* Spectrochimica Acta Part B: Atomic Spectroscopy **122**, 23-30 (2016*)*

2016BP& B. Bhartia, S. R. Puniredd, Sundaramurthy Jayaraman, Chinnasamy Gandhimathi, Mohit Sharma, Yen-Chien Kuo, Chia-Hao Chen, Venugopal Jayarama Reddy, Cedric Troadec, and Madapusi Palavedu Srinivasan, *Highly Stable Bonding of Thiol Monolayers to Hydrogen-Terminated Si via Supercritical Carbon Dioxide: Toward a Super Hydrophobic and Bioresistant Surface* ACS Appl. Mat. Interfaces 8 24933 (2016)

2016BS& V F. Bondici, .G.D.W. Swerhone, James J. Dynes, John R. Lawrence, Gideon M. Wolfaardt, Jeff Warner & Darren R. Korber, *Biogeochemical Importance of the Bacterial Community in Uranium Waste Deposited at Key Lake, Northern Saskatchewan*, Geomicrobiology Journal **33** 807-821 (2016).

2016BV&a O. Boulle, J. Vogel, H. Yang, S. Pizzini, D. de Souza Chaves, A. Locatelli, T.O. Menteş, A. Sala, L.D. Buda-Prejbeanu, O.Klein, M. Belmeguenai, Y. Roussigné, A. Stashkevich, S.M.Chérif, L. Aballe, M. Foerster, M. Chshiev, S. Auffret, I.M. Miron and G. Gaudin, *Room-temperature chiral magnetic skyrmions in ultrathin magnetic nanostructures***,** Nat. Nanotech. **11**, 449–454 (2016)

2016BV&b Bernardini F., Vecchiet A., De Min A., Lenaz D., Mendoza Cuevas A., Gianoncelli A., Dreossi D., Tuniz C., Montagnari Kokelj M. *Neolithic pottery from the Trieste Karst (northeastern Italy): A multi-analytical study ,* Microchemical Journal, **124**, 600-607 (2016)

2016CC&a H.-Y. Chen, D. M.-L.Chiang, Zi-Jing Lin, Chia-Chun Hsieh, Gung-Chian Yin, I.-Chun Weng, Peter Guttmann, Stephan Werner , Katja Henzler, Gerd Schneider, Lee-Jene Lai & Fu-Tong Liu, *Nanoimaging granule dynamics and subcellular structures in activated mast cells using soft X-ray tomography,* Scientific Reports **6** (2016) 34879. **HI**

2016CC&b B. Canals, I.A. Chioar, V.-D. Nguyen, M. Hehn, D.Lacour, F. Montaigne, A. Locatelli, T.O. Menteş, B. Santos Burgos and N. Rougemaille; *Fragmentation of magnetism in artificial kagome dipolar spin ice***,** Nat. Comm. **7**, 11446 (2016); **HI**

2016CC&c M. Chiappi, J.J. Conesa, E. Pereiro, C.O.Sánchez Sorzano, M.J. Rodríguez, K. Henzler, G. Schneider, F.J. Chichón, J.L. Carrascosa, *Cryo-soft X-ray tomography as a quantitative three-dimensional tool to model nanoparticle:cell interaction,* J. Nanobiotechnology 14:15 (2016)

2016CH&a D. Carta, A.P. Hitchcock, P. Guttmann , A. Regoutz, A. Khiat, A. Serb, I. Gupta and T. Prodromakis, *Spatially resolved TiO_x phases in RRAM conductive nanofilaments using soft-X-ray spectromicroscopy,* Scientific Reports **6** 21525: (1-10) (2016) **HI**

2016CH&b Ching-Yu Chiang, Sheng-Wei Hsiao, Pin-Jiun Wu, Chu-Shou Yang, Chia-Hao Chen, and Wu-Ching Chou, *Depth-Profiling Electronic and Structural Properties of Cu(In,Ga)(S,Se)2 Thin-Film Solar Cel*l, ACS Appl. Mat. Interfaces 8 24152 (2016)

2016CL&a Ying-Chu Chen, Yan-Gu Lin, Liang-Ching Hsu, Alexander Tarasov, Po-Tuan Chen, Michitoshi Hayashi, Jan Ungelenk, Yu-Kuei Hsu, and Claus Feldmann, *β-SnWO4 Photocatalyst with Controlled Morphological Transition of Cubes to Spikecubes*, ACS Catalyss **6**, 2357 (2016).

2016CL&b Cheng-Hao Chuang, Yi-Cheng Lin, Wei-Long Chen, Yu-Hsuan Chen wet al. , *Detecting trypsin at liquid crystal/aqueous interface by using surface-immobilized bovine serum albumin* Biosens Bioelectron **78** 213 (2016)

2016CO& Jose Javier Conesa , Joaquín Otón, Michele Chiappi, Jose María Carazo, Eva Pereiro, Francisco Javier Chichón and José L. Carrascosa, *Intracellular nanoparticles mass quantification by near-edge absorption soft X-ray nanotomograph*y Sci. Rep. **6** 22354 (2016). **HI**

2016CS& F. Ciccullo, S. A. Savu, M. Glaser, M.L.M. Rocco, T. Chassé and M.B. Casu, *Island shape and electronic structure in diindenoperylene thin films deposited on Au(110) single crystal*s, Phys. Chem. Chem. Phys. **18**, 13693-13700 (2016);

2016CT J. Cosmidis and A.S. Templeton, *Self-assembly of biomorphic carbon/sulfur microstructures in sulfidic environments*, Nature Communications 7 12812. (2016) **HI**

2016CP& Chih-Jung Chen, Wei Kong Pang, Tatsuhiro Mori, Vanessa K. Peterson, Neeraj Sharma, Po-Han Lee, She-huang Wu, Chun-Chieh Wang, Yen-Fang Song, and Ru-Shi Liu, The Origin of Capacity Fade in the Li2MnO3·LiMO2 (M = Li, Ni, Co, Mn) Microsphere Positive Electrode: An Operando Neutron Diffraction and Transmission X-ray Microscopy Study *J. Am. Chem. Soc. 138* (28), 8824-8833 (2016)

2016CW& S. China, B. Wang, J. Weis, L. Rizzo, J. Brito, G.G. Cirino, L. Kovarik, P. Artaxo, M.K. Gilles, and A. Laskin, *"Rupturing of Biological Spores As a Source of Secondary Particles in Amazonia*," Environmental Science and Technology **50**(22), 12179-1218 (2016).

2016CZ&a S. Cao, X. Zhang, Kishan Sinha, Wenbin Wang, Jian Wang, Peter A. Dowben, Xiaoshan Xu, *Phase separation in LuFeO3 films*, Applied Physics Letters **108**, 202903:1-5 (2016**)**

2016CZ&b S. Cao, X. Zhang, Tula R. Paudel, Kishan Sinha, Xiao Wang, Xuanyuan Jiang, Wenbin Wang, Stuart Brutsche, Jian Wang, Philip J. Ryan, Jong-Woo Kim, Xuemei Cheng, Evgeny Y. Tsymbal, Peter A. Dowben and Xiaoshan Xu, *On the structural origin of the single-ion magnetic anisotropy in LuFeO3*, J. Phys.: Condens. Matter **28** 156001:1-10. (2016)

2016CZ&c Cai S, Zeng C, Zhang N, Li J, Meyer M, Fink RH, et al. *Enhanced mechanical properties of PLA/PLAE blends via well-dispersed and compatilized nanostructures in the matrix,* RSC Advances. **6** 25531-25540 (2016).

2016DB& Demir, S., Nicholas K Brune, Jeffrey F. Van Humbeck, Jarad A. Mason, Tatiana V. Plakhova, Shuao Wang, Guoxin Tian, Stefan G. Minasian, Tolek Tyliszczak, Tsuyoshi Yaita, Tohru Kobayashi, Stepan N. Kalmykov, Hideaki Shiwaku, David K. Shuh, and Jeffrey R. Long, *Extraction of Lanthanide and Actinide Ions from Aqueous Mixtures Using a Carboxylic Acid-Functionalized Porous Aromatic Framework*, ACS Central Science **2**(4), 253-265 (2016)

2016DG&a P. Dillmann , S. Gin, D. Neff, L. Gentaz and D. Rebiscoul, E*ffect of natural and synthetic iron corrosion products on silicate glass alteration processes,* Geochimica et Cosmochimica Acta **172** 287–305 (2016)

2016DG&b T. Dumas, Dominique Guillaumont, Clara Fillaux, Andreas Scheinost, Philippe Moisy, Sébastien Petit, David K. Shuh, Tolek Tyliszczak, and Christophe Auwer, "*The nature of chemical bonding in actinide and lanthanide ferrocyanides determined by X-ray absorption spectroscopy and density functional theory*," Physical Chemistry Chemical Physics **18**(4), 2887-2895 (2016).

2016DR& B. Dörling, J.D. Ryan, J.D. Craddock, A. Sorrentino, A. El Basaty, A. Gómez, M. Garriga, E. Pereiro, J.E. Anthony, M.C. Weisenberger, A.R. Goñi, C. Müller, M. Campoy-Quiles, *Photoinduced p- to n-type switching in thermoelectric polymer-carbon nanotube composites*, Advanced Materials **28,** 2782 (2016)

2016DUS Dietrich PM, Unger WES, Swaraj S, *X-ray spectromicroscopy of nanoparticulate iron oxide phases*, Biointerphases **11** 04B4022016 (2016).

2016DV& J. Deng, D. J. Vine, S. Chen, Y. S. G. Nashed, Q. Jin, T. Peterka, S. Vogt, and C. Jacobsen, *Advances and challenges in cryo ptychography at the Advanced Photon Source*, Proc. XRM2014, AIP Conf Proc. **1696** 020030 (1-6) (2016)

2016DZ& Darrow, M., Y. Zhang, B.P. Cinquin, E... Smith, R.M. Boudreau, R.H. Rochat, M.F. Schmid, Y. Xia, C.A. Larabell, and W. Chiu, "*Visualizing red blood cell sickling and the effects of inhibition of sphingosine kinase 1 using soft x-ray tomography*," J Cell Sci **129**, 3511-3517 (2016).

2016ES& D. Erbahar, T. Susi, X. Rocquefelte, C. Bittencourt, M. Scardamaglia, P.Guttmann, G. Rotas, N. Tagmatarchis, X. Zhu, A.P. Hitchcock and C.P. Ewels, *Spectromicroscopy of C_{60} and azafullerene $C_{59}N$: Identifying surface absorbed water*, Scientific Reports **6** 35605 (2016)

2016FC& Fitzer, S.C., Chung, P., Maccherozzi, F., Dhesi, S.S., Kamenos, N.A., Phoenix, V.R., Cusack, M., *Biomineral shell formation under ocean acidification: a shift from order to chaos.* Scientific Reports **6**, 21076 (2016). **HI**

2016FH& J.I. Flege, J. Höcker, B. Kaemena, T.O. Menteş, A. Sala, A. Locatelli, S. Gangopadhyay, J.T. Sadowski, S.D. Senanayake and J. Falta;, *Growth and Characterization of Epitaxially Stabilized Ceria(001) Nanostructures on Ru(0001)***,** Nanoscale **8**, 10849-10856 (2016);

2016FS&a J.D. Fan, Z.B. Sun, Y.L. Wang, J. Park, S. Kim, M. Gallagher-Jones, Y. Kim, C.Y.Song, S.K. Yao, J. Zhang, *et al.***S***ingle-pulse enhanced coherent diffraction imaging of bacteria with an X-ray free-electron laser*, Sci. Rep., **6** 34008 ((2016). **HI**

2016FS&b A. Farhan, A. Scholl, C... Petersen, L. Anghinolfi, C. Wuth, S. Dhuey, R.V. Chopdekar, P. Mellado, M.J. Alava, and S. Van Dijken, "*Thermodynamics of emergent magnetic charge screening in artificial spin ice*," Nature Communications **7**, 12635 (2016) **HI**

2016FS&c X. Shi, P. Fischer, V. Neu, D. Elefant, J.T. Lee, D.A. Shapiro, M. Farmand, T. Tyliszczak, H. Shiu, S. Marchesini, S. Roy, and S.D. Kevan, "*Soft x-ray ptychography studies of nanoscale magnetic and structural correlations in thin SmCo5 films*," Appl. Phys. Lett. **108**(9), 094103 (2016).

2016FW& Finizio S, Wintz S, Kirk E, Raabe J, *In situ membrane bending setup for strain-dependent scanning transmission x-ray microscopy investigations,* Review of Scientific Instruments. **87** 123703 (2016).

2016GBB Gueriau, P., S. Bernard, and L. Bertrand, "*Advanced Synchrotron Characterization of Paleontological Specimens*," Elements **12**, 45-50 (2016).

2016GB&a A. Gianoncelli, J. Bufon, Ahangarianabhari M, Altissimo M, Bellutti P, Bertuccio G, Borghes R, Carrato S, Cautero G, Fabiani S, Giacomini G, Giuressi D, Kourousias G, Menk RH, Picciotto A, Piemonte C, Rachevski A, Rashevskaya I, Stolfa A, Vacchi A, Zampa G, Zampa N, Zorzi N , *A new detector system for low energy X-ray fluorescence coupled with soft X-ray microscopy: First tests and characterization ,* Nuclear Instruments and Methods in Physics Research, Section A: **816**,. 113-118 (2016)

2016GB&b Güldal NS, Berlinghof M, Kassar T, Du X, Jiao X, Meyer M, et al., *Controlling additive behavior to reveal an alternative morphology formation mechanism in polymer: Fullerene bulk-heterojunctions,* Journal of Materials Chemistry A. **4,** 16136-16147 (2016).

2016GC&a Le Gros, M.A., E.J. Clowney, A. Magklara, A. Yen, E. Markenscoff-Papadimitriou, B. Colquitt, M.J. Myllys, M. Kellis, S. Lomvardas, and C.A. Larabell, *"Soft X-Ray Tomography Reveals Gradual Chromatin Compaction and Reorganization during Neurogenesis In Vivo*," Cell Reports **17**(8), 2125-2136 (2016).

2016GC&b Le Gros, M.A., J.H. Chen, M. Do, G. McDermott, and C.A. Larabell, "Putting Molecules in the Picture: Using Correlated Light Microscopy and Soft X-Ray Tomography to Study Cells," in *Synchrotron Light Sources and Free-Electron Lasers*, E.J. Jaeschke, S. Khan, J.R. Schneider, J.B. Hastings, (Springer International Publishing , 2016)p.1367-1391.

2016GJ&a A.X. Gray, J. Jeong, N.B. Aetukuri, P.W. Granitzka, Z. Chen, R. Kukreja, D.J. Higley, T. Chase, A.H. Reid, H. Ohldag, M.A. Marcus, A. Scholl, A.T. Young, A. Doran, C.A. Jenkins, P. Shafer, E. Arenholz, M.G. Samant, S.P. Parkin, and H.A. Dürr, "*Correlation-Driven Insulator-Metal Transition in Near-Ideal Vanadium Dioxide Films*," Physical Review Letters **116,** 116403 (2016). **HI**

2016GJ&b N. Gasparini, X. Jiao, T. Heumueller, D. Baran, G.J. Matt, S. Fladischer, E.M. Spiecker, H.W. Ade, C. Brabec, and T. Ameri, "*Designing ternary blend bulk heterojunction solar cells with reduced carrier recombination and a fill factor of 77%*," Nature Energy **1**, 16118 (2016).

2016GK&a A. Gianoncelli, Kourousias G., Altissimo M., Bedolla D.E., Merolle L., Stolfa A., Shin H. , *Combining multiple imaging techniques at the TwinMic X-ray microscopy beamline,* AIP Conference Proceedings, **1764** . 030002 (2016)

2016GK&b A. Gianoncelli, Kourousias G., Merolle L., Altissimo M., Bianco A., *Current status of the TwinMic beamline at Elettra: a soft X-ray transmission and emission microscopy station ,* J.Synchrotron Radiation, **23**, 1526-1537 (2016)

2016GL& I. Gilbert, Y. Lao, I. Carrasquillo, L. O'Brien, J.D. Watts, M.l. Manno, C. Leighton, A. Scholl, C. Nisoli, and P. Schiffer, "*Emergent reduced dimensionality by vertex frustration in artificial spin ice*," Nature Physics **12**, 162-165 (2016). **HI**

2016GM& D.C. Grinter, C. Muryn, A. Sala, C.-M. Yim, C.L. Pang, T.O. Menteş, A. Locatelli, and G. Thornton, *Spillover Reoxidation of Ceria Nanoparticles***,** J. Phys. Chem. C **120**(20), 11037-11044 (2016)

2016GS& M. Grösbacher C. Spicher A. Bayer; Obst M., Karwautz C., Pilloni, G., Wachsmann M., Scherb H., Griebler C. *Organic contamination versus mineral properties – Competing selective forces shaping the bacterial community assembly in sediments.* Aquatic Microbial Ecology **76** 243-255 (2016)

2016GW&a M.G. George, J. Wang, Rupak Banerjee, Aimy Bazylak, *Composition analysis of a polymer electrolyte membrane fuel cell microporous layer using scanning transmission X-ray microscopy and near edge X-ray absorption fine structure analysis*, Journal of Power Sources **309** 254-259 (2016)

2016GW&b M.J. Griffith, M.S. Willis, P. Kumar, J.L. Holdsworth, H. Bezuidenhout, X. Zhou, W.J. Belcher, and P. Dastoor, "*Activation of Organic Photovoltaic Light Detectors Using Bend Leakage from Optical Fibers*," ACS Applied Materials and Interfaces **8**, 7928-7937 (2016).

2016GZ& X. Guo, M. Zhang, W. Ma, S. Zhang, J. Hou, and Y. Li, "*Effect of Solvent Additive on Active Layer Morphologies and Photovoltaic Performance of Polymer Solar Cells Based on PBDTTT-C-T/PC71BM*," RSC Advances **6**, 51924-51931 (2016)

2016HA& M. Hammel, D. Amlanjyoti, F.E. Reyes, J.-H. Chen, R. Parpana, H.H. Tang, C.A. Larabell, J.A. Tainer, and S. Adhya, "*HU multimerization shift controls nucleoid compaction,*" Science Advances **2**(7), e1600650 (2016). **HI**

2016HB&a M. Hodson, Liane G Benning, Gianfelice Cinque, Bea Demarchi, Mark Frogley, Kirsty Penkman, Juan Rodriguez-blanco, Paul Schofield, Emma Versteegh, Katia Wehbe, *Synchrotron-based micro Fourier transform infrared mapping to investigate the spatial distribution of amorphous and crystalline calcium carbonate in earthworm-secreted calcium carbonate ball*s Spectroscopy Europe **28**, 12-15, doi: (2016)

2016HB&b G. A. Horrocks, E. J. Braham, Yufeng Liang, Luis R. De Jesus, Joshua Jude, Jesús M. Velázquez, David Prendergast, and Sarbajit Banerjee, *Vanadium*

K-Edge X-ray Absorption Spectroscopy as a Probe of the Heterogeneous Lithiation of V2O5: First-Principles Modeling and Principal Component Analysis, J. Phys. Chem. C **120** 23922-23932 (2016)

2016HC&a J. Ha, S. Chae, K. W. Chou, T. Tyliszczak, and P. J. M. Monteiro, "*Characterization of Class F Fly Ash Using STXM: Identifying Intraparticle Heterogeneity at Nanometer Scale*," J. Nanomaterials **2016**, 8072518 (2016)

2016HC&b J. Huang, J.H. Carpenter, C.-Z. Li, J.-S. Yu, H.W. Ade, and A.K. Jen, "*Highly Efficient Organic Solar Cells with Improved Vertical Donor-Acceptor Compositional Gradient Via an Inverted Off-Center Spinning Method*," Advanced Materials **28**, 967-974 (2016).

2016HG& M. Hesse, S. Günther, A. Locatelli, T.O.Menteş, B. Santos, R. Imbihl, *Revisiting the Origin of Low Work Function Areas in Pattern Forming Reactive Systems: Electropositive-Contaminants or Subsurface Oxygen? J*. Phys. Chem. C **120** (47), 26864–26872 (2016)

2016HL&a A.P. Hitchcock, V. Lee, J. Wu, M.M. West, G. Cooper, V.Berejnov, T. Soboleva, D. Susac and J. Stumper, *Characterizing Automotive Fuel Cell Materials by Soft X-Ray Scanning Transmission X-Ray Microscopy*, Proc. XRM2014, AIP Conf Proc.**1696** 020012 (1-8) (2016)

2016HL&b L.N. Hawkins, A. Lemire, M.M. Galloway, A.Lynn. Corrigan, J.J. Turley, B.M. Espelien, and D.O. DeHaan, "*Maillard Chemistry in Clouds and Aqueous Aerosol As a Source of Atmospheric Humic-Like Substances*," Environmental Sci. & Tech **50**, 7443-7452 (2016).

2016HM& N.P. Holmes, Melissa Marks, Pankaj Kumar, Renee Kroon, Matthew G. Barr, Nicolas Nicolaidis, Krishna Feron, Almantas Pivrikas, Adam Fahy, Amaia Diaz Mendaza, A.L.David Kilcoyne, Christian Müller, Xiaojing Zhou, Mats R. Andersson, Paul C. Dastoor, and Warwick J. Belcher, "*Nano-pathways: Bridging the divide between water-processable nanoparticulate and bulk heterojunction organic photovoltaics*," Nano Energy **19**, 495-510 (2016).

2016HQ& A.P. Hitchcock, Z. Qin, S.M. Rosendahl, V. Lee and H. Hosseinkhannazer, *In situ electrochemical deposition of Cu studied with scanning transmission x-ray microscop*y, Proc. XRM2014, AIP Conf Proc. **1696** 020003 (1-5) (2016)

2016HS& Tzu-Yang Huang, Baskar Selvaraj, Hung-Yu Lin, Hwo-Shuenn Sheu, Yen-Fang Song, Chun-Chieh Wang, Bing Joe Hwang, and Nae-Lih W, *Exploring an Interesting Si Source from Photovoltaic Industry Waste and Engineering It as a Li-Ion Battery High-Capacity Anode* ACS Sust. Chem. Eng 4 5769 (2016)

2016HW& A. P. Hitchcock, J.Wu, V. Lee, N. Appathurai T. Tyliszczak, H.-W. Shiu, D. Shapiro, V. Berejnov, D. Susac and J. Stumper, *Progress in soft X-ray Microscopy Characterization of PEM Fuel Cell Catalyst Layers*, Microscopy & Microanalysis **22** S-3, 1290-1291 (2016)

2016IH& M. Y. Ismail, M. Huttula, M. Patanen, H. Liimatainen, T. Ohigashi and N. Kosugi, Structural Identification of Cellulose Nanocrystal/Nanofibril Hybrids and Composites Using Soft X-ray Techniques, UVSOR Activity Report, 72 (2016).

2016II& A. Ito, T. Inoue, M. Kado, T. Ohigashi, S. Tone and K. Shinohara, *"Biomedical Application of Soft X-ray Microscopy with Special Reference to Spectromicroscopy",* Acta Physica Polonica A, **129**, (2016), 260-263.

2016IO& A. Ito, T. Ohigashi, K. Shinohara, S. Tone, M. Kado, Y. Inagaki and N. Kosugi, *NEXAFS Measurements of Biomolecules at the C-K edge for Molecular Mapping in Biological Specimens by STXM*, UVSOR Activity Report, 159 (2016).

2016J C. Jacobsen, *Future challenges for x-ray microscopy*, Proc. XRM2014, AIP Conf Proc. **1696** 020030 (1-6) (2016)

2016JH& L.R. De Jesus, G.A. Horrocks, Y. Liang, A. Parija, C.Jaye, L. Wangoh, J.Wang, D. A. Fischer, L.F. J. Piper, D. Prendergast and S. Banerjee, *Mapping polaronic states and lithiation gradients in individual V_2O_5 nanowires*, Nature Communications **7**, 12022 (2016) **HI**

2016K C.S.S.R. Kumar, X-ray and neutron techniques for nanomaterials characterization, (Springer, Berlin, 2016) DOI:10.1007/978-3-662-48606-1

2016KB&a H.-K. Kim, S.-M. Bak, Suk Woo Lee, Myeong-Seong Kim, Byeongho Park, Su Chan Lee, Yeon Jun Choi, Seong Chan Jun, Jung Tark Han, Kyung-Wan Nam, Kyung Yoon Chung, Jian Wang, Jigang Zhou, Xiao-Qing Yang, Kwang Chul Roh, and Kwang-Bum Kim, *Scalable Fabrication of Micron-Scale Graphene Nanomeshes for High-Performance Supercapacitor Applications*, Energy & Environmental Science **9** 1270-1281 (2016)

2016KB&b Kourousias G, Bozzini B, Gianoncelli A, Jones MWM, Junker M, van Riessen G, Kiskinova M , *Shedding light on electrodeposition dynamics tracked in situ via soft X-ray coherent diffraction imaging,* Nano Research, **9** 2046-2056 (2016)

2016KB&c Cheng-Tai Kuo, Karuppannan Balamurugan, Hung Wei Shiu, Hyun Ju Park, Tae Won Noh, *The energy band alignment at the interface between mechanically exfoliated few-layer NiPS3 nanosheets and ZnO*, Curr Appl. Phys. 16 404 (2016)

2016KGB G. Kourousias, F. Billè, and A. Gianoncelli, *Automated nonlinear alignment of XRF spectra ,* X-Ray Spectrometry **46** 44 (2016)

2016KG& S. Kumar, C. Graves, J. Strachan, E. Grafals, A.L. Kilcoyne, T. Tyliszczak, J.N. Weker, Y. Nishi, and R.S. Williams, *Direct Observation of Localized Radial Oxygen Migration in Functioning Tantalum Oxide Memristors,* Advanced Materials **28** 2772 (2016)

2016KK& M. Kado, M. Kishimoto, S. Tamotsu, K. Yasuda, M. Aoyama, S. Tone and K. Shinohara, *Correlative imaging of live biological cells with a soft x-ray microscope and a fluorescence microscope*, Proc. XRM2014, AIP Conf Proc. **1696** 020019 (1-6) (2016)

2016KP& S. Kalirai, P.P. Paalanen, J. Wang, F.n Meirer and P. B.M. Weckhuysen, *Visualizing Dealumination of a Single Zeolite Domain in a Real-Life Catalytic Cracking Particle* Ang. Chem Int. Ed. **55** 11134–11138 (2016) **HI**

2016KS& S. Kumar, J. Strachan, A.L. Kilcoyne, T. Tyliszczak, M.D. Pickett, C. Santori, G. Gibson, and R. S. Williams, "*The phase transition in VO2 probed using x-ray, visible and infrared radiations,"*Applied Physics Letters **108**, 073102 (2016).

2016KU& Y. Kebukawa, E. Uchimura , T. Ohigashi, Y. Inagaki and K. Kobayashi, *Chemical Evaluations of Sample Preparation Methods for C-, N-, O-XANES/STXM*, UVSOR Activity Report, 163 (2016).

2016KW& S. Kumar, Ziwen Wang, Xiaopeng Huang, Niru Kumari, Noraica Davila, John Paul Strachan, David Vine, A. L. Davi Kilcoyne, Yoshio Nishi, and R. Stanley Williams, "*Conduction Channel Formation and Dissolution Due to Oxygen Thermophoresis/Diffusion in Hafnium Oxide Memristors*,"ACS Nano **10**, 11205-1121 (2016).

2016LHE A.F.G. Leontowich, A.P. Hitchcock and R.F. Egerton, *Radiation damage in organic solids across the carbon 1s ionization edge*, Journal of Electron Spectroscoscopy and Related Phenomena **206,** 58–64 (2016)

2016LC&a X. Lu, H.C. Chiu, Z. Arthur, J. Zhou, J. Wang, Ning Chen, De-Tong Jiang, Karim Zaghib, George P. Demopoulos, *Li-ion storage dynamics in metastable nanostructured Li2FeSiO4 cathode: Antisite-induced phase transition and lattice oxygen participation*, J. Power Sources 329 355-363. (**2016**)

2016LC&b M.A. Le Gros, E.J. Clowney, A. Magklara, A. Yen, E. Markenscoff-Papadimitriou, B. Colquitt, M. Myllys, M. Kellis, S. Lomvardas, and C.A. Larabell, "S*oft x-ray tomography reveals gradual chromatin compaction and reorganization during neurogenesis in vivo*," Cell Reports **17,** 2125 (2016)

2016LC&c Le Gros, M.A., J.H. Chen, M. Do, G. McDermott, and C.A. Larabell, "Putting Molecules in the Picture: Using Correlated Light Microscopy and Soft X-Ray Tomography to Study Cells," in *Synchrotron Light Sources and Free-Electron Lasers*, E.J. Jaeschke, S. Khan, J.R. Schneider, J.B. Hastings, (Springer International Publishing , 2016)p.1367-1391.

2016LG& A. Laskin, M.K. Gilles, D.A. Knopf, B. Wang, and S. China, "*Progress in the Analysis of Complex Atmospheric Particles*," Annual Review of Analytical Chemistry **9** 117-143 (2016).

2016LH& Yan-Gu Lin, Yu-Kuei Hsu, Yu-Chang Lin, Yu-Hsueh Chang, et al. , *Synthesis of Cu_2O nanoparticle films at room temperature for solar water splitting,* J. Coll Interf Sci **471** 76 (2016)

2016LK& Ying-Huang Lai, Shan-Chi Kuo, Yun-Ching Hsieh, Yu-Chun Tai, Wei-Hsiu Hung and U-Ser Jeng, *Electrochemically fabricated gold dendrites with underpotential deposited silver monolayers for a bimetallic SERS-active substrate*, RSC Advances **6** 13185 (2016)

2016LL&a J. Lim, Y. Li, D. H. Alsem, H. So, S.C. Lee, P.Bai, D. A. Cogswell, X. Liu, N.Jin, Y.S. Yu, N.J. Salmon, D.A. Shapiro, M.Z. Bazant, T. Tyliszczak and W.C. Chueh, *Origin and hysteresis of lithium compositional spatiodynamics within battery primary particles* Science **353** 566-571 (2016) **HI**

2016LL&b Li, X. , Lin, M. , Basile, L. , Hus, S. M., Puretzky, A. A., Lee, J. , Kuo, Y. , Chang, L. , Wang, K. , Idrobo, J. C., Li, A. , Chen, C. , Rouleau, C. M., Geohegan, D. B. and Xiao, K.*, Isoelectronic Tungsten Doping in Monolayer $MoSe_2$ for Carrier Type Modulation*. Adv Mat **28** 8240 (2016)

2016LL&c M. W. Lin, M. H. Li, H. W. Shiu, Y. L. Lai, T. Ohigashi, N. Kosugi, P. Chen and Y. J. Hsu, *Dopant Effect of Lead(II) Thiocyanate ($Pb(SCN)_2$) for $FA_{0.9}Cs_{0.1}PbI_3$ Perovskite Solar Cells*, UVSOR Activity Report,73 (2016).

2016LM& W.W. Lukens, N. Magnani, T. Tyliszczak, C.I. Pearce, and D.K. Shuh, "*Incorporation of Technetium into Spinel Ferrites*," Environmental Science and Technology **50**, 13160-1316 (2016)

2016LS&a J.R. Lawrence, G.D.W. Swerhone, J.J. Dynes, D.R. Korber and A.P. Hitchcock, *Soft x-ray spectromicroscopy for speciation, quantitation and nano-eco-toxicology of nanomaterials*, J. Microscopy **261** 130-147 (2016)

2016LS&b J.R. Lawrence, G.D.W. Swerhone, J.J. Dynes, A.P Hitchcock and D.R. Korber, *Complex organic corona formation on carbon nanotubes reduces microbial toxicity by suppressing reactive oxygen species production*, Environmental Science: Nano **3b** 181–189 (2016)

2016LW&a J.R. Lawrence, M. J. Waiser, G.D.W. Swerhone, V. Tumber, J. Roy, A. Paule, A.P. Hitchcock, J.J. Dynes and D.R. Korber. *Effects of Fullerene (C60), Multi-Wall Carbon Nanotubes (MWCNT), Single Wall Carbon Nanotubes (SWCNT) and hydroxyl and carboxyl modified Single Wall Carbon Nanotubes on riverine microbial communities*. Environmental Science and Pollution Research **23**, 10090-10102 (2016)

2016LW&b J. Li, Z. Wang, J. Wang, and T.-K. Sham, *Unfolding the Anatase-to-Rutile Phase Transition in TiO2 Nanotubes Using X-ray Spectroscopy and Spectromicroscopy*, J. Phys. Chem. C 120 22079-22087 (**2016**)

2016LW&c M.-W.Lin , K.-C. Wang , J.-H. Wang , M.-H. Li , Y.-L. Lai , T.i Ohigashi , N. Kosugi , P. Chen , D.-H. Wei , T.-F. Guo , and Y.-J. Hsu, *Improve Hole Collection by Interfacial Chemical Redox Reaction at a Mesoscopic NiO/CH_3NH_3 PbI_3 Heterojunction for Efficient Photovoltaic Cells*, Advanced Materials Interfaces **3**, 1600135 (2016).

2016LW&d Lee, M.S., T. Wynn, E. Folven, R.V. Chopdekar, A. Scholl, A.T. Young, S.T. Retterer, J.K. Grepstad, and Y. Takamura, "*Tailoring Spin Textures in Complex Oxide Micromagnets,*" ACS Nano **10**, 8545-8551 (2016).

2016LW&e Y. R. Lu, Y. F. Wang, Y. C. Huang, J. W. Chiou, C. L. Dong, W. F. Pong, T. Ohigashi and N. Kosugi, *Improved Photoelectrochemical Performance of Au@TiO2-coated Fe2O3 Nanorods Studied by Scanning Transmission X-ray Microscopy*, UVSOR Activity Report, 71 (2016).

2016LY& Li, S., L. Ye, W. Zhao, S. Zhang, S. Mukherjee, H.W. Ade, and J. Hou, "*Energy-Level Modulation of Small-Molecule Electron Acceptors to Achieve over 12% Efficiency in Polymer Solar Cells*," Advanced Materials **28**, 9423-9429 (2016).

2016MB&a T. Mizokawa, Bendele M., Barinov A., Iadecola A., Joseph B., Noji T., Koike Y., Saini N.L. *Mesoscopic Stripes in Antiferromagnetic Fe Chalcogenide Probed by Scanning Photoelectron Spectromicroscopy ,* J. Physical Society of Japan, **85** 033702 (2016)

2016MB&b J. Mundy, C.M. Brooks, M.E. Holtz, J.A. Moyer, H. Das, A. Rébola, J.T. Heron, J.D. Clarkson, S.M. Disseler, Z. Liu, A. Farhan, R. Held, R. Hovden, E. Padgett, Q. Mao, H. Paik, R. Misra, L.F. Kourkoutis, E. Arenholz, A. Scholl, J.A. Borchers, W.D. Ratcliff, R. Ramesh, C.J. Fennie, P. Schiffer, D.A. Muller, and D. Schlom, "*Atomically engineered ferroic layers yield a room-temperature magnetoelectric multiferroic*," Nature 537(7621), 523-527 (2016). **HI**

2016MB&c R.C. Moffet, R.E. O'Brien, P.A. Alpert, S.Thomas. Kelly, D.Q. Pham, M.K. Gilles, D.A. Knopf, and A. Laskin, "*Morphology and mixing of black carbon particles collected in central California during the CARES field study*," Atmospheric Chemistry and Physics **16**, 14515-1452 (2016).

2016MB&d Mantuano A, Barroso R, Nogueira L, Colaço M, Mota C, Pickler A, Braz D, Salata Ca, Procopio A, Ferreira-Machado S, Almeida C, Gianoncelli A , *Alterations in Low-Z Elements Distribution in Heart Tissue after Treatments to Breast Cancer Using LEXRF Technique*
American Journal of Analytical Chemistry, **7**,754-771 (2016)

2016MC& M.M. Mamadou, M. Cathelineau, F. Bourdelle, M.-C. Boiron, A. Elmaleh, and M. Brouand, "*Hot Fluid Flows Around A Major Fault Identified By Paleothermometric Studies (Tim Mersoï Basin, Niger)*," J.Sedimentary Research **86**, 914-928 (2016).

2016MF& E. Malucelli, M. Fratin,Notargiacomo Andrea, Gianoncelli Alessandra, Merolle Lucia, Sargenti Azzurra, Cappadone Concettina, Farruggia Giovanna, Lagomarsino Stefano, Iotti Stefano , *Where is it and how much? Mapping and quantifying elements in single cells ,* Analyst, **141** 5221-5235 (2016)

2016MH&a L. G. de A. Melo, A.P. Hitchcock, V. Berejnov, D. Susac, J. Stumper and G.A. Botton, *Evaluating focused ion beam and ultramicrotome sample preparation for analytical microscopies of the cathode layer of a polymer electrolyte membrane fuel cell*, J. Power Sources **312** 23-35 (2016)

2016MH&b REFERENCE MISSING [K in cells; STXM; quantitation; B, E

2016MI& Martins ML, Ignazzi R, Eckert J, Watts B, Kaneno R, Zambuzzi WF, et al., *Restricted mobility of specific functional groups reduces anti-cancer drug activity in healthy cells*, Scientific Reports. 6, 22478 (2016). **HI**

2016MJA Mukherjee, S., X. Jiao, and H.W. Ade, "*Charge Creation and Recombination in Multi-Length Scale Polymer:Fullerene BHJ Solar Cell Morphologies*," Advanced Energy Materials **6**(18), 1600699 (2016).

2016MJ& J. Min, X.Jiao, I. Ata, A. Osvet, T. Ameri, P. Bäuerle, H.W. Ade, and Christop Brabec, "*Time-Dependent Morphology Evolution of Solution-Processed Small Molecule Solar Cells during Solvent Vapor Annealing,*" Advanced Energy Materials **8** 29608-29618 (2016).

2016MK& S. Marchesini, H.Krishnan, B.J. Daurer, D.A. Shapiro, T.Perciano, J.A. Sethian and F.R.N.C. Maia, *SHARP*: a *distributed GPU-based ptychographic solver*, J. App. Cryst. **49(**(4) 1245-1252, (2016)

2016ML&a J.Miot S. Lu, G. Morin, A. Adra , K. Benzerara and K. Küsel, *Iron mineralogy across the oxycline of a lignite mine lake*, Chemical Geology **434**, 28-42 (2016)

2016ML&b N. C. S. Mykytczuk, J. R. Lawrence, C. R. Omelon, G. Southam, L. G. Whyte, *Microscopic characterization of the bacterial cell envelope of Planococcus halocryophilus Or1 during subzero growth at -15°C,* Polar Biol. **39** 701-712 (2016)

2016MM&a C. Mathieu, T.O. Menteş, E. Pallecchi, A. Locatelli, G. Patriarche, R. Belkhou and A. Ouerghi, *Laterally Inhomogeneous Au Intercalation in Epitaxial Graphene on SiC(0001): A Multimethod Electron Microscopy Study***,** in "Recent Advances in Graphene Research", INTECH Ed. 2016, ISBN 978-953-51-2639-3

2016MM&b Merolle L, Malucelli E, Fratini M, Gianoncelli A, Notargiacomo A, Cappadone C, Farruggia G, Sargenti A, Procopio A, Lombardo M, Lagomarsino S, Iotti S , *Repeatability and reproducibility of intracellular molar concentration assessed by synchrotron-based x-ray fluorescence microscopy* AIP Conference Proceedings, **1696**, . 020032 (2016)

2016MM&c Moreau-Luchaire C, Moutafis C, Reyren N, Sampaio J, Vaz CAF, Van Horne N, et al., *Additive interfacial chiral interaction in multilayers for stabilization of small individual skyrmions at room temperature*, Nature Nanotechnology. **11** 444-448 (2016). **HI**

2016MMW KD.. Morrison, R. Misra, and L.B. Williams, "*Unearthing the Antibacterial Mechanism of Medicinal Clay: A Geochemical Approach to Combating Antibiotic Resistance,*" Scientific Reports **6**, 19043 (2016) **HI**

2016MOO S. Mitsunobu, Y. Ohashi and T. Ohigashi, *STXM Study on the Microbial Alteration of Iron Sulfide Mineral at the Submarine Seafloor*, UVSOR Activity Report, 158 (2016).

2016MP& Mosser-Ruck R, Pignatelli I, Bourdelle F, Abdelmoula M, Barres O, Guillaume D, et al., *Contribution of long-term hydrothermal experiments for understanding the smectite-to-chlorite conversion in geological environments,* Contributions to Mineralogy and Petrology. **17**1, 97 (2016).

2016MR&a R.A. Metzler, R. Rist, E. Alberts, P. Kenny, J. J. Wilker, *Composition and Structure of Oyster Adhesive Reveals Heterogeneous Materials Properties in a Biological Composite*, Adv. Funct. Mater. **26**, 6814-6821 **(**2016).

2016MR&b M.J . Myllys, V. Ruokolainen, V. Aho, E... Smith, S. Hakanen, P. Peri, A. Salvetti, J. Timonen, V. Hukkanen, C.A. Larabell, and M. Vihinen-Ranta, "*Herpes simplex virus 1 induces egress channels through marginalized host chromatin*," Scientific Reports **6**, 28844 (2016). **HI**

2016MS& M. Maloubier, D.K. Shuh, S.G. Minasian, J. Pacold, P. Solari, H. Michel, F.R. Oberhaensli, Y. Bottein, M. Monfort, C. Moulin, and C. Den Auwer, "*How Do Radionuclides Accumulate in Marine Organisms? A Case Study of Europium with Aplysina Cavernicola*," Environmental Science and Technology **50**(19), 10730-1073 (2016)

2016MWJ R. Mak, S. M. Wild and C. Jacobsen, *Non-negative matrix analysis in x-ray spectromicroscopy: Choosing regularizers*, Proc. XRM2014, AIP Conf Proc. **1696** 020034 (1-6) (2016)

2016MW& Reference Missing (XPEEM; Graphene/h-BN on Pt(111); single precursor synthesis)

2016MZ&a Mattoni, G., Zubko, P., Maccherozzi, F., van der Torren, A.J.H., Boltje, D.B., Hadjimichael, M., Manca, N., Catalano, S., Gibert, M., Liu, Y., Aarts, J., Triscone, J.-M., Dhesi, S.S., Caviglia, A.D., *Striped nanoscale phase separation at the metal–insulator transition of heteroepitaxial nickelates.* Nature Communications **7**, 13141 (2016). **HI**

2016MZ&b S. Mitsunobu, M. Zhu, Y. Takeichi, T. Ohigashi, H. Suga, M. Jinno, H. Makita, M. Sakata, K. Ono, K. Mase and Y. Takahashi, *"Direct Direction of Fe(II) in Extracellular Polymeric Substances (EPS) at the Mineral-Microbe Interface in Bacterial Pyrite Leaching*", Microbes and Environments, **31**, 63-69 (2016).

2016N K.D. Nguyen, "*Speciation and Health Risks of Atmospheric Nanoparticulates*," M.Sc. Thesis, U. California, Merced, Merced, CA, 2016.

2016NA& P.P. Naulleau, C.,. Anderson, W. Chao, P. Fischer, K.A. Goldberg, E.M. Gullikson, R.H. Miyakawa, S.-S. Kim, D. Lee, and J. Park, "*EUV Research at Berkeley Lab: Enabling Technologies and Applications: X-Ray Lasers 2014*," Springer Proceedings in Physics **169**, 293-300 (2016)

2016NF& M. Nagasaka, H. Fischer, H. Yuzawa, M. Nakano, N. Takada, M. Aoyama, E. Rühl and N. Kosugi, *Development of a Microfluidic Cell for Soft X-ray Absorption Spectroscopy*, UVSOR Activity Report, xx (2016).

2016NK& H.W Nho, Yogesh Kalegowda, Hyun-Joon Shin & Tae HyunYoon *Nanoscale characterization of local structures and defects in photonic crystals using synchrotron-based transmission soft X-ray microscopy,* Scientific Reports **6**, 24488 (2016) **HI**

2016NO& M. Nagasaka, T. Ohigashi, H. Yuzawa, Y. Inagaki and N. Kosugi, *Liquid-Liquid Interface between Triethylamine and Water Phases Studied by Spatially-Resolved Soft X-ray Absorption Spectroscopy*, UVSOR Activity Report, 108 (2016).

2016NP& S. Nappini, I. Píš, T.O. Menteş, A. Sala, M. Cattelan, S. Agnoli, F. Bondino and E. Magnano, *Formation of a Quasi-Free-Standing Single Layer of Graphene and Hexagonal Boron Nitride on Pt(111) by a Single Molecular Precursor***,** Adv. Funct. Mater. **26**, 1120 (2016).

2016NU A. Nakato and M. Uesugi , Evaluation of Influence on Organic Matters by Dehydration of Hydrous Asteroids, UVSOR Activity Report, 161 (2016).

2016OI&a T. Ohigashi, Atsushi Ito, Kunio Shinohara, Shigenobu Tone, Masataka Kado, Yuichi Inagaki, Yu-Fu Wang and Nobuhiro Kosugi*, Observation of DNA and protein distributions in mammalian cell nuclei using STXM*, Proc. XRM2014, AIP Conf Proc. **1696** 020027 (1-6) (2016)

2016OI&b T. Ohigashi, Y. Inagaki, A. Ito, K. Shinohara and N. Kosugi, *Development of a 3D quantitative Observation Method in STXM,* UVSOR Activity Report, 39 (2016).

2016OK& M. Oded, S.T.. Kelly, M.K. Gilles, A.E. Müller, and R. Shenhar, "*Periodic nanoscale patterning of polyelectrolytes over square centimeter areas using block copolymer templates*," Soft Matter **12**(20), 4595-4602 (2016)

2016ON& T. Ohigashi, M. Nagasaka, T. Horigome, N. Kosugi, S. M. Rosendahl and A.P. Hitchcock, *Development of in-situ sample cells for scanning transmission x-ray microscopy*, AIP Conference Proceedings **1741**, 050002 (2016)

2016OP& J. Otón, E. Pereiro, AJ. Pérez-Berná, L. Millach, COS. Sorzano, R. Maribini & JM. Carazo *Characterization of transfer funtion, resolution and depth of field of a soft X-ray microscope applied to tomography enhancement by Wiener deconvolution*, Biomedical Optics Express **7**, 5092-5103 (2016)

2016PA& T.A. Pham, A. B. Altman, S. C.E. Stieber, C.H. Booth, S. A. Kozimor, W.W. Lukens, D.T. Olive, T. Tyliszczak, J. Wang, S. G. Minasian, K.N. Raymond, *A Macrocyclic Chelator That Selectively Binds* Ln^{4+} *over* Ln^{3+} *by a Factor of* 10^{29}, Inorg. Chem. **55** 9989-10002 (2016)

2016PB&a D.Y. Parkinson, Keith Beattie, Xian Chen, Joaquin Correa, E. Dart, Benedikt J Daurer, Jack R. Deslippe, Alexander Hexemer, Harinaraya Krishnan, Alastair A MacDowell, Filipe R. Maia, Stefano Marchesini, Howard A. Padmore, Simon J. Patton, Talita Perciano, James A. Sethian, David Shapiro, Rune Stromsness, Nobumichi Tamura, Brian L. Tierney, Craig E. Tull, and Daniela Ushizima, "*Real-time data-intensive computing*," AIP Conference Proceedings **1741**, 050001 (2016)

2016PB&b Pascolo L, Bedolla D.E., Vaccari L, Venturin I, Cammisuli F, Gianoncelli A, Mitri E, Giolo E, Luppi S, Martinelli M, Zweyer M, Ricci G *Pitfalls and promises in FTIR spectromicroscopy analyses to monitor iron-mediated DNA damage in sperm,* Reproductive Toxicology, **61**, 39-46 (2016)

2016PG&a D. Papineau, B. De Gregorio, S. Fearn, D. Kilcoyne, G. McMahon, R. Purohit, and M. Fogel, "*Nanoscale petrographic and geochemical insights on the origin of the Palaeoproterozoic stromatolitic phosphorites from Aravalli Supergroup, India*," Geobiology **14**, 3-32 (2016).

2016PG&b L. Pascolo, A. Gianoncelli, Rizzardi Clara, de Jonge Martin, Howard Daryl, Paterson David, Cammisuli Francesca, Salomé Murielle, De Paoli Paolo, Melato Mauro, Canzonieri Vincenzo , *Focused X-Ray Histological Analyses to Reveal Asbestos Fibers and Bodies in Lungs and Pleura of Asbestos-Exposed Subjects ,* Microscopy and Microanalysis, **22** 1062-1071-2056 (2016)

2016PH& G. Pan, Guangzhi He, Meiyi Zhang, Q. Zhou, Tolek Tyliszczak, Renzhong Tai, Jinghua Guo, L. Bi, L. Wang, and Honggang Zhang, "*Nanobubbles at Hydrophilic Particle–Water Interfaces*,*"*Langmuir **32**(, 11133-11137 (2016)

2016PK& D. Piens, S.T. Kelly, T.H. Harder, M.D. Petters, R.E. O'Brien, B. Wang, K. Teske, P. Dowell, A. Laskin, and M.K. Gilles, "*Measuring Mass-Based Hygroscopicity of Atmospheric Particles through in Situ Imaging*," Environmental Science and Technology **50**(10), 5172-5180 (2016)

2016PO& A. Picard, M. Obst, G. Schmid, F. Zeitvogel, and A. Kappler, *"Limited influence of Si on the preservation of Fe mineral-encrusted microbial cells during experimental diagenesis*," Geobiology **14**, 276-292 (2016)

2016PP& C.W. Pester, J.E. Poelma, B. Narupai, S.N. Patel, G.M. Su, T.E. Mates, Y. Luo, C.K. Ober, C.J. Hawker, and E. Kramer, "*Ambiguous anti-fouling surfaces: Facile synthesis by light-mediated radical polymerization,*" J. Polymer Science Part A: Polymer Chemistry **54**, 253-262 (2016).

2016PR&a T.V. Plakhova, A. Romanchuk, S.N. Yakunin, T. Dumas, S. Demir, S. Wang, S.G. Minasian, D.K. Shuh, T. Tyliszczak, A.A. Shiryaev, A... Egorov, V.K. Ivanov, and S.N. Kalmykov, "*Solubility of Nanocrystalline Cerium Dioxide: Experimental Data and Thermodynamic Modeling*," J. Physical Chemistry C **120**(39), 22615-2262 (2016).

2016PR&b A.J. Pérez-Berná, M.J. Rodríguez, F.J. Chichón, M.F. Friesland, A. Sorrentino, J.L. Carrascosa, E. Pereiro, P. Gastaminza, *Structural changes in cells imaged by soft X-ray cryo-tomography during Hepatitis C virus infection*, ACS Nano **10,** 6597-6611 (2016).

2016PS& A. Putz, D. Susac, V. Berejnov, J. Wu, A.P. Hitchcock and J. Stumper, *Doing More with Less: Challenges for Catalyst Layer Design*, J. Electrochemical Society **75** 3-23 (2016)

2016PY& T.V. Plakhova, A. Yu. Romanchuk, Sergey N. Yakunin, Thomas Dumas, Selvan Demir, Shuao Wang, Stefan G. Minasian, David K. Shuh, Tolek Tyliszczak, Andrey A. Shiryaev, Alexander Egorov, Vladimir K Ivanov, and Stepan N. Kalmykov, "*Solubility of Nanocrystalline Cerium Dioxide: Experimental Data and Thermodynamic Modeling*," J. Physical Chemistry C **120**, 22615-2262 (2016).

2016PZ& L. Pascolo Zabucchi G., Gianoncelli A., Kourousias G., Trevisan E., Pascotto E., Casarsa C., Ryan C., Lucattelli M., Lungarella G., Cavarra E., Bartalesi B., Zweyer M., Cammisuli F., Melato M., Borelli V. , *Synchrotron X-ray microscopy reveals early calcium and iron interaction with crocidolite fibers in the lung of exposed mice ,* Toxicology Letters, **241** 111-120 (2016)

2016RA& A. Rachevski Ahangarianabhari M., Bellutti P., Bertuccio G., Brigo E., Bufon J., Carrato S., Castoldi A., Cautero G., Fabiani S., Giacomini G., Gianoncelli A., Giuressi D., Guazzoni C., Kourousias G., Liu C., Menk R.H., Montemurro G.V., Picciotto A., Piemonte C., Rashevskaya I., Shi Y., Stolfa A., Vacchi A., Zampa G., Zampa N., Zorzi N. , *First results of a novel Silicon Drift Detector array designed for low energy X-ray fluorescence spectroscopy,* Nuclear Inst. Methods in Physics Research **824** 452-454 (2015)

2016RC& V. Rheinheimer, S.R. Chae, E.D. Rodríguez, G. Geng, A. Kirchheim, and P.M. Monteiro, "*A scanning transmission X-ray microscopy study of cubic and orthorhombic C 3A and their hydration products in the presence of gypsum*," Materials **9**, 745 (2016).

2016RH& G.A. Ramírez, C.L. Hoffman, M.D. Lee, R.A. Lesniewski, R.A. Barco, A. Garber, B.M. Toner, C.G. Wheat, K.J. Edwards, and B.N. Orcutt, "*Assessing Marine Microbial Induced Corrosion at Santa Catalina Island, California,*" Frontiers in Microbiology **7**, 1679 (2016).

2016RI& Rivnay, J., S. Inal, B.A. Collins, M. Sessolo, E. Stavrinidou, X. Strakosas, C.J. Tassone, D.M. DeLongchamp, and G.G. Malliaras, "*Structural control of mixed ionic and electronic transport in conducting polymers*," Nature Communications **7**, 11287 (2016). **HI**

2016RPB L. Remusat, L. Piani, S. Bernard, *Thermal recalcitrance of the organic D-rich component of ordinary chondrites*, Earth and Planetary Science Letters **435** 36-44. (2016)

2016RPP Sekhar C. Ray, W.F. Pong, P. Papakonstantinou, *Iron, nitrogen and silicon doped diamond like carbon (DLC) thin films: A comparative study*, Thin Solid Films **610**, 42 (2016)

2016RR& G. Ramírez-Santiago, J. Robles-Valero, G. Morlino, A. Cruz-Adalia, M. Pérez-Martínez, A. Zaldivar, M. Torres-Torresano, F.J. Chichón, A. Sorrentino, E. Pereiro, J.L. Carrascosa, D. Megías, C.O.S. Sorzano, F. Sánchez-Madrid, E. Veiga, *Clathrin regulates lymphocyte migration by driving actin accumulation at the cellular leading edge* European Journal of Immunology **00,** 1-12 (2016).

2016SF&a X. Shi, Fischer, P., Neu, V., Elefant, D., Lee, J.C.T., Shapiro, D.A., Farmand, M., Tyliszczak, T., Shiu, H.W., Marchesini, S., Roy, S., Kevan, S.D., *Soft x-ray ptychography studies of nanoscale magnetic and structural correlations in thin SmCo 5 film*s. Appl. Phys. Lett. **108,** 094103 (2016)

2016SF&b R. Streubel, P. Fischer, F. Kronast, V... Kravchuk, D.D. Sheka, Y. Gaididei, O.G. Schmidt, and D. Makarov, "M*agnetism in curved geometries*," Journal of Physics D: Applied Physics **49**(36), 363001 (2016).

2016SG&a Späth A, Graf-Zeiler BA, Paradossi G, Ghugare S, Tzvetkov G, Fink RH, *Quantitative X-ray microscopic analysis of individual thermoresponsive microgel particles in aqueous solution,* RSC Advances. **6,** 98228-98233 (2016).

2016SG&b S. Sviben, A. Gal, M.A. Hood, L. Bertinetti, Y. Politi, M. Bennet, P. Krishnamoorthy, A. Schertel, R. Wirth, A. Sorrentino, E. Pereiro, D. Faivre, A. Scheffel, *A vacuole-like compartment concentrates a disordered calcium phase in a key coccolithophorid alga*, Nature Comm. **7**: 11228 (2016) **HI**

2016SO& G. Schmid, M. Obst, J. Wu and A.P. Hitchcock, *3D chemical imaging of nanoscale biological, environmental and synthetic materials by soft X-ray spectro-tomography* Chapter 2 in X-ray and Neutron Techniques for Nanomaterials Characterization, Vol. 5., C.S.S.R. Kumar, ed. (2016) 43-94 (Springer, Berlin, 2016)

2016SP& Siller L., Piticharoenphun S., Lemloh M.L., Horrocks Benjamin R , Kaulich B., Gianoncelli A., Hunt M.R., Brummer F., MedakovicÌ D. , *Sulphur-containing compounds as a response in sea urchins exposed to alkylated silicon nanocrystals and SiO2-coated iron oxide nanoparticles ,* BOOK CHAPTER in Biomineralization: From Fundamentals to Biomaterials & Environmental Issues **672** (COST, 2016) doi: 10.4028/www.scientific.net/KEM.672

2016SS&a Th. Schmidt, M. Speckmann, J. I. Flege, K. Müller-Caspary, I. Heidmann, A. Kubelka-Lange, T. O. Menteş, M. Á. Niño, A. Locatelli, A. Rosenauer, and J. Falta, *Mazes and meso-islands: Impact of Ag preadsorption on Ge growth on Si(111)*, Phys. Rev. B **93** 235410 (2016)

2016SS&b H. Suga, N. Sago, M. Miyahara, T. Ohigashi, Y. Inagaki, A. Yamaguchi and E. Ohtani, Carbon Materials and Alteration Products in Martian Meteorites, UVSOR Activity Report,162 (2016).

2016ST&a L. B. Steren, M. Tortarolo, F. Fernandez Baldis, M. Sirena, M. Sacchi, V. H. Etgens, M. Eddrief, B. Santos, T. O. Menteş and A. Locatell, *Combined effects of vertical and lateral confinement on the magnetic properties of MnAs micro and nano-ribbons,* J. Appl. Phys. **120**, 093905 (2016);.

2016ST&b Späth A, Tu F, Vollnhals F, Drost M, Krick Calderón S, Watts B, et al., *Additive fabrication of nanostructures with focused soft X-rays,* RSC Advances. **6,** 98344-98349 (2016).

2016SW& Y. Sano, S. Watanabe, Y. Miyazaki, S. Kibe, H. Matsuura, T. Uchiyama and Y. Katai, *STXM Analysis of Adsorbent for Effective Recovery of Radioactive Elements*, UVSOR Activity Report, 129 (2016).

2016TB& M. Thyrel, R. Backman, K. Thånell, C. Karunakaran, U. Skyllberg, T.A. Lestander, *Nanomapping and speciation of C and Ca in thermally treated lignocellulosic cell walls using scanning transmission X-ray microscopy and K-edge XANES*, Fuel **167**, 149-157 (2016).

2016TD& Tu F, Drost M, Vollnhals F, Späth A, Carrasco E, Fink RH, et al., On the magnetic properties of iron nanostructures fabricated via focused electron beam induced deposition and autocatalytic growth processes Nanotechnology. **27,** 355302 ((2016).

2016TG& B.M. Toner, C. German, G. Dick, and J.A. Breier, "*Deciphering the Complex Chemistry of Deep-Ocean Particles Using Complementary Synchrotron X-ray Microscope and Microprobe Instruments*," Accounts of Chemical Research **49**, 128-137 (2016).

2016TI& Y.Takeichi, Nobuhito Inami, Hiroki Suga, Yoshio Takahashi and Kanta Ono, *Compact scanning transmission x-ray microscope at the photon factory*, Proc. XRM2014, AIP Conf Proc. **1696** 020020 (1-6) (2016)

2016TL&a Tan, A., J. Li, A. Scholl, E. Arenholz, A.T. Young, Q. Li, C. Hwang, and Z.Qiang. Qiu, "Topology of spin meron pairs in coupled Ni/Fe/Co/Cu(001) disks," Physical Review B: Condensed Matter and Materials Physics **9**4, 014433 (2016).

2016TL&b H. Tjong, W. Li, R. Kalhor, C. Dai, S. Hao, K.e. Gong, Y. Zhou, H. Li, X. Zhou, M.A. Le Gros, C.A. Larabell, L. Chen, and F. Alber, *"Population-based 3D genome structure analysis reveals driving forces in spatial genome organization*," Proc. Natl. Acad. Sci. U.S.A. 113(12), E1663-E167 (2016).

2016TMS Y. Takahashi, C. Miyamoto and K. Sakata, *Chemical Speciation of Single Aerosol Particles: A Reconstruction of Hygroscopicity for Sulfate Aerosols*, UVSOR Activity Report, 160 (2016).

2016TT& Tzvetkov G, Tsyntsarski B, Balashev K, Spassov T, *Microstructural investigations of carbon foams derived from modified coal-tar pitch* Micron. **89**, 34-42 (2016).

2016TW&a S.-J. Tsai, C.,L. Wang, Hung-Chun Lee, Chun-Yeh Lin, Jhih-Wei Chen, Hong-Wei Shiu, Lo-Yueh Chang, Han-Ting Hsueh, Hung-Ying Chen, Jyun-Yu Tsai, Ying-Hsin Lu, Ting-Chang Chang, Li-Wei Tu, Hsisheng Teng, Yi-Chun Chen, Chia-Hao Chen & Chung-Lin Wu, *Approaching Defect-free Amorphous Silicon Nitride by Plasma-assisted Atomic Beam Deposition for High Performance Gate Dielectric*, Sci. Report 6, 28326 (2016) **HI**

2016TW&b Tóth R, Walliser RM, Lagzi I, Boudoire F, Düggelin M, Braun A, et al. *Probing the mystery of Liesegang band formation: Revealing the origin of self-organized dual-frequency micro and nanoparticle arrays,* Soft Matter. **12,** 8367-8374 (2016)

2016TY& K. Takemoto, M. Yoshimura, Y. Inagaki and T. Ohigashi, Speciation of Carbon in Prokaryotic Organelles of Pseudanabaena foetida (Phormidium tenue , UVSOR Activity Report, 164 (2016).

2016VD&a N. Varsano, T. Dadosh, S. Kapishnikov, E. Pereiro, E. Shimoni, X. Jin, H.S. Kruth, L. Leiserowitz, L. Addadi, *Development of Correlative Cryo-soft X-ray Tomography and Stochastic Reconstruction Microscopy. A Study of Cholesterol Crystal Early Formation in Cell*s, JACS **138**, 14931-14940 (2016)

2016VF& S. Venkatakrishnan, Maryam Farmand, Young-Sang Yu, Hasti Majidi, Klaus Van Benthem, Stefano Marchesini, David A. Shapiro, and Alexander Hexemer, "*Robust X-Ray Phase Ptycho-Tomography*," *IEEE Signal Processing Letters* **23**(7), 944-948 (2016).

2016W J. West, "*Scanning Transmission X-Ray and Fluorescence Microscopy of Lipid Bilayers*," M,Sc thesis, McMaster University, Hamilton, Canada, 2016.

2016WB& Ward, J.D., M. Bowden, C.T. Resch, S. Smith, B.K. McNamara, E.C. Buck, G.C. Eiden, and A.M. Duffin, "*Identification of Uranyl Minerals Using Oxygen K-Edge X-Ray Absorption Spectroscopy*," Geostandards and Geoanalytical Research **40**, 135-148 (2016)

2016WH&a B. Wang, T.H. Harder, S.T. Kelly, D. Piens, S. China, L. Kovarik, M. Keiluweit, B.W. Arey, M.K. Gilles, and A. Laskin, *"Airborne soil organic particles generated by precipitation,"* Nature Geoscience **9**, 433–437 (2016) **HI**

2016WH&b H. Wang, S. Han, Y. Hu, J. J. Dynes, *Diacetylene-Bridged Periodic Mesoporous Organosilicas with Aggregates: Synthesis and Charge/Energy-Transfer Properties*, ChemPlusChem **81** 182 -1190 (2016)

2016WH&c Wadley, P., Howells, B., Železný, J., Andrews, C., Hills, V., Campion, R.P., Novák, V., Olejník, K., Maccherozzi, F., Dhesi, S.S., Martin, S.Y., Wagner, T., Wunderlich, J., Freimuth, F., Mokrousov, Y., Kuneš, J., Chauhan, J.S., Grzybowski, M.J., Rushforth, A.W., Edmonds, K.W., Gallagher, B.L., Jungwirth, T., *Electrical switching of an antiferromagnet.* Science **351**, 587–590 (2016) **HI**

2016WJ& Waterfield Price, N., Johnson, R.D., Saenrang, W., Maccherozzi, F., Dhesi, S.S., Bombardi, A., Chmiel, F.P., Eom, C.-B., Radaelli, P.G., *Coherent Magnetoelastic Domains in Multiferroic Bi FeO_3 Films.* Phys. Rev. Lett. 117, 177601 (2016) **HI**

2016WK&a B. Wang, D.A. Knopf, S. China, B.W. Arey, T.H. Harder, M.K. Gilles, and A. Laskin, "*Direct observation of ice nucleation events on individual atmospheric particles*," Physical Chemistry Chemical Physics **18**, 29721-2973 (2016)

2016WK&b AM Wise, JN Weker, S Kalirai, M Farmand, DA Shapiro, F Meirer, BM Weckhuysen, *Nanoscale chemical imaging of an individual catalyst particle with soft X-ray ptychography*, ACS Catalysis **6**, 2178.

2016WL& Woo, S., K. Litzius, B. Krüger, M. Im, L. Caretta, K. Richter, M. Mann, A. Krone, R.M. Reeve, M. Weigand, P. Agrawal, I. Lemesh, M.-.. Mawass, P. Fischer, M. Kläui, and G.S. Beach, "*Observation of room-temperature magnetic skyrmions and their current-driven dynamics in ultrathin metallic ferromagnets,*" Nature Materials 15, 501-506 (2016). **HI**

2016WN& A.M. Wise, J.Nelson Weker, S. Kalirai, M. Farmand, D.A. Shapiro, F. Meirer, and B.M. Weckhuysen, *Nanoscale Chemical Imaging of an Individual Catalyst Particle with Soft X-ray Ptychography ACS Catalysis 6*, 2178-2181 (2016)

2016WR B. Watts and J. Raabe, *A NeXus-HDF5 based file format for STXM*, Proc. XRM2014, AIP Conf Proc. **1696** 020042 (1-6) (2016)

2016WT& Wintz S, Tiberkevich V, Weigand M, Raabe J, Lindner J, Erbe A, et al., *Magnetic vortex cores as tunable spin-wave emitter*s, Nature Nanotechnology. **11,** 948-953 (2016). **HI**

2016WW&a A.M. Wise, J.N. Weker, S. Kalirai, M. Farmand, D.A. Shapiro, F. Meirer and B.M. Weckhuysen, *Nanoscale Chemical Imaging of an Individual Catalyst Particle with Soft X-ray Ptychography* ACS Catalysis **6** 2178-2181 (2016)

2016WW&b Bo-Yao Wang, Hsiaotsu Wang, Ling-Yen Chen, Hung-Chung Hsueh, Xin Li, Jinghua Guo, Yi Luo, Jau-Wern Chiou, Wei-Hua Wang, Po-Hsiang Wang, Kuei-Hsien Chen, Yen-Chih Chen, Li-Chyong Chen, Chia-Hao Chen, Jian Wang, Way-Faung Pong, *Nonlinear bandgap opening behavior of BN co-doped graphene*, Carbon **107** 857-864 (2016)

2016YG& S. I.Yang, G.N. George, John R. Lawrence, Susan G. W. Kaminskyj, James J. Dynes, Barry Lai, Ingrid J. Pickering, *Multispecies Biofilms Transform Selenium Oxyanions into Elemental Selenium Particles: Studies Using Combined Synchrotron X-ray Fluorescence Imaging and Scanning Transmission X-ray Microscopy*, Environ. Sci. Technol. **50** 10343-10350 (2016)

2016YH& S. Yoon, Juyoung Ha, Sejung Chae, David Kilcoyne, Yubin Jun, J. Oh, and Paulo Monteiro, "*Phase Changes of Monosulfoaluminate in NaCl Aqueous Solution*," Materials **9**, 401 (2016).

2016YJ& Ye, L., X. Jiao, W. Zhao, S. Zhang, H. Yao, S. Li, H.W. Ade, and J. Hou, "*Manipulation of Domain Purity and Orientational Ordering in High Performance All-Polymer Solar Cells*," Chemistry of Materials **28**, 6178-6185 (2016)

2016YK&a K. Yamamoto, A. Klossek, R. Flesch, T. Ohigashi, I. Fleige, F. Rancan, S. Ahlberg, A. Vogt, U. Blume-Peytavi, P. Schrade, S. Bachmann, R. Haag, S. Hedtrich, M. Schäfer-Korting, N. Kosugi und E. Rühl "*Core-Multishell Nanocarriers: Transport and Release of Dexamethasone probed by Soft X-ray Spectromicroscopy*" J. Control. Release, **28** 64-70 (2016).

2016YK&b K. Yamamoto, A. Klossek, T. Ohigashi, F. Rancan,, R. Flesch,M. Giubudagian, A. Vogt, U. Blume-Peytavi, P. Schrade, S. Bachmann, M. Calderon, M. Schäfer-Korting, N. Kosugi und E. Rühl, *Drug release and Probing of Thermoresponsive Nanogels in Human Skin by Soft X-ray Spectromicroscopy*, UVSOR Activity Report, 155 (2016).

2016YK&c Yang, J.-C., C.-Y. Kuo, H.-J. Liu, H.-C. Ding, C.-G. Duan, H.-J. Lin, Z. Hu, T.-W. Pi, L.o. Tjeng, C.-T. Chen, E. Arenholz, Q. He, and Y.-H. Chu, "*Electrically enhanced magnetization in highly strained $BiFeO_3$ films*," NPG Asia Materials **8**, e269 (2016).

2016YPT Yim, C.M., Pang, C.L., Thornton, G.,. *Simulation of Near Edge X-ray Absorption Fine Structure (NEXAFS) Measurements of CO on Supported Pd Nanoparticles*. Top Catal 59, 708–724 (2016).

2016YP& Yan, W., Phillips, L.C., Barbone, M., Hämäläinen, S.J., Lombardo, A., Ghidini, M., Moya, X., Maccherozzi, F., van Dijken, S., Dhesi, S.S., Ferrari, A.C., Mathur, N.D., . *Long Spin Diffusion Length in Few-Layer Graphene Flakes.* Phys. Rev. Lett. 117, 147201 (2016). **HI**

2016YW& J. Yang, J. Wang, Weinan Pan, Thomas Regier, Yongfeng Hu; Cornelia Rumpel, Nanthi Bolan, Donald Sparks, *Retention Mechanisms of Citric Acid in*

Ternary Kaolinite-Fe(III)-Citrate Acid Systems Using Fe K-edge EXAFS and L3,2-edge XANES Spectroscopy, Scientific Reports **6** 26127 (2016**) HI**

2016YX& Ye, L., Y. Xiong, H. Yao, A. Gadisa, H. Zhang, S. Li, M. Ghasemi, N. Balar, A. Hunt, B.T. O'Connor, J. Hou, and H.W. Ade, "*High Performance Organic Solar Cells Processed by Blade Coating in Air from a Benign Food Additive Solution*," Chemistry of Materials **28**, 7451-7458 (2016).

2016ZE& Z. Zhao, M. Espanol, J. Guillem-Marti, D. Kempf, A. Diez-Escudero, M-P. Ginebra, *Ion-doping as a strategy to modulate hydroxyapatite nanoparticle internalization,* Nanoscale, **8**, 1595 (2016)

2016ZH& X. Zhu, A.P. Hitchcock, D.A. Bazylinski, P. Denes, J. Joseph, U. Lins, S. Marchesini, H.-W. Shiu, T. Tyliszczak and D.A. Shapiro, *Measuring spectroscopy and magnetism of extracted and intracellular magnetosomes using soft X-ray ptychography*, Proceedings of the National Academy of Sciences 113 E8219–E8227 (2016) **HI**

2016ZK& Q. Zhang, M.A. Kelly, A. Hunt, H.W. Ade, and W. You, "*Comparative Photovoltaic Study of Physical Blending of Two Donor–Acceptor Polymers with the Chemical Blending of the Respective Moieties*," Macromolecules, **49** 2533–2540 (2016).

2016ZL& B. Zhao, J. Liu, L. Zhou, D. Long, K. Feng, X. H. Sun, J. Zhong, *Probing the Electronic Structure of M-Graphene Oxide (M=Ni, Co, NiCo) Catalysts for Hydrolytic Dehydrogenation of Ammonia Borane*, Applied Surface Science **362** 79–85. (2016)

2016ZS& F. Zeitvogel, G. Schmid, L. Hao, P. Ingino and M.Obst, *ScatterJ: An ImageJ plugin for the evaluation of analytical microscopy datasets,* J. Microscopy **261** 148-15 (2016)

2016ZT&a Z.H. Zhu, T. Tyliszczak, H.-W. Shiu, D. Shapiro, D.A.Bazylinski, U. Lins and A.P. Hitchcock, *Magnetic studies of magnetotactic bacteria by soft X-Ray STXM and ptychography*, Proceedings of XRM2014. J. Phys. Conf Series **1696** 02002 (1-5) (2016)

2016ZT&b M.S. Zhik J.T. Trzcinski, D.Y. Williams, Y.F. Song, C.C. Wang and R.L.R. Ray, *Syhcrotron Powered TXM in shale gas Microstructural Characterization* .Oil Gas Res 2 1000109 (2016)

2016ZW& J. Zhou, J. Wang, J. Cutler, E. Hu, Xiao-Qing Yang, *Imaging the surface morphology, chemistry and conductivity of LiNi1/3Fe1/3Mn4/3O4 crystalline facets using scanning transmission X-ray microscopy*, Phys. Chem. Chem. Phys. **18** 22789-22793 (2016)

2016ZZ& Y. Zhu, Q. Zhan, J.-C. Yang, Y. Bitla, P. Liu, C.-I. Li, H.-J. Liu, V.s. Kumar, E. Arenholz, Q. He, and Y.-H. Chu, "*Enhanced Structural and Magnetic Coupling in a Mesocrystal-Assisted Nanocomposite,*" ACS Applied Materials and Interfaces **8**, 1104-1111 (2016).

2017AB& J. Alleon, S. Bernard, C. Le Guillou, D. Daval, F. Skouri-Panet, M.Kuga & F. Robert, *Organic molecular heterogeneities can withstand diagenesis*, Scientific Reports **7**1508 (2017) **HI**

2017AC& Alpert PA, Ciuraru R, Rossignol S, Passananti M, Tinel L, Perrier S, et al., *Fatty acid surfactant photochemistry results in new particle formation,* Scientific Reports. **7** 12693 (2017). **HI**

2017AJ& J. L. Andrews, L. R. De Jesus, Thomas M. Tolhurst, Peter M. Marley, Alexander Moewes, and Sarbajit Banerjee, *Intercalation-Induced Exfoliation and Thickness-Modulated Electronic Structure of a Layered Ternary Vanadium Oxide*, Chemistry of Materials **29** 3285-3294 (2017)

2017AK& D. Arrua, A. Khodabandeh, T. Ohigashi, N. Kosugi and E. Hilder, *Characterization of Meso Porous Monolithic Polymers Containing RAFT Agent by Scanning Transmission X-Ray Microscopy (STXM)*, UVSOR Activity Report 110 (2017)

2017AL& K Andrianov, L Lühl, T Nisius, A Haidl, R Gnewkow, Lötgering, H Dierks, B Kanngießer and T Wilhein, *Scanning Transmission X-ray Microscopy with X-ray Fluorescence Detection at the XUV Beamline P04, PETRA III, DESY*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: Journal of Physics: Conf. Series **849**, 012007 (2017)

2017AM& Aho, V., M.J. Myllys, V. Ruokolainen, S. Hakanen, E. Mäntylä, J. Virtanen, V. Hukkanen, T. Kühn, J. Timonen, K. Mattila, C.A. Larabell, and M. Vihinen-Ranta, "*Chromatin organization regulates viral egress dynamics*," Scientific Reports **7**(1), 3692 (2017). **HI**

2017AP& A.B.Altman, C.D. Pemmaraju, S. Alayoglu, J. Arnold, C.H. Booth, A. Braun, C.E. Bunker, A. Herve, S.G. Minasian, D. Prendergast, D.K. Shuh, and T. Tyliszczak, "*Chemical and Morphological Inhomogeneity of Aluminum Metal and Oxides from Soft X-ray Spectromicroscopy*," Inorganic Chemistry **56**(10), 5710-5719 (2017).

2017AT& Abramiuc L.E., Tanase .C., Barinov A., Apostol Nicoleta G., Chirila Cristina, Trupina Lucian, Pintilie Lucian, Teodorescu Cristian M. *Polarization landscape effects in soft X-ray-induced surface chemical decomposition of lead zirco-titanate, evidenced by photoelectron spectromicroscopy, N*anoscale, **9** 11055-11067 (2017)

2017B A. Braun, *X-ray Studies on Electrochemical Systems***:** *Synchrotron Methods for Energy Materials*, (Walter de Gruyter GmbH & Co KG, 2017)

2017BA& Brüster B, Amozoqueño C, Grysan P, Peral I, Watts B, Raquez J-M, et al., *Resolving Inclusion Structure and Deformation Mechanisms in Polylactide Plasticized by Reactive Extrusion*, Macromolecular Materials and Engineering. **302** 1700326, (2017).

2017BB&a B. Bozzini, P. Bocchetta, G. Kourousias and A. Gianoncelli, *Electrodeposition of Mn-Co/Polypyrrole Nanocomposites: An Electrochemical and In Situ Soft-X-ray Microspectroscopic Investigation,* Polymers, **9** 17 (2017)

2017BB&b Beardsley, R.P., Bowe, S., Parkes, D.E., Reardon, C., Edmonds, K.W., Gallagher, B.L., Cavill, S.A., Rushforth, A.W., *Deterministic control of magnetic vortex wall chirality by electric field.* Scientific Reports **7**, 7613 (2017). **HI**

2017BB&c A Barber, J Brandes, A Leri, K Lalonde, K Balind, S Wirick, J Wang, Yves Gélinas, *Preservation of organic matter in marine sediments by inner-sphere interactions with reactive iron,* Scientific Reports **7** 366 (2017) **HI**

2017BD& S. E. Bone, J. J. Dynes, J. Cliff and J.R. Bargar*, Uranium(IV) adsorption by natural organic matter in anoxic sediments*, Proc. Nat. Acad. Sci **114** 711-716 (2017) **HI**

2017BG&a A.P Bateman, Z. Gong, T.H. Harder, S.S. De Sá, B. Wang, P. Castillo, S. China, Y. Liu, R.E. O'Brien, B.B. Palm, H. Shiu, G.G. Cirino, R. Thalman, K. Adachi, M.L. Alexander, P. Artaxo, A.K. Bertram, P.R. Buseck, M.K. Gilles, J.L. Jimenez, A. Laskin, A.O. Manzi, A. Sedlacek, R.F. Souza, J. Wang, R. Zaveri, and S.T. Martin, "*Anthropogenic influences on the physical state of submicron particulate matter over a tropical forest,*" Atmospheric Chemistry and Physics **17**, 1759-1773 (2017). **HI**

2017BG&b J. Bufon, A. Gianoncelli, Ahangarianabhari Mahdi, Altissimo Matteo, Bellutti Pierluigi, Bertuccio Giuseppe, Borghes Roberto, Carrato Sergio, Cautero Giuseppe, Cicuttin Andres, Crespo Maria Liz, Fabiani Sergio, Gandola Massimo, Giacomini Gabriele, Giuressi Dario, Kourousias George, Menk Ralf Hendrik, Picciotto Antonino, Piemonte Claudio, Rachevski Alexandre, Rashevskaya Irina, Schillani Stefano, Stolfa Andrea, Vacchi Andrea, Zampa Gianluigi, Zampa Nicola, Zorzi Nicola, *Towards a multi-element silicon drift detector system for fluorescence spectroscopy in the soft X-ray regime,* X-Ray Spectrometry **46**, 313 (2017)

2017BG&c Baumgartner M, Garello K, Mendil J, Avci CO, Grimaldi E, Murer C, et al., *Spatially and time-resolved magnetization dynamics driven by spin-orbit torques,* Nature Nanotechnology. **12** 980-986 (2017). **HI**

2017BKG B. Bozzini, G. Kourousias and A. Gianoncelli , *In situ observation of dynamic electrodeposition processes by soft x-ray fluorescence,* Journal of Physics D: Applied Physics, **50** 124001 (2017)

2017BK&a B. Bozzini, G. Kourousias, A. Gianoncelli, M.W.M. Jones, .Van Riessen, M. Kiskinova, *Soft X-ray ptychography as a tool for in operando morphochemical studies of electrodeposition processes with nanometric lateral resolution*, J. Eelectron. Spectrosc.Rel. Phen. **220**, 147 (2017)

2017BK&b Bozzini B., Kourousias G., Bedolla D.E., Gianoncelli A., *Chemical-state evolution of Ni in MnNi/polypyrrole nanocomposites under bifunctional air electrode conditions, investigated by quasi-in situ multi-scale soft X-ray absorption spectroscopy ,* Materials Today Energy, **6**, 154-163 (2017)

2017BM& B. von Boehn, T.O. Menteş, A. Locatelli, A., and R. Imbihl, *Growth of Vanadium and Vanadium Oxide on a Rh(110) Surface***,** J. Phys. Chem. C **121** (36), 19774–19785 (2017);

2017BP& Beardsley, R.P., Parkes, D.E., Zemen, J., Bowe, S., Edmonds, K.W., Reardon, C., Maccherozzi, F., Isakov, I., Warburton, P.A., Campion, R.P., Gallagher, B.L., Cavill, S.A., Rushforth, A.W., *Effect of lithographically-induced strain relaxation on the magnetic domain configuration in microfabricated epitaxially grown Fe81Ga19.* Scientific Reports **7**, 42107 (2017) **HI**

2017BS& V. Berejnov, M.S. Saha, D. Susac, J. Stumper, M.M. West and A. P. Hitchcock, *Advances in Structural Characterization Using Soft X-ray Scanning Transmission Microscopy (STXM): Mapping and Measuring Porosity in PEM-FC Catalyst Layers*, ECS Transactions **80**, 241-252 (2017)

2017BT& S. Bae, R. Taylor, D. Kilcoyne, J. Moon, and P. Monteiro, "*Effects of Incorporating High-Volume Fly Ash into Tricalcium Silicate on the Degree of Silicate Polymerization and Aluminum Substitution for Silicon in Calcium Silicate Hydrate*," Materials **10** 131 (2017).

2017BV& C. Bäumer, R. Valenta, C. Schmitz, A. Locatelli, T.O. Menteş, S.P. Rogers, A. Sala, N. Raab, Sl. Nemsak, M. Shim, C.M. Schneider, S. Menzel, R. Waser, and R. Dittmann, Subfilamentary Networks Cause Cycle-to-Cycle Variability in Memristive Devices**,** ACS Nano **11**(7), 6921–6929 (2017)

2017BZ&a M. Bauer, Q. Zhang, J. Zhao, L. Ye, J.-H. Kim, I. Constantinou, L. Yan, F. So, H.W. Ade, H. Yan, and W. You, "*Comparing non-fullerene acceptors with fullerene in polymer solar cells: a case study with FTAZ and PyCNTAZ*," J. Materials Chemistry A **5**, 4886 (2017).

2017BZ&b N. Bauer, Q. Zhang, J. Zhu, Z. Peng, L. Yan, C. Zhu, H.W. Ade, X. Zhan, and W. You, "*Donor polymer fluorination doubles the efficiency in non-fullerene organic photovoltaics*," J. Materials Chemistry A **5**, 22536-2254 (2017).

2017BZ&c C. Bouhafs. A.A. Zakharov, Ivanov I. G., Giannazzo F., Eriksson J., Stanishev V., Kuhne P., Iakimov T., Hofmann T., Schubert M., Roccaforte F., Yakimova R., Darakchieva V., *Multi-scale investigation of interface properties, stacking order and decoupling of few layer graphene on C-face 4H-SiC* Carbon **116** 722-732 (2017).

2017CA& J.C. Charnawskas, P.A. Alpert, A.T. Lambe, T. Berkemeier, R.E. O'Brien, P. Massoli, T.B. Onasch, M. Shiraiwa, R.C. Moffet, M.K.Gilles, P. Davidovits, D.R. Worsnop, and D.A. Knopf, "*Condensed-phase biogenic-anthropogenic interactions with implications for cold cloud formation*," Faraday Discussions **200**, 165-194 (2017)

2017CAA C. Chen, J. Avila & M.C. Asensio, *Electronic structure of polycrystalline CVD-graphene revealed by Nano-ARPES*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012019 (2017)

2017CCB C. Cheng, W. Cao, W.E. Bailey, *Phase-resolved imaging of edge-mode spin waves using scanning transmission x-ray microscopy*, J. Magnetism and Magnetic Materials **424**) 12-15 (2017)

2017CC& J.C. Charnawskas, P.A. Alpert, A.T. Lambe, T. Berkemeier, R.E. O'Brien, P. Massoli, T.B. Onasch, M. Shiraiwa, R.C. Moffet, M.K. Gilles, P. Davidovits, D.R. Worsnop, and D.A. Knopf, "*Condensed-phase biogenic-anthropogenic interactions with implications for cold cloud formation*," Faraday Discussions 2**00,** 165-194 (2017).

2017CFAa J.F. Collingwood, J. Frances and F. Adams, "*Chemical imaging analysis of the brain with X-ray methods*," Spectrochimica Acta Part B: Atomic Spectroscopy **130**, 101-118 (2017)

2017CFAb J.F. Collingwood, J.Frances., and F. Adams, "*Chapter 2: X-Ray Microscopy for Detection of Metals in the Brain*," in *Metals in the Brain*, Joanna F. Collingwood, Freddy Adams, Vol. 124, (Humana Press New York, 2017), pp.7-32.

2017CL&a N.P. Chongsiriwatana, J.S. Lin, R. Kapoor, M. Wetzler, J.C. Rea, M.K. Didwania, C.H. Contag, and A.E. Barron, "*Intracellularbiomass flocculation as a key mechanism of rapid bacterial killing by cationic, amphipathic antimicrobial peptides and peptoid*s," Scientific Reports **7**(1), 16718 (2017) **HI**

2017CL&b R.V. Chopdekar, B. Li, T. Wynn, M.S. Lee, Y. Jia, Z.Q. Liu, M.D. Biegalski, S.T. Retterer, A.T. Young, A. Scholl, and Y. Takamura, "*Nanostructured complex oxides as a route towards thermal behavior in artificial spin ice systems,"* Phys. Rev. Materials **1**(2), 024401 (2017).

2017CN& R. Celestre, K. Nowrouzi, David A. Shapiro, Peter Denes, John M. Joseph, Andreas Schmid and Howard A. Padmore, *Nanosurveyor 2: A Compact Instrument For Nano-Tomography At The Advanced Light Source*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012047 (2017)

2017CS& S Cao, M Street, J Wang, J Wang, X Zhang, C Binek, PA Dowben, *Magnetization at the interface of Cr_2O_3 and paramagnets with large stoner susceptibility,* J. Phys. Cond. Mat **29** 10LT01 (2017)

2017CW& J.W. Chiou, Y.F. Wang, W.F. Pong, J.S. Chen, Y.L. Lai, T. Ohigashi, N. Kosugi, P. Chen and Y.J. Hsu, *In-situ studies of the O 2p vacancy in the TaOx Interlayers in Resistive Switching materials,* UVSOR Activity Rpeort, 64 (2017)

2017DB& J.Dekker, A.S. Belmont, M. Guttman, V.O. Leshyk, J.T. Lis, S. Lomvardas, L.A. Mirny, C.C. O'Shea, P.J. Park, B. Ren, J.C. Politz, J. Shendure, and S. Zhong, "*The 4D nucleome project*," Nature **549**(7671), 219-226 (2017) **HI**

2017DC& A.R. Damodaran, A.R., J.D. Clarkson, Z. Hong, H. Liu, A.K. Yadav, C.T. Nelson, S.-L. Hsu, M. McCarter, K.-D. Park, V. Kravtsov, A. Farhan, Y. Dong, Z. Cai, H. Zhou, P. Aguado-Puente, P. García-Fernández, J. √çñiguez, J. Junquera, A. Scholl, M.B. Raschke, L.-Q. Chen, D.D. Fong, R. Ramesh, and L.W. Martin, "*Phase coexistence and electric-field control of toroidal order in oxide superlattices*," Nat. Mater. **16**(10), 1003-1009 (2017). **HI**

2017DG& D. MedasG. , De Giudici, C. Pusceddu, Casu Maria Antonietta, Birarda Giovanni, Vaccari Lisa, Gianoncelli Alessandra, Meneghini Carlo, *Impact of Zn excess on biomineralization processes in Juncus acutus grown in mine polluted sites ,* J. Hazardous Materials S0304-3894 30623-4 (2017).

2017DJ& Du X, Jiao X, Rechberger S, Perea JD, Meyer M, Kazerouni N, et al., *Crystallization of sensitizers controls morphology and performance in Si-/C-PCPDTBT-sensitized P3HT:ICBA ternary blends*, Macromolecules. **50** 2415-2423 (2017).

2017DL& M.C. Darrow, Imanol Luengo, Mark Basham, Matthew C. Spink, Sarah Irvine, Andrew P. French, Alun W. Ashton, Elizabeth M.H. Duke, *Volume Segmentation and Analysis of Biological Materials Using SuRVoS (Super-region Volume Segmentation)* Workbench Journal Of Visualized Experiments **126**, e56162 (2017)

2017DP& T. Ducic, T. Paunesku, S. Chen, M. Ninkovic, S. Speling, C. Wilke, B. Lai, G. Woloschak, *Structural and elemental changes in glioblastoma cells in situ: complementary imaging with high resolution visible light- and X-ray microscopy,* Analyst **142**, 356 (2017)

2017DV& E. Dalodière, M Virot, V. Morosini, T. Chave, T. Dumas, C. Hennig, T. Wiss, O. Dieste Blanco, D.K. Shuh, T. Tyliszcak, L. Venault, P. Moisy, and S.I. Nikitenko, "*Insights into the sonochemical synthesis and properties of salt-free intrinsic plutonium colloids*," Scientific Reports **7**, 43514 (2017) **HI**

2017EA& E. Estes, P.F. Andeer, D. Nordlund, S.D. Wankel, and C.M. Hansel, "*Biogenic manganese oxides as reservoirs of organic carbon and proteins in terrestrial and marine environments*," Geobiology **15**(1), 158-172 (2017).

2017EC& Ekman, A.A., J.-H. Chen, J. Guo, G. McDermott, M.A. Le Gros, and C.A. Larabell, "*Mesoscale imaging with cryo-light and X-rays: Larger than molecular machines, smaller than a cell*," Biology of the Cell **109**(1), 24-38 (2017).

2017EK& T. Ejima, M. Kado, M. Aoyama, K. Yasuda and S. Tamotsu, *Organelle Distribution in a Hydrated Bio-cell by Correlation between Soft X-ray and Fluorescence Images*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012009 (2017)

2017EO& T. Ejima, T. Ohigashi, M. Kado and S. Tone, *Chemical Bonding State Change of Phosphodiester Bonds in Plasmid DNA*, UVSOR Activity Report 157 (2017)

2017F P. Fischer*, Magnetic imaging with polarized soft x-ray*s, J. Phys. D: Appl. Phys. 50 (2017) 313002

2017FC& M. Farmand, Richard Celestre, Peter Denes, A. L. Davi Kilcoyne, Stefano Marchesini, Howard Padmore, Tolek Tyliszczak, Tony Warwick, Xiaowen Shi, James Lee, Young-Sang Yu, Jordi Cabana, John Joseph, Harinaraya Krishnan, Talita Perciano, Filipe R. Maia, and David A. Shapiro, "*Near-edge X-ray refraction fine structure microscop*y," Applied Physics Letters **110**(6), 063101 (2017).

2017FJ& J.N. Fitzsimmons, S.G. John, C. Marsay, C.L. Hoffman, S.L. Nicholas, B.M. Toner, C. German, and R.M. Sherrell, "*Iron persistence in a distal hydrothermal plume supported by dissolved-particulate exchange*," Nature Geoscience **10**, 195-201 (2017).

2017FO& Farinhas J, Oliveira R, Hansson R, Ericsson LKE, Moons E, Morgado J, et al., *Efficient ternary organic solar cells based on immiscible blends,* Organic Electronics. **41,** 130-136 (2017).

2017FPC Ferron, F. Pope, M., Collins, B.A. *Spectral Analysis for Resonant Soft X-Ray Scattering Enables Measurement of Interfacial Width in 3D Organic Nanostructures* Phys. Rev. Lett. 119, 167801 (2017) **HI**

2017FP&a A. Farhan, C.F. Petersen, S. Dhuey, L. Anghinolfi, Q.H. Qin, M. Saccone, S. Velten, C. Wuth, S. Gliga, P. Mellado, M.J. Alava, A. Scholl, and S. Van Dijken, "*Nanoscale control of competing interactions and geometrical frustration in a dipolar trident lattice*," Nature Communications 8(1), 995 (2017). **HI**

2017FP&b M.W. Fraund, D. Pham, D.Joseph. Bonanno, T. Harder, B. Wang, J. Brito, S. De Sá, S. Carbone, S. China, P. Artaxo, S. Martin, C. Pohlker, M.O. Andreae, A. Laskin, M.K. Gilles, and R.C. Moffet, "*Elemental Mixing State of Aerosol Particles Collected in Central Amazonia during GoAmazon2014/15,*" Atmosphere **8**, 173 (2017).

2017FP&c T.J. Ferron, M. Pope, and B.A. Collins, "*Spectral Analysis for Resonant Soft X-Ray Scattering Enables Measurement of Interfacial Width in 3D Organic Nanostructures,*" Physical Review Letters **119**, 167801 (2017).

2017FR& S. Forti, A. Rossi, H. Büch, T. Cavallucci, F. Bisio, A. Sala, T.O. Menteş, A. Locatelli, M. Magnozzi, M. Canepa, K. Müller, S. Link, U. Starke, V. Tozzini and C. Coletti, *Electronic properties of single-layer tungsten disulfide on epitaxial graphene on silicon carbide,* Nanoscale **9**, 16412-16419 (2017)

2017FS& A. Farhan, M.D. Saccone, C.F. Petersen, S. Dhuey, R.V. Chopdekar, Y.-L. Huang, N. Kent, Z. Chen, M.J. Alava, T. Lippert, A. Scholl, and S. van Dijken, "*Emergent magnetic monopole dynamics in macroscopically degenerate artificial spin ice*," Science Advances **5**(2), eaav6380 (2019). **HI**

2017FW&a M. Fortin-Deschenes, O. Waller, T.O. Menteş, A. Locatelli, S. Mukherjee, F. Genuzio, P. Levesque, A. Hebert, R. Martel, and O. Moutanabbir; *Synthesis of Antimonene on Germanium***,** Nano Lett. **17**(8), 4970–4975 (2017);

2017FW&b Finizio S, Wintz S, Kirk E, Suszka AK, Gliga S, Wohlhüter P, et al., *Control of the gyration dynamics of magnetic vortices by the magnetoelastic effect*, Physical Review B. **96** 054438 (2017).

2017FW&c Fritz F, Westerström R, Kostanyan A, Schlesier C, Dreiser J, Watts B, et al., *Nanoscale x-ray investigation of magnetic metallofullerene peapod*s, Nanotechnology. **28** 435703 (2017).

2017GB& PUPA Gilbert, KD Bergmann, CE Myers, MA Marcus, RT DeVol, C-Y Sun, AZ Blonsky, J Zhao, EA Karan, E Tamre, N Tamura, AJ Giuffre, S Lemer, G Giribet, JM Eiler, AH Knoll. *Nacre tablet thickness records formation temperature in modern and fossil shells.* Earth Planet Sci Lett **460**, 281-292 (2017).

2017GDC N. P.Gibb, J.J. Dynes and W. Chang, *Synergistic desalination of potash brine-impacted groundwater using a dual adsorbent*, Science of The Total Environment, **593–594** 99-108 (2017)

2017GD& Gilbert, P.A., K.Diane. Bergmann, C.E. Myers, M.A. Marcus, R.T. DeVol, C.-Y. Sun, A.Z. Blonsky, E. Tamre, J. Zhao, E... Karan, N. Tamura, S. Lemer, A.Joseph. Giuffre, G. Giribet, J.M. Eiler, and A.H. Knoll, "*Nacre tablet thickness records formation temperature in modern and fossil shells*," Earth and Planetary Science Letters **460,** 281-292 (2017).

2017GF& Gosse C, Frederick J, Blot C, Lefrançois S, Swaraj S, Stanescu S, et al., *Development of a fluidic cell to image precipitation reactions by X-ray microscopy* In: 2017 19th international conference on solid-state sensors, actuators and microsystems (TRANSDUCERS). sine loco: IEEE; 2017. https://doi.org/10.1109/TRANSDUCERS.2017.7994402

2017GH& Gliga, S., G. Hrkac, C. Donnelly, J. Büchi, A. Kleibert, J. Cui, A. Farhan, E. Kirk, R.V. Chopdekar, Y. Masaki, N.S. Bingham, A. Scholl, R.L. Stamps, and L.J. Heyderman, "*Emergent dynamic chirality in a thermally driven artificial spin ratchet*," Nature Materials **16**, 1106-1111 (2017) **HI**

2017GJ& G. Geng, R.Jacob. Myers, A.L. Kilcoyne, J. Ha, and P.M. Monteiro, "*Ca $L_{2,3}$-edge near edge X-ray absorption fine structure of tricalcium aluminate, gypsum, and calcium (sulfo)aluminate hydrate*s," American Mineralogist **102**, 900-908 (2017)

2017GK& A. Gianoncelli, G. Kourousias George, Cammisuli Francesca, Cassese Damiano, Rizzardi Clara, Radillo Oriano, Lazzarino Marco, Pascolo Lorella , *Combined use of AFM and soft X-ray microscopy to reveal fibres' internalization in mesothelial cells,* Analyst, **142** 1982-1992 (2017)

2017GL&a G. Geng, J. Li, Y.-S. Yu, D.A. Shapiro, D.L. Kilcoyne, and P.M. Monteiro, "*Nanometer-Resolved Spectroscopic Study Reveals the Conversion Mechanism of CaO·Al 2O 3·10H 2O to 2CaO·Al 2O 3·8H 2O and 3CaO·Al 2O 3·6H 2O at an Elevated Temperature*," Crystal Growth & Design **17**, 4246-4253 (2017).

2017GL&b J. Geilhufe, A.FG Leontowich, R. Berg, C. Regier, D.M. Taylor, J. Wang, J. Swirsky, C. Karunakaran, R. Peters, M. Aktary, A.P Hitchcock and S.G Urquhart, A *new cryo scanning transmission x-ray microscope at the Canadian Light Source,* Proc. SPIE 10389 103890P (2017)

2017GL&c W.E.Gent, K. Lim, Y. Liang, Q. Li, T. Barnes, S.-J. Ahn, K.Hunter. Stone, M. McIntire, J. Hong, J.H. Song, Y. Li, A. Mehta, S. Ermon, T. Tyliszczak, D. Kilcoyne, D. Vine, J.-H. Park, S.-K. Doo, M.F. Toney, W. Yang, D. Prendergast, and W.C. Chueh, "*Coupling between oxygen redox and cation migration explains unusual electrochemistry in lithium-rich layered oxide*s," Nature Communications **8**(1), 2091 (2017). **HI**

2017GL&d P. –A. Glans, Y. S. Liu, R. M. Qiao, T. Ohigashi and J. –H. Guo, *High Pressure STXM Cell*, UVSOR Activity Report 35, (2017)

2017GM&a G. Geng, R.J. Myers, A.D. Kilcoyne, J. Ha, and P.M. Monteiro, "C*a $L_{2,3}$-edge near edge X-ray absorption fine structure of tricalcium aluminate, gypsum, and calcium (sulfo)aluminate hydrates,*" American Mineralogist **102**(4), 900-908 (2017).

2017GM&b Geng, G., R.J. Myers, J. Li, R. Maboudian, C. Carraro, D.A. Shapiro, and P.M. Monteiro, "*Aluminum-induced dreierketten chain cross-links increase the mechanical properties of nanocrystalline calcium aluminosilicate hydrate*," Scientific Reports **7**, 44032 (2017) **HI**

2017GP& De Giudici Giovanni, Pusceddu Claudia, Medas Daniela, Meneghini Carlo, Gianoncelli Alessandra, Rimondi Valentina, Podda Francesca, Cidu Rosa, Lattanzi Pierfranco, Wanty Richard, Kimball Briant , *The role of natural biogeochemical barriers in limiting metal loading to a stream affected by mine drainage,* Applied Geochemistry, **77** 124 (2017)

2017GS&a H Guo, E Strelcov, A Yulaev, J Wang, N Appathurai, S Urquhart, J Vinson, Subin Sahu, Michael Zwolak, Andrei Kolmakov, *Enabling photoemission electron microscopy in liquids via graphene-capped microchannel arrays* Nano letters **17** (2017)1034-1041

2017GS&b De Gregorio, B.T., R.M. Stroud, L. Nittler, and A.L. Kilcoyne, "*Evidence for Reduced, Carbon-rich Regions in the Solar Nebula from an Unusual Cometary Dust Particle*," The Astrophysical Journal **848**, 113 (2017).

2017GW& Grzybowski, M.J., Wadley, P., Edmonds, K.W., Beardsley, R., Hills, V., Campion, R.P., Gallagher, B.L., Chauhan, J.S., Novak, V., Jungwirth, T., Maccherozzi, F., Dhesi, S.S., Imaging Current-Induced Switching of Antiferromagnetic Domains in CuMnAs. Phys. Rev. Lett. **118**, 057701 (2017). **HI**

2017HA& Hirst, C.; Andersson, P. S.; Shaw, S.; Burke, .T.; Kutscher, L.; Murphy, M. J.; Maximov, T.; Pokrovsky, O. S.; Mörth, C.-M.s; Porcelli, D, *Characterisation of Fe-bearing particles and colloids in the Lena River basin, NE Russia,* Geochimica Et Cosmochimica Acta **213** 553-573 (2017)

2017HE& Hansson R, Ericsson LKE, Holmes NP, Blazinic V, Dastoor P, Moons E, *Opportunities and challenges in probing local composition of organic material blends for photovoltaics,* J. Materials Research. **32** 1982-1992 (2017).

2017HJ&a N. Hagemann, S. Joseph, H.P. Schmidt, Kammann, CI; Harter, J; Borch, T; Young, RB; Varga, K; Taherymoosavi, S; Elliott, KW; McKenna, A; Albu, M; Mayrhofer, C; Obst, M; Conte, P; Dieguez-Alonso, A; Orsetti, S; Subdiaga, E; Behrens, S; Kappler, A, *Organic coating on biochar explains its nutrient retention and stimulation of soil fertility*, Nature Communications **8** 1089:1-11 (2017) **HI**

2017HJ&b G. A. Horrocks, L. R. De Jesus, J. L. Andrews & Sarbajit Banerjee, *X-ray Spectroscopy and Imaging as Multiscale Probes of Intercalation Phenomena in Cathode Materials*, J. Organic Materials **69** 1469-1477 (2017)

2017HM&a T. Harano, R. Murao, Y. Takeichi, M. Kimura and Y. Takahashi, *Observation of the Interface between Resin and Carbon Fiber by Scanning Transmission X-ray Microscopy*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012023 (2017)

2017HM&b I.G. Hallsteinsen, M. Moreau, R.V. Chopdekar, E. Christiansen, M. Nord, P.-E. Vullum, J.K. Grepstad, R. Holmestad, S.M. Selbach, A. Scholl, E. Arenholz, E. Folven, and P.M. Tybell, "*Magnetic domain configuration of (111)-oriented $LaFeO_3$ epitaxial thin films*," APL Materials 5(8), 086107 (2017)

2017HQ&a A. Hierro-Rodriguez, C. Quirós, A. Sorrentino, R. Valcárcel, I. Estébanez, L.M. Alvarez-Prado, J.I. Martín, J.M. Alameda, E. Pereiro, M. Vélez, S. Ferrer, *Deterministic propagation of vorte-antivortex pairs in magnetic trilayers*, App Phys Lett **110**, 26402 (2017)

2017HQ&b A. Hierro-Rodríguez, C. Quirós, A. Sorrentino, C. Blanco-Roldán, L.M. Alvarez-Prado, J.I. Martín, J.M. Alameda, E. Pereiro, M. Vélez, S. Ferrer, *Observation of asymmetric distributions of magnetic singularities across magnetic multilayers*, Physical Review B **95**, 014430 (2017).

2017HV& N.P. Holmes, B. Vaughan, E.L. Williams, R. Kroon, M.R. Anderrson, A.L. Kilcoyne, P. Sonar, X. Zhou, P. Dastoor, and W.J. Belcher, *"Diketopyrrolopyrrole-based polymer:fullerene nanoparticle films with thermally stable morphology for organic photovoltaic applications*," MRS Communications **7**, 67-73 (2017).

2017HW& V. L. Hale, J. M. Watermeyer, F.Hackett, G. Vizcay-Barrena, C. van Ooij, J. A. Thomas, M. C. Spink, M. Harkiolaki, E. Duke, Roland A. Fleck, M. J. Blackman, and H. R. Saibil, *Parasitophorous vacuole poration precedes its rupture and rapid host erythrocyte cytoskeleton collapse in Plasmodium falciparum egress* Proc. National Academy Of Sciences **114,** 3439-3444; (2017)

2017HY H.W. Nho, T.H. Yoon, *Structural colour of unary and binary colloidal crystals probed by scanning transmission X-ray microscopy and optical microscopy*, Scientific Reports **7** 12424:1-10.(2017) **HI**

2017IF& Im, M., P. Fischer, H.-S. Han, A. Vogel, M.-S. Jung, W. Chao, Y.-S. Yu, G. Meier, J.-I. Hong, and K.-S. Lee, "*Simultaneous control of magnetic topologies for reconfigurable vortex arrays*," NPG Asia Materials **9**(2), e348 (2017).

2017IH& M. Y. Ismail, M. Huttula, M. Patanen, H. Liimatainen, T. Ohigashi and N. Kosugi, *Structural Identification of Cellulose Nanocrystal/Nanofibril Hybrids and Composites Using Soft X-ray Techniques*, UVSOR Activity report xx (2017)

2017IN& M. Ito, R. Nakada, H. Suga, T. Ohigashi, Y. Kodama and H. Naraoka, *Feasibility Study of Sulfur Speciation High-spatial Resolution Mapping in Extraterrestrial Organics by STXM-XANES*, UVSOR Activity Report 150 (2017)

2017IO& E.-V. Immonen, T. Ohigashi, I. Miinalainen, M. Patanen, R. Hinttala , J. Uusimaa, N. Kosugi and M. Huttula, *STXM Studies of Abnormal*

Ultrastructural Features in FINCA Disease, UVSOR Activity Report161 (2017)

2017IS& A. Ito, K. Shinohara, T. Ohigashi , S. Tone, M. Kado, Y. Inagaki and N. Kosugi, *Quantitative Mapping of DNA and Protein in Human Chromosome by Spectromicroscopy with STXM Using Combined NEXAFS Measured at the C, N, and O-K Edges*, UVSOR Activity Report 156 (2017)

2017JI& M.-S. Jung, M.-Y. Im, B.H. Lee, N. Kim, K.-S. Lee, and J.-I. Hong, "*Magnetism of the hypo-oxide state at the diffuse interface between the ferromagnet and antiferromagnet phases*," Nanoscale **9**, 14023-1403 (2017)

2017JJ& Juge, R., Je, S.-G., de Souza Chaves, D., Pizzini, S., Buda-Prejbeanu, L.D., Aballe, L., Foerster, M., Locatelli, A., Menteş, T.O., Sala, A., Maccherozzi, F., Dhesi, S.S., Auffret, S., Gautier, E., Gaudin, G., Vogel, J., Boulle, O., *Magnetic skyrmions in confined geometries: Effect of the magnetic field and the disorder*. Journal of Magnetism and Magnetic Materials, **455**, 3–8 (2018).

2017JL& Jaiswal S, Litzius K, Lemesh I, Büttner F, Finizio S, Raabe J, et al.*Investigation of the Dzyaloshinskii-Moriya interaction and room temperature skyrmions in W/CoFeB/MgO thin films and microwires,* Applied Physics Letters. **111** 22409 (2017).

2017JP& Janneck R, Pilet N, Bommanaboyena SP, Watts B, Heremans P, Genoe J, et al. *Highly crystalline C8-BTBT thin-film transistors by lateral homo-epitaxial growth on printed templates,* Advanced Materials. **29** 1703864 (2017).

2017JZ& Luis R. De Jesus, Ying Zhao, Gregory A. Horrocks, Justin L. Andrews, Peter Stein, Bai-Xiang Xu and Sarbajit Banerjee, *Lithiation across Interconnected V2O5 Nanoparticle Networks*, Journal of Materials Chemistry A **5** 20141-20152 (2017),

2017KAK Kazemian Abyaneh, M., Araki, T., Kaulich, B. *A Sub-Microanalysis Approach in Chemical Characterisation of Gold Nanorods Formed by a Novel Polymer-Immobilised Gold Seeds Base* Nanomaterials **7**, 331 (2017)

2017KA& Khodabandeh, A., R. D. Arrua, B. R. Coad, T. Rodemann, T. Ohigashi, N. Kosugi, S. C. Thickett, and E. F. Hilder. . '*Morphology Control in Polymerised High Internal Phase Emulsion Templated via Macro-RAFT Agent Composition: Visualizing Surface Chemistr*y'. Polymer Chemistry **9** 213–20. (2017)

2017KD& S. Kumar, N. Davila, Z. Wang, X. Huang, J. Strachan, D. Vine, A.L. David Kilcoyne, Y. Nishi, and R. Stanley Williams, "*Spatially uniform resistance switching of low current, high endurance titanium-niobium-oxide memristors,*" Nanoscale **9**(5), 1793-1798 (2017).

2017KG&a S. Kapishnikov, D. Grolimund, G. Schneider, E. Pereiro, J.G. McNally, J. Als-Nielsen, L. Leiserowitz, *Unraveling heme detoxification in the malaria parasite by in situ correlative X-ray fluorescence microscopy and soft X-ray tomography*, Sci. Rep. **7** 7610 (2017) **HI**

2017KG&b J.-H. Kim, A. Gadisa, C. Schaefer, H. Yao, B.R. Gautam, N. Balar, M. Ghasemi, I. Constantinou, F. So, B.T. O'Connor, K. Gundogdu, J. Hou, and H.W. Ade, "*Strong polymer molecular weight-dependent material interactions: impact on the formation of the polymer/fullerene bulk heterojunction morphology,*" J.Materials Chemistry A **5**, 13176-1318 (2017).

2017KG&c P. Kopittke, A. Gianoncelli, G. Kourousias. K. Green Kathry and B. McKenna, *Alleviation of Al toxicity by Si is associated with the formation of Al-Si complexes in root tissues of sorghum,* Front. Plant Sci.**8**. 2189 (2017)

2017KH& X. Kong, M. Huttula, J. J. Lin, P. Corral Arroyo, T. Ohigashi, N. Kosugi, Z. Wu and N. L. Prisle, *Chemical Mapping Individual Atmospheric Nanoparticles* , UVSOR Activity Report 160 (2017)

2017KL& S. Kapishnikov, L. Leiserowitz, Y. Yang, P. Cloetens, E. Pereiro, F. Awamu Ndonglack, K. Matuschewski, J. Als-Nielsen, *Biochemistry of malaria parasite infected red blood cells by X-ray microscopy*, Scientific Reports **7**, 802 (2017) **HI**

2017KM& P.Kopittke. B. McKenna, C. Karunakaran, J.J. Dynes, Z. Arthur, A. Gianoncelli, G. Kourousias, N.W. Menzies, P.R. Ryan, P. Wang K. Green and F.P.C Blamey *Aluminum Complexation with Malate within the Root Apoplast Differs between Aluminum Resistant and Sensitive Wheat Lines,* Front. Plant Sci. **8**, 1377 (2017)

2017KO& K.Shinohara, T. Ohigashi, S. Toné, M. Kado and A. Ito, "*Quantitative study of mammalian cells by scanning transmission soft X-ray microscopy*", Journal of Physics: Conference Series, **849**, 012003 (2017).

2017KSW S. Kumar, J. Strachan, and R.S. Williams, "*Chaotic dynamics in nanoscale NbO_2 Mott memristors for analogue computing*," Nature **548**(7667), 318-321 (2017) **HI**

2017KW&a S. Kumar, Z. Wang, N. Davila, N. Kumari, K. Norris, X. Huang, J.P. Strachan, D. Vine, A.L. Kilcoyne, Y. Nishi, and R.S. Williams, "*Physical origins of current and temperature controlled negative differential resistances in NbO_2*," Nature Communications **8,** 658 (2017). **HI**

2017KW&b S. Kumar, Z. Wang, X. Huang, N. Kumari, N. Davila, J. Strachan, D. Vine, A.L. Kilcoyne, Y. Nishi, and R.S. Williams, "*Oxygen migration during resistance switching and failure of hafnium oxide memristor*s," Applied Physics Letters **110**, 103503 (2017)

2017KZ&a Y. Kebukawa, M.E. Zolensky, Q.H. Chan, K. Nagao, A.D. Kilcoyne, R.J. Bodnar, C. Farley, Z. Rahman, L. Le, and G.D. Cody, "*Characterization of carbonaceous matter in xenolithic clasts from the Sharps (H3.4) meteorite: Constraints on the origin and thermal processing*," Geochimica et Cosmochimica Acta **196**, 74-101 (2017)

2017KZ&b Y. Kebukawa, M. E. Zolensky, T. Ohigashi and Y. Inagaki, *Organic Vein in a Primitive Clast in the Carancas Meteorites*, UVSOR Activity Report, 151 (2017)

2017LA& K. Lepot, A. Addad, A. H. Knoll, J.Wang, D. Troadec, A. Béché, E.J. Javaux, *Iron minerals within specific microfossil morphospecies of the 1.88 Ga Gunflint Formation*, Nature Communications, **8** (2017) 14890) **HI**

2017LB& J Liu, B Wang, M Banis, Z Wang, R Li, J Wang, Y Hu, TK Sham, X Sun, *Investigation of Amorphous to Crystalline Phase Transition of Sodium Titanate by X-ray Absorption Spectroscopy and Scanning Transmission X-ray Microscopy,* Can. J. Chem. **95** 1163-1169 (2017).

2017LC& G. E. Lau, .e Cosmidis, S. E. Grasby, Christopher B. Trivedi, John R. Spear, Alexis S. Templeton, *Low-temperature formation and stabilization of rare allotropes of cyclooctasulfur (b-S8 and c-S8) in the presence of organic carbon at a sulfur-rich glacial site in the Canadian High Arctic*, Geochimica et Cosmochimica Acta **200** 218-231 (2017)

2017LD&a Y. Leon, P. Dillmann, Delphine Neff, Michel L. Schlegel, Eddy Foy and James J. Dynes, *Interfacial layers at a nanometre scale on iron corroded in carbonated anoxic environments*, RSC Adv**. 7** 20101-20115 (2017).

2017LD&b Luengo I, Darrow MC, Spink MC, Sun Y, Dai 5, He CY, Chiu W, Pridmore T, Ashton AW, Duke EMH, Basham M, French AP. *SuRVoS: Super-Region Volume Segmentation Workbench*, J. Structural Biology **198**, 43-53 (2017)

2017LG& Y.-S. Liu, P.-A. Glans, J. Guo, M. Nagasaka, T. Ohigashi and N. Kosugi, *XAS Characterizations on NaOH Solutions and Calcium Chlorides in Transmission Mode*, UVSOR Activity Report, 107 (2017)

2017LL&a K. Litzius, I. Lemesh, B. Krüger, P. Bassirian, L. Caretta, K Richter, F. Büttner et al. *Skyrmion Hall effect revealed by direct time-resolved X-ray microscopy*, Nature Physics **13** 170 (2017) **HI**

2017LL&b M. W. Lin, M. H. Li, H. W. Shiu, Y. L. Lai, T. Ohigashi, N. Kosugi, P. Chen and Y. J. Hsu, *Dopant Effect of Lead(II) Thiocyanate ($Pb(SCN)_2$) for $FA_{0.9}Cs_{0.1}PbI_3$ Perovskite Solar Cells*, UVSOR Activity Report, xx (2017)

2017LO& I. Landa-Medrano, M. Olivares-Marín, B. Bergner, R. Pinedo, A. Sorrentino, E. Pereiro, I. Ruiz de Larramendi, J. Janek, T. Rojo, D. Tonti, P*otassium salts as electrolyte additives in lithium-oxygen batteries,* J. Physical Chemistry C **121**, 3822-3829 (2017)

2017LS&a Lepadatu, S., Saarikoski, H., Beacham, R., Benitez, M.J., Moore, T.A., Burnell, G., Sugimoto, S., Yesudas, D., Wheeler, M.C., Miguel, J., Dhesi, S.S., McGrouther, D., McVitie, S., Tatara, G., Marrows, C.H., *Synthetic ferrimagnet nanowires with very low critical current density for coupled domain wall motion.* Scientific Reports **7**, 1640 (2017). **HI**

2017LS&b I. Landa-Medrano, A. Sorrentino, L. Stievano, I. Ruiz de Larramendi, E. Pereiro, L. Lezama, T. Rojo, D. Tonti *Architecture of Na-O2 battery deposits revealed by transmission X-ray microscopy* Nano Energy **37:** 224-231 (2017)

2017LT&a A.F G Leontowich, D.M Taylor, J. Wang, C.N Regier, T. Regier, R. Berg, D. Beauregard, J.J. Dynes, C. Selenger, J. Swirsky, C. Karunakaran, A. P Hitchcock and S.G Urquhart, *Low background, UHV compatible scintillator detector for the CLS cryo scanning soft X-ray microscope*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012045 (2017)

2017LT&b Li, Q., A. Tan, A. Scholl, A.T. Young, M. Yang, C. Hwang, A.T. N'Diaye, E. Arenholz, J. Li, and Z.Qiang. Qiu, "*Electrical switching of the magnetic vortex circulation in artificial multiferroic structure of Co/Cu/PMN-Pt(011)*," Applied Physics Letters **110**, 262405 (2017).

2017LW&a J Liu, B Wang, M Banis, Z Wang, R Li, J Wang, Y Hu, TK Sham, X Sun, *Investigation of Amorphous to Crystalline Phase Transition of Sodium Titanate by X-ray Absorption Spectroscopy and Scanning Transmission X-ray Microscopy,* Can. J. Chem **95**, 1163 (2017).

2017LW&b M.S. Lee, T. Wynn, E. Folven, R.V. Chopdekar, A. Scholl, S.T. Retterer, J.K. Grepstad, and Y. Takamura, "*Temperature dependence of ferromagnet-antiferromagnet spin alignment and coercivity in epitaxial micromagnet bilayers*," Physical Review Materials **1**, 014402 (2017)

2017LW&c Y. R. Lu, Y. F. Wang, Y. C. Huang, J. W. Chiou, C. L. Dong, W. F. Pong, T. Ohigashi and N. Kosugi, *Improved Photoelectrochemical Performance of $Au@TiO_2$-coated Fe_2O_3 Nanorods Studied by Scanning Transmission X-ray Microscopy* , UVSOR Activity Report xx (2017)

2017LY& J. Liu, Jianjun Yang, Xibai Zeng, Jian Wang, Donald Sparks, *Fe(III)-induced sequestration of citric acid on kaolinite surface probed by STXM-NEXAFS spectroscopy*, Acta Chim. Sinica **75** 617-620 (2017).

2017MA& M.A. Marcus, S. Amini, C.Angela. Stifler, C.-Y. Sun, N. Tamura, H.A. Bechtel, D.Y. Parkinson, H.S. Barnard, X.X. Zhang, J.Q. Chua, A. Miserez, and P.A. Gilbert, "*Parrotfish Teeth: Stiff Biominerals Whose Microstructure Makes Them Tough and Abrasion-Resistant to Bite Stony Corals,*" ACS Nano **11**, 11856-11865 (2017).

2017MB& S.G. Minasian, E.R. Batista, C.H. Booth, D.L. Clark, J.M. Keith, S.A. Kozimor, W.W. Lukens, R.L. Martin, D.K. Shuh, S.E. Stieber, T. Tylisczcak, and X.-d. Wen, "*Quantitative Evidence for Lanthanide-Oxygen Orbital Mixing in CeO 2, PrO 2, and TbO* 2," Journal of the American Chemical Society **139**(49), 18052-1806 (2017).

2017MC&a M. Farmand, R. Celestre, P.Denes, A. L. D. Kilcoyne, S. Marchesini, H. Padmore, T. Tyliszczak, T. Warwick, X. Shi, J. Lee, Y.S. Yu, J.Cabana, J. Joseph, H. Krishnan, T. Perciano, F. R. Maia, and D.A. Shapiro, "*Near-edge X-ray refraction fine structure microscopy*," Applied Physics Letters **110**(6), 063101 (2017)

2017MC&b Montoya, S.A., S. Couture, J.J. Chess, J.T. Lee, N. Kent, D. Henze, S.K. Sinha, M. Im, S.D. Kevan, P. Fischer, B. McMorran, V. Lomakin, S. Roy, and E.E. Fullerton, "*Tailoring magnetic energies to form dipole skyrmions and skyrmion lattices,*" Physical Review B: Condensed Matter and Materials Physics **95**(2), 024415 (2017).

2017MC&c Montoya, S.A., S. Couture, J.J. Chess, J.T. Lee, N. Kent, M. Im, S.D. Kevan, P. Fischer, B. McMorran, S. Roy, V. Lomakin, and E.E. Fullerton, "*Resonant properties of dipole skyrmions in amorphous Fe/Gd multilayers*," Physical Review B: Condensed Matter and Materials Physics **95**, 224405 (2017)

2017MG&a J. Min, N.S. Güldal, J. Guo, C. Fang, X. Jiao, H. Hu, T. Heumüller, H.W. Ade, and C.J. Brabec, "*Gaining further insight into the effects of thermal annealing and solvent vapor annealing on time morphological development and degradation in small molecule solar cells*," J. Materials Chemistry A **5**, 18101-1811 (2017).

2017MG&b T Mass, AJ Giuffre, C-Y Sun, CA Stifler, MJ Frazier, M Neder, N Tamura, CV Stan, MA Marcus, PUPA Gilbert. *Amorphous Calcium Carbonate Particles Form Coral Skeletons*, Procs. Natl. Acad. Sci. **114**, E7670-E7678 (2017) **HI**

20107MG&c R.J.Myers, G. Geng, J. Li, E.D. Rodríguez, J. Ha, P. Kidkhunthod, G. Sposito, L.N. Lammers, A. Kirchheim, and P.M. Monteiro, "*Role of Adsorption Phenomena in Cubic Tricalcium Aluminate Dissolution*," Langmuir **33**(1), 45-55 (2017).

2017MH&a L.G.A. Melo, A.P. Hitchcock, J. Jankovic, D. Susac, J. Stumper and V. Berejnov, *Quantitative mapping of PFSA Ionomer in Catalyst Layers by Electron and X-ray Spectromicroscopy*, ECS Transactions **80** 275-282, (2017).

2017MH&b D. Macholdt, S. Herrmann, K.P. Jochum, A.L. Kilcoyne, T. Laubscher, J.K. Pfisterer, C. Pohlker, B. Schwager, B. Weber, M. Weigand, K.F. Domke, and M.O. Andreae, "*Black manganese-rich crusts on a Gothic cathedral*," Atmospheric Enviroment **171**, 205-220 (2017).

2017MJ&a Mass, T., A.Joseph. Giuffre, C.-Y. Sun, C.Angela. Stifler, M.James. Frazier, M. Neder, N. Tamura, C.V. Stan, M.A. Marcus, and P.A. Gilbert, "*Amorphous calcium carbonate particles form coral skeletons*," P.N.A.S. **114**, E7670-E7678 (2017). **HI**

2017MJ&b Macholdt, D., K.P. Jochum, C. Pohlker, A. Arangio, J.-D. Förster, B. Stoll, U. Weis, B. Weber, M. Müller, M. Kappl, M. Shiraiwa, A.L. Kilcoyne, M. Weigand, D. Scholz, G.H. Haug, A. Al-Amri, and M.O. Andreae, *"Characterization and differentiation of rock varnish types from different environments by microanalytical techniques*," Chemical Geology **459**, 91-118 (2017).

2017MJ&c R. Myers, Jacob., G. Geng, J. Li, E.D. Rodríguez, J. Ha, P. Kidkhunthod, G. Sposito, L.N. Lammers, A. Kirchheim, and P.M. Monteiro, "*Role of Adsorption Phenomena in Cubic Tricalcium Aluminate Dissolution*," Langmuir **33**(1), 45-55 (2017).

2017MM& E. Mitri. L. Millucci ETC Merolle Lucia, Bernardini Giulia, Vaccari Lisa, Gianoncelli Alessandra, Santucci Annalisa, *A new light on Alkaptonuria: A Fourier-transform infrared microscopy (FTIRM) and low energy X-ray fluorescence (LEXRF) microscopy correlative study on a rare disease* Biochimica et Biophysica Acta (BBA) - General Subjects, **1861** 1000-1008 (2017)

2017MOO S. Mitsunobu , Y. Ohashi and T. Ohigashi, *Direct Observation of the Basalt-cell Interface by STXM-Study on the Mechanism of Microbial Alteration of Oceanic Crust*, UVSOR Activity Report 152 (2017).

2017MO& R.C.Moffet R.E. O'Brien, P.A. Alpert, S.T. Kelly, D.Q. Pham, M.K. Gilles, D.A. Knopf, and A. Laskin, "*Morphology and mixing black carbon particles collected in central California during the CARES field study,*" Atmospheric Chemistry and Physics 16(22), 14515-1452 (2016).

2017MP&a S. K. Mahatha, P. Moras, P. M. Sheverdyaeva, T. O. Menteş, V. Bellini, A. Locatelli, R. Flammini, K. Horn and C. Carbone, *Combined effects of vertical and lateral confinement on the magnetic properties of MnAs micro and nano-ribbons*, J. El. Spec. Rel. Phenomena **19**, 2-8 (2017)

2017MP&b E. Malucelli, A. Procopio. M. Fratini, Gianoncelli Alessandra, Notargiacomo Andrea, Merolle Lucia, Sargenti Azzurra, Castiglioni Sara, Cappadone Concettina, Farruggia Giovanna, Lombardo Marco, Lagomarsino Stefano, Maier Jeanette A., Iotti Stefano
Single cell versus large population analysis: cell variability in elemental intracellular concentration and distribution , Analytical and Bioanalytical Chemistry **410** 337-348 (2017.)

2017MS& H. Motoyama, Y. Sugizaki, Y. Shimato, T. Yoshida, T. Takano and K. EdamotoH. Motoyama, Y. Sugizaki, Y. Shimato, T. Yoshida, T. Takano and K. Edamoto, Change in the Electronic Structure of Fe2P(10-10) Induced by Phosphorus Segregation: Soft X-ray Photoemission Spectroscopy Study, UVSOR Activity Report, xx (2017)

2017MT& S.A.Montoya, S. Couture, J.J. Chess, J.T. Lee, N. Kent, D. Henze, S.K. Sinha, M.-Y. Im, S.D. Kevan, P. Fischer, B. McMorran, V. Lomakin, S. Roy, and E.E. Fullerton, "*Tailoring magnetic energies to form dipole skyrmions and skyrmion lattices,*" Physical Review B **95**(2), 024415 (2017)

2017MY& S. Matsuyama, S.Yasuda, J.Yamada, H. Okada, Y. Kohmura, M.Yabashi, T.Ishikawa and K.Yamauchi, *50-nm-resolution full-field X-ray microscope without chromatic aberration using total-reflection imaging mirrors*, Sci. Rep. **7** 46358 (2017) **HI**

2017NOK M. Nagasak, T. Ohigashi and N. Kosugi, *Development of in situ / Operano sample cells for Soft X-ray Transmission Spectroscopy at UVSOR-III Synchrotron*, UVSOR Activity Report **34**, 3-5 (2017).

2017NY& T. Noguchi, H. Yabuta, S. Itoh, N. Sakamoto, T. Mitsunari, A. Okubo, R. Okazaki, T. Nakamura, S. Tachibana, K. Terada, M. Ebihara, N. Imae, M. Kimura, and H. Nagahara, "*Variation of mineralogy and organic material during the early stages of aqueous activity recorded in Antarctic micrometeorites*," Geochimica et Cosmochimica Acta **208**, 119-144 (2017).

2017NZY Niu Y. R., Zakharov A. A., Yakimova R., *Metal-dielectric transition in Sn-intercalated graphene on SiC(0001),* Ultramicroscopy **183,** 49-54 (2017).

2017OC& C.A. Orozco, B.W. Chun, G. Geng, A.H. Emwas, and P.M. Monteiro, "*Characterization of the Bonds Developed between Calcium Silicate Hydrate and Polycarboxylate-Based Superplasticizers with Silyl Functionalities*," Langmuir **33**(14), 3404-3412 (2017).

2017OE& K. Olesya K.O., Kataev Elmar Yu., Usachov Dmitry Yu., Sirotina Anna P., Belova Alina I., Sezen Hikmet, Amati Matteo, Al-Hada Mohamed, Gregoratti Luca, Barinov Alexei, Cho Hak Dong, Kang Tae Won, Panin Gennady N., Vyalikh Denis, Itkis Daniil M., Yashina Lada V. *Laterally Selective Oxidation of Large-Scale Graphene with Atomic Oxygen,* J. Phys. Chem. C, **121** 27915-27922 (2017)

2017OI&a T. Ohigashi, Y. Inagaki, A. Ito, K. Shinohara and N. Kosugi, *Investigation of Measurement Condition for 3-Dimensional Spectroscopy by Scanning Transmission X-ray Microscopy*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012044 (2017)

2017OI&b T. Ohigashi, A. Ito, K. Shinohara, S. Tone, Y. Inagaki and N. Kosugi, *3-Dimensional Observation of a Cell Nucleus by Using a Scanning Transmission X-ray Microscope*, UVSOR Activity Report 153 (2017)

2017OK& T. Ohigashi , F. Kaneko, Y. Inagaki, T. Yano, H. Kishimoto and N. Kosugi, *Development of a Cryo-Cooling System for Scanning Transmission X-ray Microscopy*, UVSOR Activity Report 34 (2017).

2017OP& J. Otón, E. Pereiro, J.J. Conesa, F.J. Chichón, D. Luque, J.M. Rodríguez, A.J. Pérez-Berná, C.O.S. Sorzano, J. Klukowska, G.T. Herman, J. Vargas, R. Maribini, J.L. Carrascosa, J.M. Carazo, *XTEND: Extending the depth of field in cryo soft X-ray tomography,* Scientific Reports **7**: 45808 (2017) **HI**

2017OS& M. Olivares-Marín, A. Sorrentino, E. Pereiro, D. Tonti, *Discharge products of ionic liquid-based Li-O2 batteries observed by energy dependent soft X-ray transmission microscopy*, J. Power Sources **359** 234-241 (2017)

2017PB&a I. Polishchuk, A.A. Bracha, L. Bloch, D. Levy, S. Kozachkevich, Y. Etinger-Geller, Y. Kauffmann, M. Burghammer, C. Giacobbe, J. Villanova, G. Hendler, C.-Y. Sun, A.Joseph. Giuffre, M.A. Marcus, L. Kundanati, P. Zaslansky, N.M. Pugno, P.A. Gilbert, A. Katsman, and B. Pokroy, "*Coherently aligned nanoparticles within a biogenic single crystal: A biological prestressing strategy,*" Science **358**, 1294-1298 (2017). **HI**

2017PB&b D.Q. Pham, R. O'Brien, M.W. Fraund, D.Joseph. Bonanno, O. Laskina, C. Beall, K.A. Moore, S. Forestieri, X. Wang, C. Lee, C. Sultana, V.H. Grassian, C.D. Cappa, K. Prather, and R.C. Moffet, "*Biological Impacts on Carbon Speciation and Morphology of Sea Spray Aerosol,*" ACS Earth and Space Chemistry **1**, 551-561 (2017)

2017PM& Pignatelli I, Marrocchi Y, Mugnaioli E, Bourdelle F, Gounelle *Mineralogical, crystallographic and redox features of the earliest stages of fluid alteration in CM chondrites,* Geochimica et Cosmochimica Acta. 209, 106-122 (2017)

2017PS& E. Paris, T. Sugimoto, T. Wakita, A. Barinov, K. Terashima, V. Kandyba, O. Proux, J. Kajitani, R. Higashinaka, T. D. Matsuda, Y. Aoki, T. Yokoya, T. Mizokawa, and N. L. Saini, *Electronic structure of self-doped layered $Eu_3F_4Bi_2S_4$ material revealed by x-ray absorption spectroscopy and photoelectron spectromicroscopy* Phys. Rev. B **95**, 035152 (2017)

2017PU S. D. Perera and S.G. Urquhart, *Systematic Investigation of π–π Interactions in Near-Edge X-ray Fine Structure (NEXAFS) Spectroscopy of Paracyclophanes*, J. Phys. Chem. A 121 (**2017**) 4907–4913.

2017RBR S A T Redfern, O Branson and E Read, *Synchrotron X-ray microscopy of marine calcifiers: how plankton record past climate change,* Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012011 (2017)

2017RB& Reyren N, Bouzehouane K, Chauleau J-Y, Collin S, Fert A, Finizio S, et al., *Skyrmions in magnetic multilayers: chirality, electrical detection and current-induced motion*, In: Drouhin H-J, Wegrowe J-E, Razeghi M, Jaffres H, eds. Spintronics X. Vol. 10357. Proceedings of SPIE. Washington, USA: SPIE; 2017.

2017RC& M.S. Roth, S.J. Cokus, S.D. Gallaher, A. Walter, D. Lopez, E. Erickson, B. Endelman, D. Westcott, C.A. Larabell, S.S. Merchant, M. Pellegrini, and K.K. Niyogi, "C*hromosome-level genome assembly and transcriptome of the green alga Chromochloris zofingiensis illuminates astaxanthin production*," Proc. Natl. Acad. Sci. U.S.A. **114**(21), E4296-E430 (2017) **HI**

2017RD& M. Rose, Dmitry Dzhigaev, Tobias Senkbeil, Andreas R. von Gundlach, Susan Stuhr, Christoph Rumancev, Ilya Besedin, Petr Skopintsev, Jens Viefhaus, Axel Rosenhahn and Ivan A. Vartanyants, *High-dynamic-range water window ptychography*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012027 (2017)

2017RSF B.Rösner, Ute Schmidt and Rainer H. Fink, *In-operando studies of Ag-TCNQ nanocrystals using Raman and soft x-ray microspectroscopy,* Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012016 (2017)

2017SB& S. Swaraj , R. Belkhou , S. Stanescu, M. Rioult, A. Besson and A.P. Hitchcock, *Performance of the HERMES beamline at the carbon K-edge*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: Journal of Physics: Conf. Series **849**, 012046 (2017)

2017SC&a David A. Shapiro, Rich Celestre, Peter Denes, Maryam Farmand, John Joseph, A.L.D. Kilcoyne, Stefano Marchesini, Howard Padmore, Singanallur V. Venkatakrishnan, Tony Warwick and Young-Sang Yu, P*tychographic Imaging of Nano-Materials at the Advanced Light Source with the Nanosurveyor Instrument*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012028 (2017)

2017SC&b M.M. Shirolkar, J.W. Chiou, T. Ohigashi, N. Kosugi and W.F. Pong, *Probing the electronic structure of BiVOx coated ZnO Nanodentrite Core-shell Nanocomposite with STXM*, UVSOR Activity Report 67 (2017).

2017SDU S Swaraj, P M Dietrich and W.E.S. Unger, *Simultaneous surface and bulk sensitive XAS measurements of magnetic particle clusters*, Proc 13th Int conf .XRM, Oxford, UK, IOP Conf. Series: Journal of Physics: Conf. Series **849**, 012014 (2017)

2017SD& Saenrang, W., Davidson, B.A., Maccherozzi, F., Podkaminer, J.P., Irwin, J., Johnson, R.D., Freeland, J.W., Íñiguez, J., Schad, J.L., Reierson, K., Frederick, J.C., Vaz, C. a. F., Howald, L., Kim, T.H., Ryu, S., Veenendaal, M. v, Radaelli, P.G., Dhesi, S.S., Rzchowski, M.S., Eom, C.B., *Deterministic and robust room-temperature exchange coupling in monodomain multiferroic BiFeO 3 heterostructures*. Nature Communications 8, 1583 (2017) **HI**

2017SK& H. Suga, S. Kikuchi, Y. Takeichi, C. Miyamoto, M. Miyahara, S. Mitsunobu, T. Ohigashi, K. Mase, K. Ono and Y. Takahashi, "*Spatially Resolved Distribution of Fe Species around Microbes at the Submicron Scale in Natural Bacteriogenic Iron Oxides*", Microbes and Environments, **32**, 283-287 (2017).

2017SL&a Q. Sun, J. Liu, X. Li, Biqiong Wang, Hossein Yadegari, Andrew Lushington, Mohammad N. Banis, Yang Zhao, Wei Xiao, Ning Chen, Jian Wang, Tsun-Kong Sham, Xueliang Sun, *Atomic Layer Deposited Non-noble Metal Oxide Catalyst for Sodium-Air Batteries: Tuning the Morphologies and Compositions of Discharge Product*, Advanced Functional Materials **27** 1606662. (2017).

2017SL&b H.W. Shiu, M.S. Li, L.C. Yu, L. Lai, T. ohigashi, N. Kosugi, P. Chrn and Y.J. Hsu, *Nanoscale Chemical Mapping of Vapor Processed (PEA)2(MA)n-1PbnI3n+1 Quasi-2D Perovskite Solar Cells,* UVSOR Activity Report 65 (2017).

2017SL&c Seo, A.Y., P.-W. Lau, D. Feliciano, P. Sengupta, M.A. Gros, B.P. Cinquin, C.A. Larabell, and J. Lippincott-Schwartz, "A*MPK and vacuole-associated Atg14p orchestrate μ-lipophagy for energy production and long-term survival under glucose starvation*," *eLife* **6**, e21690 (2017).

2017SM& Sun, C.-Y., M.A. Marcus, M.James. Frazier, A.Joseph. Giuffre, T. Mass, and P.A. Gilbert, "*Spherulitic Growth of Coral Skeletons and Synthetic Aragonite: Nature's Three-Dimensional Printing*," ACS Nano **11**, 6612-6622 (2017) **.**

2017SO& K Shinohara, T Ohigashi, S Toné, M Kado and A Ito, *Quantitative study of mammalian cells by scanning transmission soft X-ray microscopy*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: Journal of Physics: Conf. Series **849**, 012003 (2017)

2017SR& A. Soumyanarayanan, M. Raju, A.L. Gonzalez Oyarce, A.C. Tan, M.-Y. Im, A.P. Petrovic, P. Ho, K.H. Khoo, M. Tran, C.K. Gan, F. Ernult, and C. Panagopoulos, "*Tunable room-temperature magnetic skyrmions in Ir/Fe/Co/Pt multilayers*," Nature Materials **16**, 898-904 (2017). **HI**

2017SS& H. Suga, N. Shiraishi, N. Sago, M. Miyahara, T. Ohigashi, Y. Inagaki, A. Yamaguchi, N. Tomioka, Y. Kodama and E. Ohtanii, *Silica-bearing Minerals in Martian Meteorites* , UVSOR Activity Report 155 (2017)

2017SW& M.Stuckelberger, Bradley West, Tara Nietzold, Barry Lai Jörg M. Maser, Volker Rose and Mariana I. Bertoni, *Engineering solar cells based on correlative X-ray microscopy*, J.Materials Research, **8,** 1825 (2017) DOI: 10.1557/jmr.2017.108

2017SY& W. Stuckey, J. Yang, .J Wang, D.L Sparks, *Advances in Scanning Transmission X-Ray Microscopy for Elucidating Soil Biogeochemical Processes at the Submicron Scale*, J. Environmental Quality **46,** 1166-1174 (2017)

2017TE& N. D. Telling, J. Everett, J. F. Collingwood, J. Dobson, G. van der Laan, J. Gallagher, J. Wang and A.P. Hitchcock, *Iron biochemistry is correlated with amyloid plaque morphology in an established mouse model of Alzheimer's disease*, Cell Chemical Biology, **24**, 1205-1215 (2017)

2017TL& Tanase L.V., Lungu G.A., Abramiuc L.E., Bucur I.C., Apostol N.G., Costescu R.M., Tache C.A., Macovei D., Barinov A., Teodorescu C.M. , *Long-range magnetic interaction in MnxGe1-x: structural, spectromicroscopic and magnetic investigations,* J. Materials Science, B, 3309-3320 (2017)

2017TS& Tu F, Späth A, Drost M, Vollnhals F, Krick Calderon S, Fink RH, et al., *Exploring the fabrication of Co and Mn nanostructures with focused soft x-ray beam induced deposition*, J. Vacuum Science and Technology B: Microelectronics and Nanometer Structures. **35** 31601 (2017).

2017TY& K. Takemoto, M. Yoshimura, T. Ohigashi, Y. Inagaki, H. Namba and H. Kihara, "*Application of soft X-ray microscopy to environmental microbiology of hydrosphere*", Journal of Physics: Conference Series, **849**, 012010 (2017).

2017TW&a Y. Tang, Z. Wang, D. Wang, J. Wang T.K. Sham, *Large-scale Hollow Nanoparticles Identification by X-ray Absorption Spectroscopy*, Can. J. Chem **95**, 1151 (2017).

2017TW&b K. Takemoto, M. Yoshimura, T. Ohigashi, Y. Inagaki, H. Namba and H. Kihara, *"Application of soft X-ray microscopy to environmental microbiology of hydrosphere*", Journal of Physics: Conference Series, **849**, 012010 (2017)

2017UH& T. Ueno, A. Hashimot, Y. Takeichiand K. Ono, *Quantitative magnetic-moment mapping of a permanent-magnet material by X-ray magnetic circular dichroism nano-spectroscopy*, AIP Advances 7, 056804 (2017)

2017UI& M. Uesugi, M. Ito, N. Tomioka, K. Uesugi, A. Yamaguchi, N. Imae, T. Ohigashi, N. Shirai, Y. Karouji, T. Yada, M. Abe and Y. Inagaki, *Investigation of Origin and Evolution of Extraterrestrial Materials by Visualizing Molecular Structure and Construction of Analytical Scheme with Facility-crossing Collaboration of Hayabusa2 Retuned Samples*, UVSOR Activity Report 158 (2017)

2017UM& S.G Urquhart, M. Martinson, S. Eger, V. Murcia, H.W. Ade, and B.A. Collins, "*Connecting Molecular Conformation to Aggregation in P3HT Using Near Edge X-ray Absorption Fine Structure Spectroscopy*," J. Physical Chemistry C **121**, 21720-2172 (2017).

2017UOI M. Uesugi, T. Ohigashi and Y. Inagaki, *Investigation of Carbonaceous Materials Inside Moderately Shocked Ureilite Using STXM-XANES System*, UVSOR Activity Report 154 (2017)

2017V Vaccaro, E. *Physical and chemical properties of matrix in primitive chondrites* , PhD thesis, The Open University (2017)

2017VC& D. Veghte, S. China, J. Weis, L. Kovarik, M.K. Gilles, and A. Laskin, "*Optical Properties of Airborne Soil Organic Particles*," ACS Earth and Space Chemistry **1**(8), 511-521 (2017)

2017VG& V. Vinogradoff, C. Le Guillou, S., Bernard, L. Binet, P. Cartigny, A.J. Brearley, L.Remusat, L. *Paris vs. Murchison: Impact of hydrothermal alteration on organic matter in CM chondrites* Geochimica et Cosmochimica Acta **212** 234 – 252 (2017).

2017VR& S. Vlaic, N. Rougemaille, A. Kimouche, B. Santos Burgos, A. Locatelli, J. Coraux, *Intercalating cobalt between graphene and iridium (111): Spatially dependent kinetics from the edges,* Phys. Rev. Mat. **1**, 053406 (2017)

2017VS& S. Velten, R. Streubel, A. Farhan, N. Kent, M. Im, A. Scholl, S. Dhuey, C. Behncke, G. Meier, and P. Fischer, "*Vortex circulation patterns in planar microdisk arrays*," Applied Physics Letters **110**, 262406 (2017).

2017VU& M. Vaatka, M. Urbanek, R. Jíra, L. Flaj?man, M. Dhankhar, M.-Y. Im, J. Michalika, V. Uhlir, and T. Sikola, "*Magnetic vortex nucleation modes in static magnetic fields*," AIP Advances **7**(10), 105103 (2017).

2017WA& Z Wang, L. Alrehaily, J. Joseph, J.C. Wren, J. Wang & T.K. Sham, *Scanning transmission X-ray microscopy studies of chromium hydroxide hollow spheres and nanoparticles formed by gamma-radiation*. Can. J. Chem **95**, 1146 (2017).

2017WE& Wadley, P., Edmonds, K.W., Shahedkhah, M.R., Campion, R.P., Gallagher, B.L., Železný, J., Kuneš, J., Novák, V., Jungwirth, T., Saidl, V., Němec, P., Maccherozzi, F., Dhesi, S.S., *Control of antiferromagnetic spin axis orientation in bilayer Fe/CuMnAs films*. Scientific Reports 7, 11147 (2017) **HI**

2017WH& J Wu, AP Hitchcock, M Lerotic, D.A. Shapiro, V. Berejnov, D. Susac and J. Stumper, *4d Imaging of Polymer Electrolyte Membrane Fuel Cell Cathodes by Scanning X-Ray Microscopy*, .Microscopy and Microanalysis S1 **23** 1784-1785 (2017)**.**

2017WJ& J. Wang, Y. Ji, N. Appathurai, J.g Zhou and Y. Yang, *Nanoscale chemical imaging of the additive effects on the interfaces of high-voltage $LiCoO_2$ composite electrodes,* Chem. Commun. **53** 8581-8584 (2017)

2017WL& J. Wu, M. Lerotic, R. Leary, S. Collins, Z. Saghi, P Midgley, V. Berejnov, D. Susac, J. Stumper, G. Singh and A.P. Hitchcock, *Optimization of 3D chemical imaging by soft X-ray spectro-tomography using a compressed sensing algorithm*, Microscopy & Microanalysis **23**, 951-956 (2017)

2017WM& F. Werner, C. Mueller Carsten, J. Thieme, A. Gianoncelli, C. Rivard, C. Höschel and J. Prietzel, *Micro-scale heterogeneity of soil phosphorus depends on soil substrate and depth ,* Scientific Reports **7** 3203 (2017) **HI**

2017WO& J.L. White, T. Ohigashi, K.G. Ray, Y.S. Liu, V. Stavila, M.D. Allendorf and J. Guo, *Phase Evolution of Complex Metal Hyrides during De/Rehydrogenation,* UVSOR Activity Report 66 (2017)

2017WS& S. Woo, K.M. Song, H.-S. Han, M.-S. Jung, M. Im, K.-S. Lee, K.S. Song, P. Fischer, J.-I. Hong, J.W. Choi, B.-C. Min, H.C. Koo, and J. Chang, *"Spin-orbit torque-driven skyrmion dynamics revealed by time-resolved X-ray microscopy,"* Nature Communications **8**, 15573 (2017) **HI**

2017WT& P. W. Wachulak, A. Torrisi, A. Bartnik, L. Wegrzynski, T. Fok and H. Fiedorowicz, *Nanoscale imaging applications of soft X-ray microscope based on a gas-puff target source,* Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012050 (2017)

2017WY& Wu, Y. A., Yin, Z., Farmand, M., Yu, Y.-S., Shapiro, D. A., Liao, H.-G., Liang, W.-I., Chu, Y.-H., & Zheng, H. , *In-situ Multimodal Imaging and Spectroscopy of Mg Electrodeposition at Electrode-Electrolyte Interfaces*. Scientific Reports, *7*, 42527 (2017). **HI**

2017WX& C.P.Wang , Z.I. Xu , H A. L Iu , Y.Wang, J.Wang and R.Tai, *Background noise removal in x-ray ptychography,* Applied Optics **56**, 2099 (2017).

2017WZ& J.D. West, Y. Zhu, S. Saem, J. Moran-Mirabal, and A.P. Hitchcock, *X-ray absorption spectroscopy and spectromicroscopy of supported lipid bilayers*, J. Physical Chemistry B **121** 4492−4501, (2017)

2017XW& Zijian Xu, Chunpeng Wang, Haigang Liu, Xulei Tao and Renzhong Tai, *Low-dose, high-resolution and high-efficiency ptychography at STXM beamline of SSRF*, Proc 13th Int conf XRM, Oxford, UK, IOP Conf. Series: J. Physics: Conf. Series **849**, 012033 (2017)

2017YC& Y. Ye, F. Cai, H. Li, Haihua Wu, Guoxiong Wang, Yanshuo Li, Shu Miao, Songhai Xie, Rui Si, Jian Wang, Xinhe Bao, *Surface functionalization of ZIF-8 with ammonium ferric citrate toward high exposure of Fe-N active sites for efficient oxygen and carbon dioxide electroreduction*, Nano Energy 38 (**2017**) 281-289.

2017YJ& Ye, L., X. Jiao, S. Zhang, H. Yao, Y. Qin, H.W. Ade, and J. Hou, "*Control of Mesoscale Morphology and Photovoltaic Performance in Diketopyrrolopyrrole-Based Small Band Gap Terpolymers*," Advanced Energy Materials **7**, 1601138 (2017).

2017YK&a K. Yamamoto, A. Klossek, R. Flesch, F. Rancan, M. Weigand, I. Bykova, M. Bechtel, S. Ahlberg, A. Vogt, U. Blume-Peytavi, P. Schrade, S. Bachmann, S. Hedtrich, M. Schäfer-Korting, E. Rühl, I*nfluence of the skin barrier on the penetration of topically-applied dexamethasone probed by soft X-ray spectromicroscopy,* European J. Pharmaceutics and Biopharmaceutics, **118**, 30-37 (2017)

2017YK&b K. Yamamoto, A. Klossek, J. Berkemeyer, T. Ohigashi, F. Rancan, R. Flesch, A. Vogt, U. Blume-Peytavi, M. Radbruch, H. Pischon, A. D. Gruber, L. Mundhenk, N. Kosugi and E. Rühl, *Probing the Penetration of Tofacitinib and Tofacitinib Citrate in Inflamed Murine Skin by Soft X-Ray Spectromicroscopy*, 159 (2017)

2017YN& H. Yabuta,, T. Noguchi, S. Itoh, T. Nakamura, A. Miyake, S. Tsujimoto, N. Ohashi, N. Sakamoto, M. Hashiguchi, K.-i. Abe, A. Okubo, A.D. Kilcoyne, S. Tachibana, R. Okazaki, K. Terada, M. Ebihara, and H. Nagahara, "*Formation of an ultracarbonaceous Antarctic micrometeorite through minimal aqueous alteration in a small porous icy body,*" Geochimica et Cosmochimica Acta **214**, 172-190 (2017).

2017YNWa B. Yan, C. Hui Niu and J. Wang, *Kinetics, electron-donor-acceptor interactions, and site energy distribution analyses of norfloxacin adsorption on pretreated barley straw*, Chemical Engineering Journal **330** 1211–1221 (2017).

2017YNWb B. Yan, C. Hui Niu and J. Wang, *Analyses of Levofloxacin Adsorption on Pretreated Barley Straw with Respect to Temperature: Kinetics, π–π Electron-Donor–Acceptor Interaction and Site Energy Distribution*, Environ. Sci. Technol. **51** 8048–8056 (2017)

2017YS& A.T. Young, A. Scholl, and Y. Takamura, "*Nanostructured complex oxides as a route towards thermal behavior in artificial spin ice systems*," Physical Review Materials **1**, 024401 (2017).

2017YW J. Yang and J. Wang, *Radiation chemistry of molecular compounds and polymers by soft X-ray spectroscopy and microscopy* Can. J. Chem **95**, 1191 (2017).

2017YW& T. Yoshino, Wakita K., Paris E., Barinov A., Kajita T., Katsufuji T., Kandyba V., Sugimoto T., Yokoya T., Saini N. L., Mizokawa T., *Inhomogeneous electronic states associated with charge-orbital order/disorder in $BaV_{10}O_{15}$ probed by photoemission spectromicroscopy* , Physical Review B **96**, 115161 (2017)

2017YX& L. Ye, Y. Xiong, S. Li, M. Ghasemi, N. Balar, J. Turner, A. Gadisa, J. Hou, B.T. O'Connor, and H.W. Ade, "*Precise Manipulation of Multilength Scale Morphology and Its Influence on Eco-Friendly Printed All-Polymer Solar Cell*s," Advanced Functional Materials 27(33), 1702016 (2017).

2017YZ&a L. Ye, W. Zhao, S. Li, S. Mukherjee, J.H. Carpenter, O.Marwan. Awartani, X. Jiao, J. Hou, and H.W. Ade, "*High-Efficiency Nonfullerene Organic Solar Cells: Critical Factors that Affect Complex Multi-Length Scale Morphology and Device Performance*," Advanced Energy Materials 7, 1602000 (2017).

2017YZ&b D Yan, W Zhang, J Cen, E Stavitski, J Sadowski, E Vescovo, A Walter, K Attenkofer, D Stacchiola, M Liu, *Near band edge photoluminescence of ZnO nanowires: Optimization via surface engineering*. Appl. Phys. Lett., **111**(23), 231901 (2017).

2017ZB& F. Zeitvogel, C.J. Burkhardt, Schroeppel, B; Schmid, G; Ingino, P; Obst, M: *Comparison of Preparation Methods of Bacterial Cell-Mineral Aggregates for SEM Imaging and Analysis Using the Model System of Acidovorax sp. BoFeN1*, Geomicrobiology Journal **34** 317-327 (2017)

2017ZGS Y.J. Zhu, .X. Guo & T.K. Sham, *Calcium silicate-based drug delivery systems*, Expert Opinion on Drug Delivery 14 (**2017**) 215-228.

2017ZJ& Y. Zhao, .L.R. De Jesus, Peter Stein, Gregory A. Horrocks, Sarbajit Banerjee and Bai-Xiang Xu, *Modeling of phase separation across interconnected electrode particles in lithium-ion batteries*, RSC Advances. **7,** 41254-41264 (2017)

2017ZMG P. Zeller, X.-Z. Ma and S. Günther;, *Indexing moiré patterns of metal-supported graphene and related systems: strategies and pitfalls***,** New J. Phys. **19**, 01301 (2017)

2017ZM& Zeissler K, Mruczkiewicz M, Finizio S, Raabe J, Shepley PM, Sadovnikov AV, et al., *Pinning and hysteresis in the field dependent diameter evolution of skyrmions in Pt/Co/Ir superlattice stacks*, Scientific Reports. **7,** 15125 (2017). **HI**

2017ZN& X.H. Zhu, L. Le Nagard, A.P. Hitchcock, D.A. Bazylinski, V.a Morillo, F. Abreu, P. Leão and U. Lins, *Chemistry and Magnetism of Synthetic Greigite and Greigite Magnetosomes in Multicellular Magnetotactic Prokaryotes studied by Scanning Transmission X-ray Microscopy*, Geomicrobiology Journal **35**, 215-226 (2017).

2017ZQ& missing reference (STXXM of LiFePO4 battery)

2017ZW&a J. Zhou, J. Wang, Yongfeng Hu, and Mi Lu, *Chemical Imaging of Nanoscale Interfacial Inhomogeneity in LiFePO4 Composite Electrodes from a Cycled Large-Format Battery,* ACS Appl. Mater. Interfaces **9** 39336-39341 (2017)

2017ZW&b Zhang, W., P.K. Wong, D. Zhang, J. Yue, Z. Kou, G. van der Laan, A. Scholl, J.-G. Zheng, Z. Lu, and Y. Zhai, "*XMCD and XMCD-PEEM Studies on Magnetic-Field-Assisted Self-Assembled 1D Nanochains of Spherical Ferrite Particles*," Advanced Functional Materials **27**, 1701265 (2017).

2017ZZ& Y. Zhu , J. Zhang , A. Li , Y. Zhang and C. Fan, *Synchrotron-based X-ray microscopy for sub-100 nm resolution cell imaging,* Curr. Opinion chem.. Biology **39**, 11-16 (2017)

2018AA&a P.A. Alpert, Pablo Corral Arroyo , Jing Dou , Ulrich K. Kriege , Sarah S. Steime , Jan-David Förster , Florian Ditas , Christopher Pöhlker , Stéphanie Rossignol , Monica Passananti , Sebastian Perrier , Christian George , Thomas Berkemeier , Manabu Shiraiwa and Markus Ammann*, Imaging Molecular Reaction and Diffusion in Organic Aerosol Particles*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 496 (2018)

2018AA&b S. Agnoli, A. Ambrosetti, T.O. Menteş, A. Sala, A. Locatelli, P. Silvestrelli, M. Cattelan, S. Eichfeld, D. Deng, J. Robinson, A. Joshua, J. Avila, C. Chen, M. Asensio, *Unravelling the Structural and Electronic Properties at the WSe_2-Graphene Interface for a Rational Design of Van der Waals Heterostructures***,** ACS Appl. Nano Mater. **1** (3), 1131–114 (2018).

2018AA&c F. Almyahi, T.R. Andersen, N. Cooling, N.P. Holmes, A. Fahy, M.G. Barr, D. Kilcoyne, W.J. Belcher, and P. Dastoor, "*Optimization, characterization and upscaling of aqueous solar nanoparticle inks for organic photovoltaics using low-cost donor:acceptor blend*," Organic Electronics 52, 71-78 (2018).

2018AA&d M. Al-Hada, M. Amati, H. Sezen, L. Cozzarini L. Gregoratti, *Photoelectron Spectromicroscopy Through Graphene of Oxidised Ag Nanoparticles*, Catalysis Letters, **148** ,. 2247-2255 (2018)

2018AB&a J. Alleon, S. Bernard, C. Le Guillou, O. Beyssac, K. Sugitani, F. Robert, *Chemical nature of the 3.4 Ga Strelley Pool microfossils*, Geochem. Persp. Let. **7**, 37-42 (2018)

2018AB&b M. Amati, A. Barinov, V. Feyer, L. Gregoratti, M. Al-Hada, A. Locatelli, T.O. Menteş, H. Sezen, C.M. Schneider, M. Kiskinova, *Photoelectron Microscopy at Elettra: Recent Advances and Perspectives***,** J. El. Spec. Rel. Phenomena, **224**, 59-67 (2018)

2018AB&c O.M. Alqahtani, M. Babics, J. Gorenflot, V. Savikhin, T.John. Ferron, A.H. Balawi, A. Paulke, Z. Kan, M. Pope, A.J. Clulow, J. Wolf, P.L. Burn, I.R. Gentle, D. Neher, M.F. Toney, F. Laquai, P.M. Beaujuge, and B.A. Collins, "*Mixed Domains Enhance Charge Generation and Extraction in Bulk-Heterojunction Solar Cells with Small-Molecule Donors*," Advanced Energy Materials **8**, 1702941 (2018).

2018AG& O.M. Awartani, B. Gautam, W.-W. Zhao, R. Younts, J. Hou, K. Gundogdu, and H.W. Ade, "*Polymer non-fullerene solar cells of vastly different efficiencies for minor side-chain modification: impact of charge transfer, carrier lifetime, morphology and mobility*," J. Mater. Chem. A **6**(26), 12484-12492 (2018).

2018AH&a P.S.P. Arachchige, Ganga M. Hettiarachchi, Charles W. Rice, James J. Dynes, Leila Maurmann, Jian Wang, Chithra Karunakaran, A. L. David Kilcoyne, Chammi P. Attanayake, Telmo J. C. Amado, Jackson E. Fiorin, *Sub-micron level investigation reveals the inaccessibility of stabilized carbon in soil microaggregates*, Scientific Reports **8** 16810: 1-13 (2018). **HI**

2018AH&b K. Andrianov, A. Haidl, L. Lühl, A. Dehlinger, H. Dierks, R. Gnewkow, T. Nisius, B. Kanngießer, and T. Wilhein. "*Scanning X-Ray Microscopy with Large Solid Angle X-Ray Fluorescence Detection at the XUV Beamline P04, DESY.*" Journal of Instrumentation **13**(05):C05013–C05013 (2018).

2018AH&c Ali-Loytty Harri, Hannula Markku, Juuti Timo, Niu Yuran, Zakharov Alexei A., Valden Mika, *The role of (FeCrSi)(2)(MoNb)-type Laves phase on the formation of Mn-rich protective oxide scale on ferritic stainless steel*, Corrosion Science **132**, 214-222 (2018).

2018AI& M. Altissimo , A. Iacopi , L. Hold , A. Matruglio , P. Zucchiatti , L. Vaccari , D.E. Bedolla , L. Ulloa Severino , P. Parisse , A. Gianoncelli, *Silicon Carbide membranes as substrate for Synchrotron measurements* J. Instrumentation, **13**. C05017 (2018).

2018AM&a J.L.Andrews, A. Mukherjee, H. DeogYoo, A.k Parija, P.M.Marley, S. Fakra, David Prendergast, Jordi Cabana, Robert F.Klie, Sarbajit Banerjee, *Reversible Mg-Ion Insertion in a Metastable One-Dimensional Polymorph of V2O5*, Chem **4** 564-585 (2018).

2018AM&b O. Awartani, Marwan., B. Gautam, W. Zhao, R. Younts, J. Hou, K. Gundogdu, and H.W. Ade, "*Polymer non-fullerene solar cells of vastly different efficiencies for minor side-chain modification: impact of charge transfer, carrier lifetime, morphology and mobility*," J. Materials Chemistry *A* **6**, 12484-12492 (2018)

2018AP&a A.B. Altman, C. D. Pemmaraju, Selim Alayoglu, John Arnold, Eric D. Bauer, Corwin H. Booth, Zachary Fisk, Joseph I. Pacold, David Prendergast, David K. Shuh, Tolek Tyliszczak, Jian Wang, and Stefan G. Minasian, *Dual roles of f electrons in mixing Al 3p character into d-orbital conduction bands for lanthanide and actinide dialuminides*, Phys. Rev. B **97** 045110: 1-8 (2018)

2018AP&b Albisetti E, Petti D, Sala G, Silvani R, Tacchi S, Finizio S, et al. *Nanoscale spin-wave circuits based on engineered reconfigurable spin-textures* Communications Physics. **1**, 56 (2018).

2018AP&c Aprojanz Johannes, Power Stephen R., Bampoulis Pantelis, Roche Stephan, Jauho Antti-Pekka, Zandvliet Harold J. W., Zakharov Alexei A., Tegenkamp Christoph, *Ballistic tracks in graphene nanoribbons*, Nature Communications **9** 4426, (2018). **HI**

2018AVV B. Alemán, M. Vila and J.J. Vilatela, *Surface Chemistry Analysis of Carbon Nanotube Fibers by X-Ray Photoelectron Spectroscopy*, Physica Status Solidi (A) **215** , 1800187 (2018)

2018AW& Q. Arnoux, Q., Watts, B., Swaraj, S., Rochet, F., Tortech, L. "*X-ray microscopic investigation of molecular orientation in a hole carrier thin film for organic solar cell*s" Nano Research., **11**(5): 2771–2782. (2018).

2018BA&a B. Bozzini, M., Altissimo M., Amati M., Bocchetta P., Gianoncelli A., Gregoratti L., Kourousias G., Mancini L., Mele C., Kiskinova M., *In Situ and Ex Situ X-Ray Microspectroelectrochemical Methods for the Study of Zinc-Air Batteries*, Encyclopedia of Interfacial Chemistry: Surface Science and Electrochemistry, 174-194 (2018)

2018BA&b B. Bozzini, M. Amati, Dobrovolska Tsvetina, Gregoratti Luca, Krastev Ivan, Sgura Ivonne, Taurino Antonietta, Kiskinova Maya, *Depth-Dependent Scanning Photoelectron Microspectroscopy Unravels the Mechanism of Dynamic Pattern Formation in Alloy Electrodeposition*, J. Physical Chemistry C, **122**, 15996-16007 (2018)

2018BA&c Behncke C, Adolff CF, Wintz S, Hänze M, Schulte B, Weigand M, et al. *Tunable geometrical frustration in magnonic vortex crystals*, Scientific Reports. **8,** 186 (2018).

2018BB&a A.L. Bondy, D.J. Bonanno, R.C. Moffet, B. Wang, A. Laskin, and A.P. Ault, "*The diverse chemical mixing state of aerosol particles in the southeastern United States,*" Atmospheric Chemistry and Physics **18**(16), 12595-12612 (2018).

2018BB&b Burgos-Parra, E., Bukin, N., Sani, S., Figueroa, A.I., Beutier, G., Dupraz, M., Chung, S., Dürrenfeld, P., Le, Q.T., Mohseni, S.M., Houshang, A., Cavill, S.A., Hicken, R.J., Åkerman, J., van der Laan, G., Ogrin, F.Y., *Investigation of magnetic droplet solitons using x-ray holography with extended references*. Scientific Reports **8**, 11533 (2018). **HI**

2018BE& Bennett, R.A., Etman, H.A., Hicks, H., Richards, L., Wu, C., Castell, M.R., Dhesi, S.S., Maccherozzi, F., *Magnetic Iron Oxide Nanowires Formed by Reactive Dewetting.* Nano Lett. **18**, 2365–2372 (2018)

2018BG B. Bozzini B. and A. Goldoni, *Will in situ synchrotron-based approaches beat the durability issues of next-generation batteries?,* Journal of Physics D: Applied Physics, **51**. 050201 (2018)

2018BK&a B. Rösner, Frieder Koch, Florian Döring Vitaliy A. Guzenko, Markus Meyer, Joshua L. Ornelas, Andreas Späth, Rainer H. Fink, Stefan Stanescu, Sufal Swaraj, Rachid Belkhou, Benjamin Watts, Jörg Raabe, Christian David, *7 nm Spatial Resolution in Soft X-ray Microscopy*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 270 (2018)

2018BK&b I. Bykova, Kahraman Keskinbora , Umut Sanli , Joachim Gräfe , Michael Bechtel , Guoqiang Yu , Eberhard Goering , Hermann Stoll , Gisela Schütz and Markus Weigand, *Soft X-ray Ptychography for Imaging of Magnetic Domains and Skyrmions in Sub-100 nm Scales*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 34 (2018)

2018BK&c E. Bonato, A. J. King, P. F. Schofield, B. Kaulich, T. Araki, M. K. Abyaneh, M. R. Lee and S. S. Russell ,*The oxidation state of iron in silicate minerals from the matrices of CO carbonaceous chondrites* 49th Lunar and Planetary Science Conference ABSTRACT 1917, (2018).

2018BK&d B. Bozzini, D. Kuscer, Drnovšek S., Al-Hada M., Amati M., Sezen H., Gregoratti L, *Spatially Resolved Photoemission and Electrochemical Characterization of a Single-Chamber Solid Oxide Fuel Cell*, Topics in Catalysis, **61**, 2185-2194 (2018)

2018BL& N.C. Bartelt, Y. Li, J.D. Sugar, K. Fenton, A.L. Kilcoyne, D.A. Shapiro, T. Tyliszczak, W.C. Chueh, and F. El Gabaly, "*Simple Stochastic Model of Multiparticle Battery Electrodes Undergoing Phase Transformations,*" Phys. Rev. Appl. **10**(4), 044056 (2018).

2018BM&a B. von Boehn, T.O. Menteş, A. Locatelli, A. Sala, and R. Imbihl, *Reactive Phase Separation during Methanol Oxidation on a V-Oxide-Promoted Rh(110) Surface* J. Phys. Chem. C, 122(19), 10482-10488 (2018);

2018BM&b A. Bianconi, A. Marcelli, Bendele ., Innocenti D., Barinov Alexei, Poirot Nathalie, Campi Gaetano , *VUV Pump and Probe of Phase Separation and Oxygen Interstitials in La2NiO4+y Using Spectromicroscopy* Condensed Matter, **3** 30100006 (2018)

2018BM&c D.E. Bedolla , A. Mantuano , A. Pickler , C. Mota , C.L. Braz , C. Salata , C. Almeida , G. Birarda , L. Vaccari , R. Barroso , A. Gianoncelli *Effects of soft X-ray radiation damage on paraffin-embedded rat tissues supported on ultralene: a chemical perspective,* J. Synchrotron Radiation, **25** 848-856 (2018).

2018BO& A.D. Bang, F.K. Olsen, S.D. Sloetjes, A. Scholl, S.T. Retterer, C.F. Vaz, T. Tybell, E. Folven, and J.K. Grepstad, "*Magnetic domain formation in ultrathin complex oxide ferromagnetic/antiferromagnetic bilayers,"* Appl. Phys. Lett. **113**(13), 132402 (2018)

2018BR& V. Berejnov, B. Rubinstein, L. Melo and A.P. Hitchcock, *First principles X-ray absorption dose calculation for time dependent mass and optical density,* J. Synchrotron Radiation **25,** 833-847, (2018).

2018BS& J. Bufon , S. Schillani , M. Altissimo , P. Bellutti , G. Bertuccio , F. Bille , R. Borghes , G. Borghi , G. Cautero , D. Cirrincione , S. Fabiani , F. Ficorella , M. Gandola , A. Gianoncelli , D. Giuressi , G. Kourousias , F. Mele , R.H. Menk , A. Picciotto , A. Rachevski , I. Rashevskaya , M. Sammartini , A. Stolfa , G. Zampa , N. Zampa , N. Zorzi , A. Vacchi *A new large solid angle multi-element silicon drift detector system for low energy X-ray fluorescence spectroscopy,* J. Instrumentation, **13** C03032 (2018)

2018BW& C. Bittencourt, Stephan Werner , Catharina Haebel , Peter Guttmann , Melita Sluban , Polona Umek and Peter Krüger, *Nanoscale NEXAFS for Probing TiO_2 -B Nanoribbon*s., Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 474 (2018)

2018BZ& N. Bauer, Q. Zhang, J.J. Rech, S. Dai, Z. Peng, H.W. Ade, J. Wang, X. Zhan, and W. You, "*The impact of fluorination on both donor polymer and non-fullerene acceptor: The more fluorine, the merrier,*" Nano Research **12**(9), 2400-2405 (2019).

2018CB& S. China, S.M. Burrows, B. Wang, T.H. Harder, J. Weis, M. Tanarhte, L.V. Rizzo, J. Brito, G.G. Cirino, P.-L. Ma, J. Cliff, P. Artaxo, M.K. Gilles, and A. Laskin, "*Fungal spores as a source of sodium salt particles in the Amazon basin*," *Nature Comm* **9**, 4793 (2018). **HI**

2018CG&a H.G. Changela, C.LE Guillou, S. Bernard, and A.J. Brearley, *Hydrothermal evolution of the morphology, molecular composition, and distribution of organic matter in CR (Renazzo-type) chondrites*, Meteoritics & Planetary Science 53 (**2018**) 1006–1029.

2018CG&b Lo Conte, R., J. Gorchon, A. Mougin, C.A. Lambert, A. El-Ghazaly, A. Scholl, S. Salahuddin, and J. Bokor, "*Electrically controlled switching of the magnetization state in multiferroic $BaTiO_3$/CoFe submicrometer structures*," Physical Review Materials **2**, 091402 (2018).

2018CG&c F. Cammisuli, S. Giordani, A. Gianoncelli, C.Rizzardi, L. Radillo, M. Zweyer , T. Da Rosa, M. Salomé, M. Melato, L/ Pascolo, *Iron-related toxicity of single-walled carbon nanotubes and crocidolite fibres in human mesothelial cells investigated by Synchrotron XRF microscopy*, Scientific Reports, **8**, 1 (2018) **HI**

2018CK Choi, Y.; Kim, J.-K. *Investigation of the Redox State of Magnetite upon Aβ-Fibril Formation or Proton Irradiation; Implication of Iron Redox Inactivation and β-Amyloidolysis.* MRS Communications , **8**, 955–960 (2018)

2018CK& N. Chowdhury, W. Kleemann, O. Petracic, F. Kronast, A. Doran, A. Scholl, S. Cardoso, P. Freitas, and S. Bedanta, "*360¬ ∞ domain walls in magnetic thin films with uniaxial and random anisotropy,"* Physical Review B **98**(13), 134440 (2018).

2018CL& H.G. Changela, C. Le Guillou, S. Bernard, and A.J. Brearley, "*Hydrothermal evolution of the morphology, molecular composition, and distribution of organic matter in CR (Renazzo-type) chondrites,*" Meteoritics & Planetary Science **53**(5), 1006-1029 (2018)

2018CN&a R. Celestre, K. Nowrouzi, H.A. Padmore, and D.A. Shapiro, "*Nanosurveyor 2: A Compact Instrument for Nano-Ptychography at the Advanced Light Source*," in Mechanical Eng. Design of Synchrotron Radiation Equipment and Instrumentation, (JACoW Publishing Geneva, 2018) 352-354. (2018)

2018CN&b Q.S. Chan, A. Nakato, Y. Kebukawa, M.E. Zolensky, T. Nakamura, J.A. Maisano, M.W. Colbert, J.E. Martinez, A.L. Kilcoyne, H. Suga, Y. Takahashi, Y. Takeichi, K. Mase, and I.P. Wright, "*Heating experiments of the Tagish Lake meteorite: Investigation of the effects of short-term heating on chondritic organics*," Meteoritics & Planetary Science **54**(1), 104-125

2018CW& Chmiel, F.P., Waterfield Price, N., Johnson, R.D., Lamirand, A.D., Schad, J., van der Laan, G., Harris, D.T., Irwin, J., Rzchowski, M.S., Eom, C.-B., Radaelli, P.G., *Observation of magnetic vortex pairs at room temperature in a planar α-Fe2O3/Co heterostructure*. Nature Mater **17**, 581–585 (2018) **HI**

2018CX& Lo Conte, R., Z. Xiao, C. Chen, C.V. Stan, J.David. Gorchon, A. El-Ghazaly, M.E. Nowakowski, H. Sohn, A. Pattabi, A. Scholl, N. Tamura, A. Sepulveda, G.P. Carman, R. Candler, and J. Bokor, "*Influence of Nonuniform Micron-Scale Strain Distributions on the Electrical Reorientation of Magnetic Micro-Structures in a Composite Multiferroic Heterostructure*," Nano Letters B, 1952-1961 (2018).

2018CZ& Q.S. Chan, M.E. Zolensky, Y. Kebukawa, M. Fries, M. Ito, A. Steele, Z. Rahman, A. Nakato, A.L. Kilcoyne, H. Suga, Y. Takahashi, Y. Takeichi, and K. Mase, "*Organic matter in extraterrestrial water-bearing salt crystals*," Science Advances **4**, eaao3521 (2018).

2018DA& J.J. Dynes , Zachary Arthur , Stuart Read , Jarvis Stobbs, Tom Z. Regier and Scott M. Rosendahl, *Correlative Spectromicroscopy Software Development on the SGM and Mid-IR Beamlines at the CLS*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 494 (2018)

2018DB& A.Dehlinger, Julia Braenzel , Daniel Groetzsch , Torsten Feigl , Robert Jung , Birgit Kanngießer , Stefan Rehbein , Christian Seim and Holger Stiel , *Towards High Performance Soft X-ray Cryo-Tomography in the Laboratory*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 248 (2018)

2018DG& T. Dumas, D. Guillaumont, P. Moisy, D.K. Shuh, T. Tyliszczak, P.L. Solari, and C. Den Auwer, "The electronic structure of f-element Prussian blue analogs determined by soft X-ray absorption spectroscopy," Chem. Commun. **54**(86), 12206-12209 (2018).

2018DR& David C, Rösner B, Döring F, Guzenko V, Koch F, Lebugle M, et al., *Diffractive X-ray optics for synchrotrons and free-electron lasers*Microscopy and Microanalysis. **24** (S-2), 264-267 (2018).

2018EC& J. Everett, J. F. Collingwood, V. Tjendana-Tjhin, J. Brooks, F. Lermyte, G. Plascencia-Villa, I. Hands-Portman, J. Dobson, G. Perry, and N. D. Telling, "*Nanoscale synchrotron X-ray speciation of iron and calcium compounds in amyloid plaque cores from Alzheimer's disease subjects*," Nanoscale **10,** 11782-11796 (2018)

2018EF& J. Everett, J.Frances. Collingwood, V. Tjendana-Tjhin, J. Brooks, F. Lermyte, G. Plascencia-Villa, I. Hands-Portman, J. Dobson, G. Perry, and N. Telling, "*Nanoscale synchrotron X-ray speciation of iron and calcium compounds in amyloid plaque cores from Alzheimer's disease subjects*," Nanoscale **10** 11782-11796 (2018).

2018EN& Bjoern Enders, Kasra Nowrouzi, Harinarayan Krishnan, Stefano Marchesini, Jungjin Park , Young-Sang Yu and David A. Shapiro, *Dataflow at the COSMIC Beamline - Stream Processing and Supercomputing*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 56 (2018)

2018EO& T. Ejima, Y. Ono, K. Ito, Keisuke, H. Kawasaki, T. Higashiguchi, S.Tone and T. Hatano, *Development of Laboratory-type Soft X-ray Microscope, CXRM, in Water-Window using LPP Light Source*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 212 (2018)

2018EP& A.A. Ekman, T.E. Plautz, G. McDermott, M.A. Le Gros, and C.A. Larabell, "Soft x-ray tomography: techniques and applications," in *Handbook of X-ray Imaging: Physics and Technology*, P. Russo, Ekman AA, Plautz TE, McDermott G, Le Gros MA, and Larabell CA. , (CRC Press.Taylor Francis Group Boca Raton, FL, 2018), pp.817-851.

2018ET&a W. Eschen , G.K. Tadesse , R. Klas , M. Tschernajew, F. Tuitje, V. Hilbert , D. Schelle , A. Nathanael , M. Zilk , M. Steinert , F. Schrempel , C. Spielmann, T. Pertsch, A. Tünnermann, J. Limpert and J. Rothhardt, *Wavelength-scale Coherent Diffractive Imaging using a High-order Harmonic Source*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 16 (2018)

2018ET&b J. Everett, V. Tjendana Tjhin, Jake Brooks , Frederik Lermyte , Ian Hands-Portman , Jon , Joanna Collingwood and Neil Telling, *Nanoscale Examination of Biological Tissues Using X-ray Spectromicroscopy*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 490 (2018)

2018EW& A.A. Ekman, V. Weinhardt, J.-H. Chen, G. McDermott, M.A. Le Gros, and C.A. Larabell, "*PSF correction in soft X-ray tomography*," J. Struct. Biol. **204**(1), 9-18 (2018).

2018FL& S. Fakra, B. Luef, C.J. Castelle, S.A. Mullin, K.H. Williams, M.A. Marcus, D. Schichnes, and J. Banfield, "*Correlative Cryogenic Spectromicroscopy to Investigate Selenium Bioreduction Products*," Environmental Science and Technology **52**(2), 503-512 (2018).

2018FP& M. Fraund, T. Park, Lin Yao, Daniel Bonanno, Don Q. Pham, and Ryan C. Moffet, *Quantitative capabilities of STXM to measure spatially resolved organic volume fractions of mixed organic/inorganic particle*, Atmos. Meas. Tech. **12**, 1619-1633 (2018)

2018FR& R.H. Fink, Benedikt Rösner, Xiaoyan Du, Andreas Späth , Manuel Johnso , Tim Hawly , Benjamin Watts, Jörg Raabe , Luca Gregoratti and Matteo Amati, *In-operando soft X-ray microspectroscopy of organic electronics devices,* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 424 (2018)

2018FS& C. Francesca, G. Silvia, G. Alessandra, R. Clara, R. Lucia, Z. Marina, Da Ros Tatiana, S. Murielle, M. Mauro, P. Lorella, *Iron-related toxicity of single-walled carbon nanotubes and crocidolite fibres in human mesothelial cells investigated by Synchrotron XRF microscopy* Scientific Reports **8** 706 (2018) **HI**

2018FW&a S. Finizio , S. Wintz , B. Watts and J. Raabe, *Sub-100ps Magnetic Imaging at the PolLux Endstation of the Swiss Light Source,* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 452 (2018)

2018FW&b Fallica R, Watts B, Rösner B, Della Giustina G, Brigo L, Brusatin G, et al. *Changes in the near edge x-ray absorption fine structure of hybrid organic-inorganic resists upon exposure,* Nanotechnology. **29** 36LT03 (2018).

2018FW&c Finizio S, Wintz S, Bracher D, Kirk E, Semisalova AS, Förster J, et al. *Thick permalloy films for the imaging of spin texture dynamics in perpendicularly magnetized systems,* Physical Review B. **98,** 104415 (2018).

2018FW&d Finizio S, Wintz S, Gliga S, Kirk E, Suszka AK, Wohlhüter P, et al. *Unexpected field-induced dynamics in magnetostrictive microstructured elements under isotropic strain*, Journal of Physics: Condensed Matter. **30** 314001 (2018).

2018FZ& S. Finizio , K. Zeissler , G. Burnell , C.H. Marrows and J. Raabe, *In-situ Electrical Transport Measurements Combined with Scanning Transmission X-ray Microscopy*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 76 (2018)

2018G P.A. Gilbert, *Polarization-dependent Imaging Contrast (PIC) Mapping in 2018*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 454 (2018)

2018GA& L. Gregoratti L., M. Al-Hada, M. Amati, Brescia R., Roccella D., Sezen H., Zeller P, *Spatially Resolved Photoelectron Spectroscopy from Ultra-high Vacuum to Near Ambient Pressure Sample Environments*, Topics in Catalysis, **61**, 1274-1282 (2018)

2018GB&a C. Le Guillou, S. Bernard, F. De la Pena, and Y. Le Brech, *XANES-Based Quantification of Carbon Functional Group Concentrations*, Analytical Chemistry **90** 8379-8386 (2018)

2018GB&b K. Georgios, B. Bozzini , Jones Michael, G. Van Riessen, S. Dal Zilio, F. Bille, M.P. Kiskinova, A. Gianoncelli M*onitoring dynamic electrochemical processes with in situ ptychography,* Applied Nanoscience **8** 627–636 (2018)

2018GC& M.T. Greiner, J. Cao, Jones Travis E., Beeg Sebastian, Skorupska Katarzyna, Carbonio Emilia A., Sezen Hikmet, Amati Matteo, Gregoratti Luca, Willinger Marc-George, Knop-Gericke Axel, Schlögl Robert, *Phase Coexistence of Multiple Copper Oxides on AgCu Catalysts during Ethylene Epoxidation*, ACS Catalysis, **8**, 2286-2295 (2018)

2018GDC N.P. Gibb, J. J. Dynes, W. Chang, *A recyclable adsorbent for salinized groundwater: Dual-adsorbent desalination and potassium-exchanged zeolite production*, Chemosphere **209**, 721-729 (2018)

2018GD& Y. Gong, W. Ding, . Li, Rui Su, X. Zhang, J. Wang, Jigang Zhou, Zhiwei Wang, Yihua Gao, Shaoqing Li, Pengfei Guan, Zidong Wei, and Chunwen Sun, *Inverse Spinel Cobalt−Iron Oxide and N-Doped Graphene Composite as an Efficient and Durable Bifuctional Catalyst for Li−O2 Batteries*, ACS Catal. **8**, 4082-4090 (2018)

2018GG& P. Genoni, F. Genuzio, T.O. Menteş, B. Santos, A. Sala, C. Lenardi, A. Locatelli;, *Magnetic patterning by electron beam assisted carbon lithography***,** ACS Applied Materials & Interfaces **10**, 27178–27187 (2018);

2018GJ& Geng, G., R.Jacob. Myers, Y.-S. Yu, D.A. Shapiro, R.P. Winarski, P.E. Levitz, D.L. Kilcoyne, and P.M. Monteiro, "*Synchrotron X-ray nanotomographic and spectromicroscopic study of the tricalcium aluminate hydration in the presence of gypsum*," Cement and Concrete Research **111**, 130-137 (2018)

2018GK&a Gianoncelli A., Kourousias G., Zweyer M., Ricci G., Pascolo L., *Recent achievements in reproductive medicine applications at the TwinMic soft spectromicroscopy beamline of Elettra* , Nuclear Instruments and Methods in Physics Research Section A :**936** 67-69 (2018)

2018GK&b F. Guzzi, G. Kourousias F. Billè, R. Pugliese, C. Reis, A. Gianoncelli and S. Carrato , *Refining scan positions in Ptychography through error minimisation and potential application of machine learning.* Journal of Instrumentation, **13** C06002 (2018)

2018GL& J. Geilhufe, A.F.G. Leontowich, J. Wang, R. Berg, C. Regier, D. Taylor, D. Beauregard, J. Swirsky, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Soft X-ray Spectrotomographic Microscopy at Cryogenic Temperatures,* XRM18 conference paper, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 258 (2018)

2018GM& G. Geng, R.J. Myers, Y.-S. Yu, D.A. Shapiro, R.P. Winarski, P.E. Levitz, D.L. Kilcoyne, and P.M. Monteiro, "*Synchrotron X-ray nanotomographic and spectromicroscopic study of the tricalcium aluminate hydration in the presence of gypsum*," Cement and Concrete Research **111**, 130-137 (2018)

2018GN Groopman, E.E., and L. Nittler, "*Correlated XANES, TEM, and NanoSIMS of Presolar Graphite Grains*," Geochimica et Cosmochimica Acta 221, 219-236 (2018)

2018GR& A. Gianoncelli, C. Rizzardi, Salomon Damien, Canzonieri Vincenzo, Pascolo Lorella , *Nano-imaging of environmental dust in human lung tissue by soft and hard X-ray fluorescence microscopy,* Spectrochimica Acta Part B: Atomic Spectroscopy**147** 71-78 (2018)

2018GS& A. Gal,Sorrentino, A.; Kahil, K.; Pereiro, E.; Faivre, D.; Scheffel, A. *Native-State Imaging of Calcifying and Noncalcifying Microalgae Reveals Similarities in Their Calcium Storage Organelles.* PNAS, 115 (43), 11000–11005 (2018) **HI**

2018GW&a Peter Guttmann, Stephan Werner, Stefan Rehbein , Catharina Häbel and Gerd Schneider, *First Results from the X-Ray Microscopy Beamline U41-PGM1-XM at BESSY II*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 202 (2018)

2018GW&b P. Guttmann , Stephan Werner , Frank Siewert , Andrey Sokolov , Jan-Simon Schmidt , Matthias Mast , Maria Brzhezinskaya , Christian Jung , Rolf Follath and Gerd Schneider, *The New HZB X-Ray Microscopy Beamline U41-PGM1-XM at BESSY II*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 204 (2018)

2018GZ& Ghidini, M., Zhu, B., Mansell, R., Pellicelli, R., Lesaine, A., Moya, X., Crossley, S., Nair, B., Maccherozzi, F., Barnes, C.H.W., Cowburn, R.P., Dhesi, S.S., Mathur, N.D. *Voltage control of magnetic single domains in Ni discs on ferroelectric BaTiO3*. J. Phys. D: Appl. Phys. 51, 224007 ,(2018).

2018H A.P. Hitchcock, *Influence of local environment on inner shell excitation spectra, studied by electron and X-ray spectroscopy and spectromicroscop*y, Zeitschrift für Physikalische Chemie **232,** 723-745 (2018)

2018HA& A. Haidl, K. Andrianov,T. Nisius, L. Lühl, A. Dehlinger, H. Dierks, R. Gnewkow, B. Kanngießer and T. Wilhein, *Fast X-ray detection using a CCD for application in a scanning transmission X-ray microscope*, J. Inst. **13** C06005 (2018)

2018HB& Hawkings, J. R., Benning, L. G., Raiswell, R., Kaulich, B., Araki, T., Abyaneh, M., Stockdale, A., Koch-Müller, M., Wadham, J. L., Tranter, M. *Biolabile ferrous iron bearing nanoparticles in glacial sediments* Earth And Planetary Science Letters **493**, 92 - 101, (2018)

2018HG& J. Hong, W.E. Gent, P. Xiao, K. Lim, D.-H. Seo, J. Wu, P.M. Csernica, C.J. Takacs, D. Nordlund, C.-J. Sun, K.H. Stone, D. Passarello, W. Yang, D. Prendergast, G. Ceder, M.F. Toney, and W.C. Chueh, "*Metal-oxygen decoordination stabilizes anion redox in Li-rich oxides*," Nat. Mater. **18**, 256-265 (2019) **HI**

2018HH& M. Hunault, Y. Harada, J. Miyawaki, J. Wang, A, Meijerink, Frank de Groot, Matti van Schooneveld, *Direct Observation of Cr3+ 3d States in Ruby: Towards Experimental Mechanistic Evidence of Metal Chemistry*, J. Phys. Chem. A **122** 4399-4413 (2018).

2018HL&a H. Hiraki, Na Liu , Jian Wang , Jarvis Stobbs , Chithra Karunakaran and Karen Tanino, *Soft X-ray Spectromicroscopy: A Versatile Tool to Probe Pristine Plant Cell Walls*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 356 (2018)

2018HL&b X. Hu, B. Lim, S.R. Torati, J. Ding, V. Novosad, M.-Y. Im, V.S. Reddy, K. Kim, E. Jung, A.I. Shawl, E. Kim, and C. Kim, "*Autonomous Magnetic Microrobots by Navigating Gates for Multiple Biomolecules Delivery*," Small **14**(25), 1800504 (2018).

2018HM&a N.P. Holmes, M. Marks, J.M. Cave, K. Feron, M.G. Barr, A. Fahy, A. Sharma, X. Pan, D.A.L. Kilcoyne, X. Zhou, D.A. Lewis, M.R. Andersson, J. Van Stam, A.B. Walker, E. Moons, W.J. Belcher, and P.C. Dastoor, "*Engineering Two-Phase and Three-Phase Microstructures from Water-Based Dispersions of Nanoparticles for Eco-Friendly Polymer Solar Cell Applications*," Chemistry of Materials **30**, 6521-6531 (2018).

2018HM&b Hazi, J., Mousavi, T., Dudin, P., van der Laan, G., Maccherozzi, F., Krzton-Maziopa, A., Pomjakushina, E., Conder, K., Speller, S.C., Magnetic imaging of antiferromagnetic and superconducting phases in RbxFe2−ySe2 crystals. Phys. Rev. B **97**, 054509 (2018)

2018HN& C.L. Hoffman, S.L. Nicholas, D.C. Ohnemus, J.N. Fitzsimmons, R.M. Sherrell, C.R. German, M.Iris. Heller, J.-m. Lee, P.J. Lam, and B.M. Toner, "*Near-field iron and carbon chemistry of non-buoyant hydrothermal plume particles, Southern East Pacific Rise 15°S*," Marine Chemistry **201**, 183-197 (2018)

2018HP& M. Huttula, M. Patanen , Riikka Piispanen , Takuji Ohigashi , Nobuhiro Kosug , Sufal Swaraj Rachid Belkhou , Andrey Pranovich , Tuula Jyske , Petri Kilpeläinen, Anna Kärkönen , Risto Korpinen, Tapio Laaks , Sauli Valkonen and Pekka Saranpää , STXM *Chemical Mapping of Norway Spruce Knotwood Lignans*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 482 (2018)

2018HT& T. Harano , Tomohito Tanaka, Yasuo Takeichi , Reiko Murao and Masao Kimura, *Chemical State Mapping of Carbon in Tempered Martensite by Scanning Transmission X-ray Microscopy,* Proc. 14th Int. conf. X-ray Microscopy, (post deadline paper)

2018HW&a A. Haid, Urs Wiesemann , Konstantin Andrianov , Lars Lühl , Thomas Nisius , Aurélie Dehlinger , Hanna Dierks , Birgit Kanngießer and Thomas Wilhein, *A Portable Endstation for Analytical X-ray Microscopy Using Soft X-ray Synchrotron Radiation*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 230 (2018)

2018HW&b Hand, M., Wang, H., Maccherozzi, F., Apollonio, M., Zhu, J., Dhesi, S.S., Sawhney, K. *Quantitative investigation of linear arbitrary polarization in an APPLE-II undulator*. J Synchrotron Rad **25**, 378–384 (, 2018).

2018I Im, M.-Y., "*Stochastic nature of magnetic processes studied by full-field soft X-ray microscopy*," Current Applied Physics **18** 1174-1181 (2018).

2018JA& N. Jedrecy, N., Aghavnian, T., Moussy, J.B., Magnan, H, Stanescu, D., Portier, X., Arrio, M.A., Mocuta, C., Belkhou, R., Ohresser, P., Barbier, A. "*Cross-Correlation between Strain, Ferroelectricity, and Ferromagnetism in Epitaxial Multiferroic CoFe2O4/BaTiO3 Heterostructures*" ACS Applied Materials & Interfaces., **10**(33): 28003–28014. (2018).

2018JJ&a R. Juge, S.-G. Je, D. de Souza Chaves, S. Pizzini, L.D. Buda-Prejbeanu, L. Aballe, M. Foerster, A. Locatelli, T.O. Menteş, A. Sala, F. Maccherozzi, S.S. Dhesi, S. Auffret, G. Gaudin, J. Vogel, O. Boulle, *Magnetic skyrmions in confined geometries: Effect of the magnetic field and the disorder***,** Journal of Magnetism and Magnetic Materials **455**, 3-8 (2018)

2018JJ&b Je, S., M.-S. Jung, M.-Y. Im, and J.-I. Hong, "*Electric current control of creation and annihilation of sub-100 nm magnetic bubbles examined by full-field transmission soft X-ray microscopy*," Current Applied Physics (2018). (doi:10.1016/j.cap.2018.06.004)

2018IN& O. Ibraikulov, C. Ngov, Chávez, Patricia; Bulut, Ibrahim; Heinrich, Benoît; Boyron, Olivier; Gerasimov, Kirill L.; Ivanov, Dimitri A.; Swaraj, Sufal; Méry, Stéphane; Leclerc, Nicolas; Lévêque, Patrick; Heiser, Thomas","*Face-on orientation of fluorinated polymers conveyed by long alkyl chains: a prerequisite for high photovoltaic performance*, J. Mater. Chem. A **6** 12038-12045 (2018)

2018JR& Je, S., J.-C. Rojas-Sánchez, T.H. Pham, P. Vallobra, G. Malinowski, D. Lacour, T. Fache, M.-C. Cyrille, D.-Y. Kim, S.-B. Choe, M. Belmeguenai, M. Hehn, S. Mangin, G. Gaudin, and O. Boulle, "*Spin-orbit torque-induced switching in ferrimagnetic alloys: Experiments and modeling*," Applied Physics Letters **112**, 062401 (2018

2018JV& S.-G. Je,. P. Vallobra, T. Srivastava, J.-C. Rojas-Sánchez, T.H. Pham, M. Hehn, G. Malinowski, C. Baraduc, S. Auffret, G. Gaudin, S. Mangin, H. Béa, and O. Boulle, "*Creation of Magnetic Skyrmion Bubble Lattices by Ultrafast Laser in Ultrathin Films*," Nano Lett. **18**(11), 7362-7371 (2018).

2018JW&a J. Wang, J. Geilhufe, Y. Lu, J. Dynes, J. Zhou, R. Berg, A. F.G. Leontowich, I. Coulthard, J. Swirsky, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Soft X-ray Spectromicroscopy at the Canadian Light Source,* Microscopy & Microanalysis **24** 228-229 (2018).

2018JW&b T.E. Jones, R. Wyrwich, S. Böcklein, E.A. Carbonio, M.T. Greiner, A.Yu. Klyushin, W. Moritz, A. Locatelli, T.O. Menteş, M.A. Niño, A. Knop-Gericke, R. Schlögl, S. Günther, J. Wintterlin, and S. Piccinin ,*The Selective Species in Ethylene Epoxidation on Silver***,** ACS Catal. **8**(5), 3844–3852 (2018).

2018KA&a A. Khondker, R.J. Alsop, S. Himbert, J. Tang, A.-C. Shi, A.P. Hitchcock and M.C. Rheinstädter, *Effects of membrane-modulating drugs on size of amyloid-β_{25-35} aggregates in anionic2unsaturated lipid membranes*, Scientific Reports **8** 12367-1-16, (2018) **HI**

2018KA&b A. Khodabandeh, R.D. Arrua, B.R. Coad, T. Rodemann, T. Ohigashi, N. Kosugi, S.C. Thickett and E. Hilder, *"Morphology control in polymerized high internal phase emulsion templated via macro-RAFT agent composition: Visualizing surface chemistry",* Polymer Chemistry, **9**, 213-220 (2018).

2018KB&a R.M. Kirpes, A.L. Bondy, D.Joseph. Bonanno, R.C. Moffet, B. Wang, A. Laskin, A.P. Ault, and K.A. Pratt, "*Secondary sulfate is internally mixed with sea spray aerosol and organic aerosol in the winter Arctic*," Atmospheric Chemistry and Physics **18**, 3937-3949 (2018)

2018KB&b G. Kourousias, B. Bozzini. MWM Jones Michael W. M., Van Riessen Grant A., Dal Zilio Simone, Billè Fulvio, Kiskinova Maya, A. Gianoncelli, *Monitoring dynamic electrochemical processes with in situ ptychography,* Applied Nanoscience (Switzerland), **8,** 627-636 (2018)

2018KC& Y.-H.Ku, Lo-Yueh Chang, Hung-Wei Shiu, Yen-Chien Kuo , Shangjr Gwo , Chi-Liang Chen , and Chia-Hao Chen, *Layer-number-dependent Optical and Electrical Properties of Graphene on ZnO*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 492 (2018)

2018KF& M. Kördel, Emelie Fogelqvist, Valentina Carannante , Björn Önfelt, Hemanth K. N. Reddy , Kenta Okamoto , Martin Svenda , Jonas A. Sellberg and Hans M. Hertz, *Biological Laboratory X-ray Microscopy*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 346 (2018)

2018KL&a S. Kalirai , Kipil Lim, Björn Enders , Jihyun Hong , William E. Gent , Abhas Deva , Edwin R. Garcia , Young-Sang Yu , Richard Celestre , Michael F. Toney , David A. Shapiro and William C. Chueh, *Understanding Chemomechanical Li-ion Cathode Degradation through Multi-Scale, Multi-Modal X-ray Spectromicroscopy,* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 426 (2018)

2018KL&b K.Kutukova , Zhongquan Liao , Stephan Werner , Peter Guttmann , Yvonne Standke , Jürgen Gluch , Gerd Schneider and Ehrenfried Zschech, *Combination of Soft X-Ray Microscopy with In-Situ Mechanical Testing to Image Crack Propagation in Microchips*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 438 (2018)

2018KL&c Kan, J.J., M.V. Lubarda, K.T. Chan, V. Uhlir, A. Scholl, V. Lomakin, and E.E. Fullerton, "*Periodic chiral magnetic domains in single-crystal nickel nanowires*," Physical Review Materials **2**, 064406 (2018).

2018KS& A.Kolmakov, Evgheni Strelcov, Hongxuan Guo et al, *Graphene windows enable photoelectron microscopies of liquid samples.* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 64 (2018)

2018KW S. Kumar and R.S. Williams, "*Separation of current density and electric field domains caused by nonlinear electronic instabilities*," Nature Communications **9**(1), 2030 (2018). **HI**

2018LA& L. Lühl , K. Andrianov , A. Haid2 , H. Dierks , A. Dehlinger , T. Wilhein and B. Kanngießer, *Scanning Transmission X-Ray Microscopy in the Soft Energy Range with Very Large Solid Angle of Detection for X-ray Fluorescence Imaging*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 84 (2018)

2018LB&a A.F.G. Leontowich, R. Berg, C.N. Regier, D.M. Taylor, J. Wang, D. Beauregard, J. Geilhufe, J. Swirsky, J. Wu, C. Karunakaran, A P. Hitchcock and S.G. Urquhart, *Cryo scanning transmission X-ray microscope optimized for spectrotomography*, Rev. Sci Inst **89**, 093704:1-14 (2018)

2018LB&b Y. Lai, S.E. Bone, S. Minasian, M.G. Ferrier, J. Lezama-Pacheco, V. Mocko, A.S. Ditter, S.A. Kozimor, G.T. Seidler, W.L. Nelson, Y.-C. Chiu, K. Huang, W. Potter, D. Graf, T.E. Albrecht-Schmitt, and R.E. Baumbach, *Ferromagnetic quantum critical point in CePd2P2 with Pd→Ni substitution*, Phys. Rev. B **97**, 224406:1-9 (2018)

2018LB&c S. Lutfalla, Pierre Barré, Sylvain Bernard, Corentin Le Guillou, Julien Alléon, and Claire Chenu, *Multidecadal persistence of organic matter in soils: investigations at the submicrometer scale*, Biogeosciences Discussions (**2018**) doi.org/10.5194/bg-2018-343

2018LC Li, Y., and W.C. Chueh, "*Electrochemical and Chemical Insertion for Energy Transformation and Switching*," Annu. Rev. Mater. Res. **48**(1), 137-165 (2018).

2018LCG Gang Liu, Liang Chen, and Yong Guan, T*hree Dimensional Imaging of Biological Samples and Nano-materials Using Soft X-ray Microscopy*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 392 (2018)

2018LC&a Zi-Jing Lin , Chih-Wei Chen , Chia-Chun Hsieh1 , Tsung-Wen Chen , Duan-Jen Wang , Su-Yu Chiang and Lee-Jene Lai , *Integration of Soft X-ray Tomography and High Resolution Fluorescence Microscopy*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 238 (2018)

2018LC&b Lao, Y., F. Caravelli, M. Sheikh, J. Sklenar, D. Gardeazabal, J.D. Watts, A.M. Albrecht, A. Scholl, K. Dahmen, C. Nisoli, and P. Schiffer, "*Classical topological order in the kinetics of artificial spin ice*," Nature Physics **14**, 723-727 (2018). **HI**

2018LC&c Li, Y., H. Chen, K. Lim, H.D. Deng, J. Lim, D. Fraggedakis, P.M. Attia, S.C. Lee, N. Jin, J. Moskon, Z. Guan, W.E. Gent, J. Hong, Y.-S. Yu, M. Gabercek, M.S. Islam, M.Z. Bazant, and W.C. Chueh, "*Fluid-enhanced surface diffusion controls intraparticle phase transformations*," Nature Materials **17**, 915-922 (2018) **HI**

2018LI& Pascolo Lorella, Venturin Irene, Gianoncelli Alessandra, Bortul Roberta, Zito Gabriella, Giolo Elena, Salomé Murielle, Bedolla Diana E., Altissimo Matteo, Zweyer Marina, Ricci Giuseppe , *Light element distribution in fresh and frozen–thawed human ovarian tissues: a preliminary study* Reproductive BioMedicine Online **37**, 153, (2018)

2018LJ& Laverock J., Jovic V., Zakharov A. A., Niu Y. R., Kittiwatanakul S., Westhenry B., Lu J. W., Wolf S. A., Smith K. E., *Observation of Weakened V-V Dimers in the Monoclinic Metallic Phase of Strained VO2*, Phys. Rev. Lett. **121** 256403 (2018). **HI**

2018LL& I. Lemesh K. Litzius, M. Böttcher, P. Bassirian, N. Kerber, D. Heinze, J. Zázvorka, F. Büttner, L. Caretta, M. Mann, M. Weigand, S. Finizio, J.M. Raabe, M.-Y. Im, H. Stoll, G. Schütz, B. Dupé, M. Kläui, and G.S. Beach, "*Current-Induced Skyrmion Generation through Morphological Thermal Transitions in Chiral Ferromagnetic Heterostructures,*" Adv. Mater. **30**(49), 1805461 (2018).

2018LM&a M. Lu, Yongzhi Mao, Jian Wang, Yongfeng Hu, and Jigang Zhou, *Surface heterogeneity in Li0.5CoO2 within a porous composite electrode*. Chemical Communications **54**, 8320-8323 (2018)

2018LM&b N. Lang-Yona, , S. Maier, D. Macholdt, I. Müller-Germann, P. Yordanova, E. Rodriguez-Caballero, K.P. Jochum, A. Al-Amri, M.O. Andreae, J. Fröhlich-Nowoisky, and B. Weber, *"Insights into microbial involvement in desert varnish formation retrieved from metagenomic analysis,"* Environ. Microbiol. Rep. **10**(3), 264-271 (2018).

2018LPM& J. Leduc, J.I. Pacold, D.K. Shuh, C.-L. Dong, and S. Mathur, "*Uranium Oxide Nanocrystals by Microwave-Assisted Thermal Decomposition: Electronic and Structural Properties*," Z. anorg. allg. Chem. **644**(1), 12-18 (2018).

2018LS&a M.W. Lin, Hung-Wei Shiu, Kuo-Chin Wang , Ming-Hsien Li, Yu-Ling Lai , Takuji Ohigashi , Nobuhiro Kosugi , Tzung-Fang Guo , Peter Chen and Yao-Jane Hsu, *Mapping Highly Efficient Mixed-cation Pseudohalide-perovskite Solar Cells with a Scanning Transmission X-ray Microscope*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 44 (2018)

2018LS&b J. Lubeck, Christian Seim , Aurélie Dehlinger , Andreas Haidl , Philipp Hönicke , Yves Kayser , Rainer Unterumsberger , Claudia Fleischmann and Burkhard Beckhof, *A Compact Vibration Reduced Set-up for Scanning nm-XRF and STXM*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 158 (2018)

2018LV& M. Langer , Carlos A. F. Vaz , Sabina Chiriotti, Anna Bergamaschi, Manuel Guizar-Sicairos ,Armin Kleibert and Jörg Raabe, *Development of a New Soft X-ray Ptychography Spectro-Microscope at the Swiss Light Source (SLS)*, 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 54 (2018)

2018LW& M. Lu, J. Wang, Hai-Tao Fang, Yongfeng Hu and Jigang Zhou, *Unexpected phase separation in Li1-xNi0.5Mn1.5O4 within a porous composite electrode*, Chem. Commun. **54**, 4152-4155 (2018)

2018LX& H.g Liu, Zijian Xu, Chunpeng Wang, Xulei Tao, Yong Wang and Renzhong Tai, *Soft X-ray Spectro-Ptychography for Air Pollution Particulates*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 394 (2018)

2018LX& R. Lo Conte, Z. Xiao, C. Chen, C.V. Stan, J.D. Gorchon, A. El-Ghazaly, M.E. Nowakowski, H. Sohn, A. Pattabi, A. Scholl, N. Tamura, A. Sepulveda, G.P. Carman, R. Candler, and J. Bokor, "*Influence of Nonuniform Micron-Scale Strain Distributions on the Electrical Reorientation of Magnetic Micro-Structures in a Composite Multiferroic Heterostructure,*" Nano Lett. **18**(3), 1952-1961 (2018).

2018LY&a L.-J. Lai , Gung-Chian Yin , Yi-Jr Su , Su-Yu Chiang , Duan-Jen Wang , Zi-Jing Lin , Chia-Chun Hsieh, Chih-Wei Chen, Liang-Jen Huang , Tsung-Wen Chen and Bo-Yi Chen, *Development of a Correlation of Soft X-Ray Tomography with Fluorescence Microscopy at Taiwan Photon Source*, P roc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 54 (2018)

2018LY&b Li, Q., M. Yang, C. Gong, R.V. Chopdekar, A.T. N'Diaye, J. Turner, G. Chen, A. Scholl, P. Shafer, E. Arenholz, A.K. Schmid, S. Wang, K. Liu, N. Gao, A.S. Admasu, S.-W. Cheong, C. Hwang, J. Li, F. Wang, X. Zhang, and Z. Qiu, "*Patterning-Induced Ferromagnetism of Fe_3GeTe_2 van der Waals Materials beyond Room Temperature,*" Nano Letters **18**, 5974-5980 (2018)

2018LY&c Li, W., L. Ye, S. Li, H. Yao, H.W. Ade, and J. Hou, "*A High-Efficiency Organic Solar Cell Enabled by the Strong Intramolecular Electron Push-Pull Effect of the Nonfullerene Acceptor*," Advanced Materials **30**, 1707170 (2018)

2018LY&d M-H. Li, H-H Yeh, U-S. Jeng, C-J. Su, H-W. Shiu, Y-J. Hsu, N. Kosugi, T. Ohigashi, Y-A. Chen, P-S. Shen, P. Chen, T-F. Guo, "*Highly Efficient 2D/3D Hybrid Perovskite Solar Cells via Low-Pressure Vapor-Assisted Solution Process"*, Advanced Materials, **30**, 1801401 (2018).

2018LZ& L. Le Nagard, X.H. Zhu, A.P. Hitchcock, D.A. Bazylinski, S. Swaraj, S. Stanescu and R. Belkhou, *How do Magnetotactic Bacteria Synthesize Magnetite ? – a Soft X-ray Spectroscopy, Spectromicroscopy and Magnetism Time Course Study*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 8 (2018)

2018MB&a Myers, C.E., K.D. Bergmann, C.-Y. Sun, N. Boekelheide, A.H. Knoll, and P.U. Gilbert, "*Exceptional preservation of organic matrix and shell microstructure in a Late Cretaceous Pinna fossil revealed by photoemission electron spectromicroscopy*," Geology **46**, 711-714 (2018)

2018MB&b Mino, L., Borfecchia, E., Segura-Ruiz, J., Giannini, C., Martinez-Criado, G., & Lamberti, C. *Materials characterization by synchrotron x-ray microprobes and nanoprobes.* Rev Modern Physics, **90**, 025007 (2018).

2018MC& D. Medas, I. Carlomagno, C. Meneghini, Aquilanti Giuliana, Araki Tohru, Bedolla Diana E., Buosi Carla, Casu Maria Antonietta, Gianoncelli Alessandra, Kuncser Andrei C., Adrian Maraloiu V., De Giudici Giovanni, *Zinc incorporation in marine bivalve shells grown in mine-polluted seabed sediments: a case study in the Malfidano mining area (SW Sardinia, Italy)*, Environmental Science and Pollution Research, **25** 36645-36660 (2018)

2018MH L.G.A.Melo and .P. Hitchcock, *Optimizing Soft X-ray Spectromicroscopy for Fuel Cell Studies: X-ray Damage of Ionomer,* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 376 (2018)

2018MH&a Mahmoud NN, Harfouche M, Alkilany, AM, Al-Bakri,AG, El-Qirem,RA, Shraim, SA and Khalil, EA, *Synchrotron-based X-ray fluorescence study of gold nanorods and skin elements distribution into excised human skin layers* Colloids And Surfaces B: Biointerfaces **165,**118-126 (2018)

2018MH&b L.G.A.Melo, A. P. Hitchcock, D. Susac, J. Stumper, V. Berejnov, *Polymer thin film thickness determination by ultraviolet spectral reflectance and soft X-ray microscopy*, Phys Chem. Chem. Phys, **20**, 16625 – 16640 (2018)

2018ML& Maccariello D, Legrand W, Reyren N, Garcia K, Bouzehouane K, Collin S, et al. *Electrical detection of single magnetic skyrmions in metallic multilayers at room temperature,* Nature Nanotechnology. **13,** 233-237 (2018). **HI**

2018MM& A. Mantuano, C.L. Mota, A. Pickler , G.Sena , D. Braz , C. Salata , C.E. de Almeida , F.N. Costa , R.C. Barroso , *Elemental distribution in ascending aortic after radiotherapy and chemotherapy by Low Energy X-rays,* Journal of Instrumentation, **13** C05011 (2018)

2018MP&a B. Ménez, V. Pasini, F. Guyot, K. Benzerara, S. Bernard, and D. Brunelli, "*Mineralizations and transition metal mobility driven by organic carbon during low-temperature serpentinization*," Lithos **323**, 262-276 (2018).

2018MP&b E. Malucelli, A. Procopio, M.Fratini, Gianoncelli Alessandra, Notargiacomo Andrea, Merolle Lucia, Sargenti Azzurra, Castiglioni Sara, Cappadone Concettina, Farruggia Giovanna, Lombardo Marco, Lagomarsino Stefano, Maier Jeanette A., Iotti Stefano, *Single cell versus large population analysis: cell variability in elemental intracellular concentration and distribution*, Analytical and Bioanalytical Chemistry, **410**, 337-348 (2018)

2018MR&a L. Merolle , M. Ragazzi , A. Gianoncelli , M. Altissimo , A. Ciarrocchi , D.E. Bedolla , C. Marraccini , R, *Mapping fundamental life elements in papillary thyroid carcinoma tissue,* J.Instrumentation, **13**, C05018 (2018)

2018MR&b M. Mattera, Rubio-Giménez, V., Delprat, S., Mattana, R., Seneor, P., Tatay, S., Forment-Aliaga, A., Coronado, E. "*Spontaneous growth of 2D coordination polymers on functionalized ferromagnetic surfaces*" Chemical Science., **9**(47): 8819-8828. (2018).

2018MSF M. Meyer, A. Späth and R.H. Fink, *Low Dose and Time Efficient Molar Fraction STXM Analysis for Binary Material Systems,* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 472 (2018)

2018MS&a L. Merolle. G. Sponder, A. Sargenti, L. Matrototaro, C. Cappadone, G. Farruggi, A. Procopio, E. Malucelli Emil, P. Parisse, A. Gianoncelli, J.R. Aschenbach M.Kolisek and S. Iotti ,*Overexpression of the mitochondrial Mg channel MRS2 increases total cellular Mg concentration and influences sensitivity to apoptosis,* Metallomics **10** 917 (2018)

2018MS&b A.P. Mehta, L. Supekova, J.-H. Chen, K. Pestonjamasp, P. Webster, Y. Ko, S.C. Henderson, G. McDermott, F. Supek, and P.G. Schultz, "*Engineering yeast endosymbionts as a step toward the evolution of mitochondria*," Proc. Natl. Acad. Sci. U.S.A. **115**(46), 11796-11801 (2018).

2018MS&c A. Müller, A., Swaraj, S., Sparnacci, K., Unger, W.E.S. "S*hell thickness determination for PTFE-PS core-shell nanoparticles using scanning transmission X-ray microscopy (STXM)"* Surface and Interface Analysis., 50(11): 1077-1082. (2018).

2018MT& S.A. Montoya, , R.D. Tolley, I. Gilbert, S.-G. Je, M.-Y. Im, and E.E. Fullerton, *"Spin-orbit torque induced dipole skyrmion motion at room temperature,"* Physical Review B **98**(10), 104432 (2018).

2018MW Meirer, F. & Weckhuysen, B. M. *Spatial and temporal exploration of heterogeneous catalysts with synchrotron radiation.* Nat. Rev. Mater. **3**, 324–340 (2018)

2018MZ& G.R. Morrison, Zhang F., Gianoncelli A., Robinson I. K. , *X-ray ptychography using randomized zone plates*, Opt. Express, **26,** 14915-14927 (2018)

2018NT& L. Nguyen, P.P. Tao, Liu Huimin, Al-Hada Mohamed, Amati Matteo, Sezen Hikmet, Gregoratti Luca, Tang Yu, House Stephen D., Tao Franklin Feng, *X-ray Photoelectron Spectroscopy Studies of Nanoparticles Dispersed in Static Liquid*, Langmuir, **34** , 9606-9616 (2018)

2018OHG Odstrčil, M.; Holler, M.; Guizar-Sicairos, M. *Arbitrary-Path Fly-Scan Ptychograph*y. Opt. Express, **26** (10), 12585–12593 (2018)

2018OI&a M. Obst, P. Ingino, A.P. Hitchcock, V. Prabu and A. Picard, *Redox-Chemistry of Environmental Biofilms Probed on the Submicron Scale by in-situ Electrochemistry Scanning Transmission (soft) X-ray Microscopy,* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 502 (2018)

2018OI&b T. Ohigashi, A. Ito, K. Shinohara, S. Toné, Y. Inagaki, H. Yuzawa and N. Kosugi, *"3-Dimensional Chemical Structures of an Isolated Cell Nucleus by a Scanning Transmission X-ray Microscope"*, Microscopy and Microanalysis, **24,** 400-401 (2018),

2018ORC Y. Olshansky, R. A. Root, and J. Chorover, *Wet–dry cycles impact DOM retention in subsurface soils*, Biogeosciences 15 (**2018**) 821-832.

2018OR& J.L. Ornelas , Benedikt Rösner , Andreas Späth a Rainer H. Fink, *STXM_deconv – a MATLAB Script for the Deconvolution of STXM Images*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 120 (2018)

2018OS& Östman, E., H. Stopfel, I.-A. Chioar, U.B. Arnalds, A. Stein, V. Kapaklis, and B. Hjörvarsson, "*Interaction modifiers in artificial spin ices*," Nature Physics **14**, 375-379 (2018).

2018P F. Pfeiffer, X-ray Ptychography, Nature Communications **12**, 9-17 (2018). **HI**

2018PA&a C. Poitry-Yamate, M. Abyaneh, T. Araki, M. Lepore, B. Kaulich and R. Gruetter, *Direct mapping of Krebs cycle activity in the male and female brain at subcellular resolution using soft x-ray fluorescence,* Microscopy And Microanalysis **24**, 346 - 347, (2018)

2018PA&b J.I. Pacold, A.B. Altman, K.B. Knight, K.S. Holliday, M. Kristo, S.G. Minasian, T. Tyliszczak, C.H. Booth and D.K. Shu, *Development of small particle speciation for nuclear forensics by soft X-ray scanning transmission spectromicroscopy*, Analyst, **143,** 1349-1357 (2018).

2018PA&c Petti D, Albisetti E, Sala G, Silvani R, Madami M, Tacchi S, et al. *Spin textures patterned via thermally assisted magnetic scanning probe lithography for magnonics,* In: Drouhin H-J, Wegrowe J-E, Razeghi M, Jaffrès H, eds. Spintronics XI. Vol. 10732. Proceedings of SPIE. Washington, USA: SPIE; 2018

2018PC& A. Parija, Y.-H. Choi, Z. Liu, J.L. Andrews, L.R. De Jesus, S. Fakra, M. Al-Hashimi, J.D. Batteas, D. Prendergast, and S. Banerjee, *"Mapping Catalytically Relevant Edge Electronic States of MoS_2*," ACS Central Science **4**(4), 493-503 (2018)

2018PF& Petersen, C.F., A. Farhan, S. Dhuey, Z. Chen, M.J. Alava, A. Scholl, and S. Van Dijken, "*Tuning magnetic ordering in a dipolar square-kite tessellation*," Applied Physics Letters **112**, 092403 (2018).

2018PG& E. Pascotto, A. Gianoncelli, C Calligaro, T. Marcuzzo, M. Melato, C. Rizzardi, L. Pascolo, *Ferruginous bodies resolved by synchrotron XRF in a dog with peritoneal malignant mesothelioma*, J.Synchrotron Radiation, **25**, 848-856 (2018)

2018PH& Pedreira-Segade, U., Hao, J., Razafitianamaharavo, A., Pelletier, M., Marry, V., Crom, S.L., Michot, L., Daniel, I., *How do Nucleotides Adsorb Onto Clays*? Life **8**, 59 (2018)

2018PJ& Peng, Z., X. Jiao, L. Ye, S. Li, J.J. Rech, W. You, J. Hou, and H.W. Ade, "*Measuring Temperature-Dependent Miscibility for Polymer Solar Cell Blends: An Easily Accessible Optical Method Reveals Complex Behavior*," Chemistry of Materials **30**, 3943-3951 (2018).

2018PN& I. Píš, S. Nappini, F. Bondino, T.O. Menteş, A. Sala, A. Locatelli, E. Magnano, *Fe intercalation under graphene and hexagonal boron nitride in-plane heterostructure on Pt(111)***,** Carbon **134**, 274-282 (2018);

2018PS Pelt, D.M., and J.A. Sethian, *"A mixed-scale dense convolutional neural network for image analysis*," Proc Natl Acad Sci USA **115**, 254-259 (2018)

2018PO& V. Prabu, M. Obst, H. Hosseinkhannazer, M. Reynolds, S. Rosendahl, J. Wang and A. P. Hitchcock, *Instrumentation for in-situ Flow Electrochemical Scanning Transmission X-ray Microscopy (STXM)* Rev. Sci Inst. **89**, 063702 (1-12) (2018),

2018PS D.M. Pelt, and J.A. Sethian, "*A mixed-scale dense convolutional neural network for image analysis,*" Proc. Natl. Acad. Sci. U.S.A. **115**(2), 254-259 (2018).

2018PS&a X. Pan, A. Sharma, D. Gedefaw, R. Kroon, A. Diaz de Zerio, N.P. Holmes, A.L. Kilcoyne, M. Barr, A. Fahy, M. Marks, X. Zhou, W.J. Belcher, P. Dastoor, and M.R. Andersson, "*Environmentally friendly preparation of nanoparticles for organic photovoltaics*," Organic Electronics **59**, 432-440 (2018).

2018PS&b S. Perera, S. Shokatian, Jian Wang, Stephen Urquhart, *Temperature Dependence in the NEXAFS Spectra of n-Alkanes*, J. Phys. Chem. A **122** 9512-9517, (2018).

2018PT J. Prietzel, J. Thieme, Sci. *Comparison of soil organic carbon speciation using C NEXAFS and CPMAS C-13 NMR spectroscopy*, Total Environment **628** 906 (2018).

2018RA& D. Roccella, M. Amati, H. Sezen, R. Brescia, L. Gregoratti, *Size contrast of Pt nanoparticles formed on neighboring domains within suspended and supported graphene*, Nano Research, **11** , 1589-1598 (2018)

2018RK&a Rösner B, Koch F, Döring F, Bosgra J, Guzenko VA, Kirk E, et al. *Exploiting atomic layer deposition for fabricating sub-10 nm X-ray lenses* Microelectronic Engineering. **191**, 91-96 (2018).

2018RK&b Rösner, B., Koch, F., Döring, F., Guzenko, V.A., Meyer, M., Ornelas, J.L., Späth, A., Fink, R.H., Stanescu, S., Swaraj, S., Belkhou, R., Watts, B., Raabe, J., David, C. "*7 nm Spatial Resolution in Soft X-ray Microscopy*" Microscopy and Microanalysis., **24**(S2) 270-271. (2018).

2018RR& Rodríguez-Rodríguez Á, Rebollar E, Ezquerra TA, Castillejo M, Garcia-Ramos JV, García-Gutiérrez M-C *Patterning conjugated polymers by laser: synergy of nanostructure formation in the all-polymer heterojunction P3HT/PCDTBT,* Langmuir. **34** 115-125 (2018).

2018RT&a O. Rouxel, B.M. Toner, Y. Germain, and B.T. Glazer, "*Geochemical and iron isotopic insights into hydrothermal iron oxyhydroxide deposit formation at Loihi Seamount,*" Geochim. Cosmochim. Acta **220**, 449-482 (2018).

2018RT&b Jan Rothhardt Getnet K Tadesse, Wilhelm Eschen and Jens Limpert, *Table-top nanoscale coherent imaging with XUV light,* J. Opt. **20**, 113001 (2018).

2018PV&a L. Pascolo, I. Venturin, A. Gianoncelli , M. Salomé , M. Altissimo , D.E. Bedolla , E. Giolo , M. Martinelli, *Morphological and chemical information in fresh and vitrified ovarian tissues revealed by X-rays,* J. Instrumentation, **13** C06003 (2018)

2018PV&b L. Pascolo, I. Venturin, A. Gianoncelli, Bortul Roberta, Zito Gabriella, Giolo Elena, Salomé Murielle, Bedolla Diana E., Altissimo Matteo, Zweyer Marina, Ricci Giuseppe, *Light element distribution in fresh and frozen–thawed human ovarian tissues: a preliminary study* Reproductive BioMedicine Online, **37,** 153-162 (2018)

2018RK&a B. Rösner, Koch, F., Döring, F., Guzenko, V.A., Meyer, M., Ornelas, J.L., Späth, A., Fink, R.H., Stanescu, S., Swaraj, S., Belkhou, R., Watts, B., Raabe, J., David, C. *"7 nm Spatial Resolution in Soft X-ray Microscopy"* Microscopy and Microanalysis., **24**(Suppl. 2): 270-271. (2018).

2018RK&b B. Rösner, B., Koch, F., Döring, F., Bosgra, J., Guzenko, V.A., Kirk, E., Meyer, M., Ornelas, J.L., Fink, R.H., Stanescu, S., Swaraj, S., Belkhou, R., Watts, B., Raabe, J., David, C. "*Exploiting atomic layer deposition for fabricating sub-10 nm X-ray lenses"* Microelectronic Engineering., **191**: 91-96. (2018).

2018RT&a O. Rouxel, B.M. Toner, Y. Germain, and B.T. Glazer, "G*eochemical and iron isotopic insights into hydrothermal iron oxyhydroxide deposit formation at Loihi Seamount,"* Geochim. Cosmochim. Acta **220**, 449-482 (2018).

2018RT&b Jan Rothhardt, Getnet K Tadesse, Wilhelm Eschen and Jens Limpert, T*able-top nanoscale coherent imaging with XUV light*, J. Opt. **20**, 113001 (2018)

2018RV& I. K. van Ravenhorst C. Vogt H.o Oosterbeek K. W. Bossers J. G. Moya-Cancino, A. P. van Bavel M. J. van der Eerden D.Vine FM. F. de Groot, F. Meirer B.M. Weckhuysen , *Capturing the Genesis of an Active Fischer–Tropsch Synthesis Catalyst with Operando X-ray Nanospectroscopy*, Ang. Chem. Int. ed. **57**, 11957-11962 (2018).

2018SA&a T.D. Sowers, .D Adhikari, J. Wang, Y. Yang, and D.L. Sparks, *Spatial Associations and Chemical Composition of Organic Carbon Sequestered in Fe, Ca, and Organic Carbon Ternary Systems*, Environ. Sci. Technol. **52** 6936–6944 (2018)

2018SA&b H. Sezen, M. Al-Hada, M. Amati, L. Gregoratti, *In situ chemical and morphological characterization of copper under near ambient reduction and oxidation conditions*, Surface and Interface Analysis, **50**, 921-926 (2018)

2018SB& A. Steele, L.G. Benning, R. Wirth, S. Siljeström, M.D. Fries, E. Hauri, P.G. Conrad, K. Rogers, J. Eigenbrode, A. Schreiber, A. Needham, J.H. Wang, F.M. McCubbin, D. Kilcoyne, and J.D. Rodriguez Blanco, "*Organic synthesis on Mars by electrochemical reduction of CO_2*," Science Advances **4**, eaat5118 (2018)

2018SC&a D.A. Shapiro, Richard Celestre , Bjoern Enders, John Joseph , Harinarayan Krishnan , Matthew A. Marcus , Kasra Nowrouzi1, Howard Padmore, Jungjin Park, Anthony Warwickand Young-Sang Yu, T*he COSMIC Imaging Beamline at the Advanced Light Source: a new facility for spectro-microscopy of nano-materials,* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 8 (2018)

2018SC&b H.W. Shiu,, Yen-Yi Chu, Lo-Yueh Chang , Singh Amol , Tolek Tyliszczak and Di-Jing Huang, *Quest for Soft X-ray Tomographic Ptychography using KB focusing Optic*s, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 58 (2018)

2018SC&c U.T. Sanli , Hakan Ceylan , Chengge Jiao , Margarita Baluktsian , Corinne Grevent, Kersten Hahn, Yi Wang , Vesna Srot , Gunther Richter , Iuliia Bykova, Markus Weigand Metin Sitti, Gisela Schütz and Kahraman Keskinbora , *New Concepts for 3D Optics in X-ray Microscopy*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 288 (2018)

2018SC&d M. Stavinoha, J. A. Cooley, . G. Minasian, T. M. McQueen, S.M. Kauzlarich, C.-L. Huang, and E. Morosan1, *Charge density wave behavior and order-disorder in the antiferromagnetic metallic series Eu(Ga1−xAlx)4*, Phys. Rev. B **97** 195146 (2018)

2018SD& M.C. Spink, Michele C. Darrow , Hannah Fisher , Alister Burt, Karen Marshall , Imanol Luengo , Maria Harkiolaki , Liz Duke, *Correlation of Cryo Soft X-ray Tomography with Cryo Fluorescence Microscopy Characterise Cellular Organelles at Beamline B2*4, Diamond Light Source, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 374 (2018)

2018SF& Sapozhnik, A.A., Filianina, M., Bodnar, S.Yu., Lamirand, A., Mawass, M.-A., Skourski, Y., Elmers, H.-J., Zabel, H., Kläui, M., Jourdan, M., *Direct imaging of antiferromagnetic domains in Mn_2Au manipulated by high magnetic fields*. Phys. Rev. B **97**, 134429 (2018).

2018SG&a J.W. Stuckey, C. Goodwin, . Wang, Louis A. Kaplan, Prian Vidal-Esquivel, Thomas P. Beebe Jr. and Donald L. Sparks, *Impacts of hydrous manganese oxide on the retention and lability of dissolved organic matter*, Geochem. Trans. **19** 6: 1-19 (2018)

2018SG&b Suszka AK, Gliga S, Warnicke P, Wintz S, Saha S, Charipar KM, et al. *Observation of the out-of-plane magnetization in a mesoscopic ferromagnetic structure superjacent to a superconductor,* Applied Physics Letters. **113**: 162601 (2018).

2018SH&a X. Shi, Marko Huttula , Vladimir Pankratov , Joanna Hoszowska , Jean-Claude Dousse , Faisal Zeeshan , Yuran Niu , Alexei Zakharov, Zhongjia Huang, Gang Wang , Sergei Posysaev , Olga Miroshnichenko , Matti Alatalo and Wei Cao, *Quantification of Bonded Ni Atoms for Ni-MoS2 Metallic Contact through X-ray Photoemission Electron Microscopy,* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 458 (2018)

2018SH&b Y. Suzuki, Hideitsu Hino , Tetsuro Ueno , Yasuo Takeichi , Masato Kotsugi and Kanta Ono, *Extraction of Physical Parameters from X-ray Spectromicroscopy Data Using Machine Learning*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 478 (2018)

2018SH&c T. Smolinsky. M., Homann, von Boehn Bernhard, Gregoratti Luca, Amati Matteo, Al-Hada Mohamed, Sezen Hikmet, Imbihl Ronald, *Chemical waves in the O2 + H2 reaction on a Rh(111) surface alloyed with nickel. II. Photoelectron spectroscopy and microscopy*, J. Chem. Phys. **148** , 154705 (2018).

2018SI& K. Shinohara, A. Ito, T. Ohigashi, M. Kado and S. Toné, *"Discrimination of DNA and RNA distribusion in a mammalian cell by scanning transmission soft X-ray microscopy"*, J. X-Ray Science and Technology, **26**, 877-884 (2018).

2018SKK Hyun-Joon Shin, Namdong Kim and Hee Seob Kim, S*canning Transmission X-Ray Microscope at the PLS: New Detection Modes*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 200 (2018)

2018SK&a H.-J. Shin, N. Kim, H.-S. Kim, W.-W. Lee, C.-S. Lee and B. Kim, *A scanning transmission X-ray microscope at the Pohang Light Source***,** J. Synchrotron Rad. **25**, 878-884 (2018).

2018SK&b R.N. Streubel, Kent, S. Dhuey, A. Scholl, S.D. Kevan, and P. Fischer, "*Spatial and Temporal Correlations of XY Macro Spins,*" Nano Lett. **18**(12), 7428-7434 (2018).

2018SK&c P. F. Schofield, A. J. King, J. F. W. Mosselmans, B. Kaulich, M. Abyaneh, T. Araki and S. S. Russell, *The Settings Of Aqueous Alteration In The Early Solar System: An X-Ray Spectromicroscopy Investigation Of The Murchison CM2 Chondrite*, 81st Annual Meeting of The Meteoritical Society Abstract, 6259 (2018)

2018SL& Streubel, R., C.-H. Lambert, N. Kent, P. Ercius, A.T. N'Diaye, C. Ophus, S. Salahuddin, and P. Fischer, "*Experimental Evidence of Chiral Ferrimagnetism in Amorphous GdCo Films*," Advanced Materials **30**(27), 1800199 (2018)

2018SM& A. Scholl, M.A. Marcus, A. Doran, J.R. Nasiatka, A.T. Young, A.A. MacDowell, R. Streubel, N. Kent, J. Feng, W. Wan, and H.A. Padmore, "*Hartmann characterization of the PEEM-3 aberration-corrected X-ray photoemission electron microscope*," Ultramicroscopy **188**, 77-84 (2018)

2018SO&a H. Stopfel, E. Östman, I.-A. Chioar, D. Greving, U.B. Arnalds, T.A. Hase, A. Stein, B. Hjörvarsson, and V. Kapaklis, "*Magnetic order and energy-scale hierarchy in artificial spin-ice structures*," Physical Review B **98**(1), 014435 (2018).

2018SO&b K. Shinohara, T. Ohigashi, S. Tone, M. Kado and A. Ito, "*Quantitative analysis of mammalian chromosome by scanning transmission soft X-ray microscopy*", Ultramicroscopy, **194**, 1-6 (2018).

2018SP&a Sugimoto T., Paris E., Wakita T., Terashima K., Yokoya T., Barinov A., Kajitani J., Higashinaka R., Matsuda T. D., Aoki Y., Mizokawa T., Saini N. L., *Metallic phase in stoichiometric CeOBiS2 revealed by space-resolved ARPES*, Scientific Reports, **8**, 2011 (2018) **HI**

2018SP&b X. Shi, S. Posysaev, Huttula Marko, Pankratov Vladimir, Hoszowska Joanna, Dousse Jean-Claude, Zeeshan Faisal, Niu Yuran, Zakharov Alexei, Li Taohai, Miroshnichenko Olga, Zhang Meng, Wang Xiao, Huang Zhongjia, Saukko Sami, Gonzalez Diego Lopez, van Dijken Sebastiaan, Alatalo Matti, Cao Wei, *Metallic Contact between MoS2 and Ni via Au Nanoglue*, Small **14**, 1704526 (2018).

2018SS&a S.R. Suranagi, S.R., R. Singh, J.-H. Kim, M. Kim, H. Ade, and K. Cho, "*Molecular engineering of perylene-diimide-based polymer acceptors containing heteroacene units for all-polymer solar cells*," Organic Electronics **58**, 222-230 (2018).

2018SS&b M. Staňo, Schaefer,S., Wartelle,A., Rioult,M., Belkhou,R., Sala,A., Menteş,T.O., Locatelli,A., Cagnon,L., Trapp,B., Bochmann, S., Martin,S., Gautier,E., Toussaint,J.C., Ensinger,W., Fruchart, O. "*Flux-closure domains in high aspect ratio electroless-deposited CoNiB nanotubes*" SciPost Physics., **5**, 038. (2018)

2018SS&c T. Susi. M. Scardamaglia, Mustonen Kimmo, Tripathi Mukesh, Mittelberger Andreas, Al-Hada Mohamed, Amati Matteo, Sezen Hikmet, Zeller Patrick, Larsen Ask H., Mangler Clemens, Meyer Jannik C., Gregoratti Luca, Bittencourt Carla, Kotakoski Jani, *Intrinsic core level photoemission of suspended monolayer graphene*, Phys. Rev. Materials **2,** 074005 (2018)

2018SV& A. Späth, Florian Vollnhals , Fan Tu , Kevin C. Prince , Robert Richter , Jörg Raabe , Hubertus Marbach and Rainer H. Fink, *Focused Soft X-Ray Beam Induced Deposition: Recent Advances to a Novel Approach for Fabrication of Metallic Nanostructures*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 114 (2018)

2018SW&a M.M. Shirolkar, Yu-Fu Wang, Yu Cheng Shao , Kuan-Hung Chen , Hsiao-Tsu Wang , Xian- Sheng Qiu , Jih-Sheng Yang , Jih-Jen Wu , Jau–Wern Chiou , Takuji Ohigashi , Nobuhiro Kosugi and Way-Faung Pong, *Probing the Electronic Structure of BiVO4 Coated ZnO Nanodendrite Core- Shell Nanocomposite Using X–ray Spectroscopic and Spatially Resolved Scanning Transmission X-ray Microscopy Studies*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 468 (2018)

2018SW&b C.A. Stifler, N.K. Wittig, M. Sassi, C.-Y. Sun, M.A. Marcus, H. Birkedal, E. Beniash, K.M. Rosso, and P.A. Gilbert, "*X-ray Linear Dichroism in Apatite*," J. American Chemical Society **140**, 11698–11704 (2018)

2018SW&c Sánchez-España, J., K. Wang, C. Falagán, I. Yusta, and W.D. Burgos, "*Microbially mediated aluminosilicate formation in acidic anaerobic environments: A cell-scale chemical perspective*," Geobiology **16**(1), 88-103 (2018).

2018SO& Stopfel, H., E. Östman, I.-A. Chioar, D. Greving, U.B. Arnalds, T.A. Hase, A. Stein, B. Hjörvarsson, and V. Kapaklis, "*Magnetic order and energy-scale hierarchy in artificial spin-ice structures*," Physical Review B **98**, 014435 (2018).

2018SZ& Y. Shi, A.A. Zakharov, Ivanov Ivan G., Yazdi G. Reza, Jokubavicius Valdas, Syvajarvi Mikael, Yakimova Rositsa, Sun Jianwu, *Elimination of step bunching in the growth of large-area monolayer and multilayer graphene on off-axis 3C-SiC (111),* Carbon **140,** 533-542 (2018).

2018TG& K. Thånell , Walan Grizolli , Konstantin Klementiev and Rami Sankari, *Optics and Coherence at the SoftiMAX Beamline*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 326 (2018)

2018TX& Tao, X.; Xu, Z.; Liu, H.; Wang, C.; Xing, Z.; Wang, Y.; Tai, R. *Spatially Correlated Coherent Diffractive Imaging Method*. Appl. Optics **57** 6527–6533 (2018) . https://doi.org/10.1364/AO.57.006527.

2018VB& V. Vinogradoff, V., Bernard, S., Le Guillou, C., Remusat, L. "*Evolution of interstellar organic compounds under asteroidal hydrothermal conditions"* Icarus., **305**: 358-370. (2018).

2018VC& D. Veghte, S. China, J. Weis, P. Lin, M.L. Hinks, L. Kovarik, S.A. Nizkorodov, M.K. Gilles, and A. Laskin, "Heating-Induced Transformations of Atmospheric Particles: Environmental Transmission Electron Microscopy Study," Analytical Chemistry **90**(16), 9761-9768 (2018).

2018VM& S. Vidovic, P. Medihala, J.J. Dynes, P. Daida, V. Vujanovic, A. P. Hitchcock, D. Shetty, H. Zhang, D.R. Brown, J.R. Lawrence and D. R. Korber *Importance of the RpoE Regulon in Maintaining the Lipid Bilayer during Antimicrobial Treatment with the Polycationic Agent, Chlorhexidine,* Proteomics **18,** 1700285 (2018)

2018VR& S. Vlaic, N. Rougemaille, A. Artaud, V. Renard, L. Huder, J.-L. Rouvière, A. Kimouche, B. Santos, A. Locatelli, V. Guisset, P. David, C. Chapelier, L. Magaud, B. Canals, and J. Coraux*; Graphene as a Mechanically Active, Deformable Two-Dimensional Surfactant***,** J. Phys. Chem. Lett. **9**, 2523–2531 (2018)

2018VV& I.K. van Ravenhorst, C. Vogt, H. Oosterbeek, K.W. Bossers, J.G. Moya-Cancino, A.P. van Bavel, A.M. van der Eerden, D. Vine, F.M. de Groot, F. Meirer, and B. Weckhuysen, "C*apturing the Genesis of an Active Fischer-Tropsch Synthesis Catalyst with Operando X-ray Nanospectroscopy,*" Angew. Chem. Int. Ed. **57**(37), 11957-11962 (2018).

2018Wa J. Wang, *Applications of Soft X-ray Spectromicroscopies to Lithium Ion Battery Analysis*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 416 (2018)

2018Wb B.M. Weckhuysen, *Advances in X-ray micro-Spectroscopy of Heterogeneous Catalysts*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 412 (2018)

2018WA& X. Wang, F. Ali Shah, B. Langelier, A. Korinek, M. Bugnet, A.P. Hitchcock, A. Palmquist and K. Grandfield, *Biomineralization at Titanium Revealed by Correlative 4D Tomographies and Spectroscopies*, Advanced Materials **18** 1800262 (1-9) (2018)

2018WB& A.J. Westphal, , A.L. Butterworth, J.A. Tomsick, and Z. Gainsforth, "*Measurement of the Oxidation State of Fe in the ISM Using X-Ray Absorption Spectroscop*y," The Astrophysical Journal **872**(1), 66 (2019).

2018WC L. Wang and C. Chen, *Uptake and Transformation of Nanomaterials in Biological Systems Studied by Synchrotron Radiation X-ray Techniques*., Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 340 (2018)

2018WF& B. Watts , Simone Finizio, Katharina Witte, Manuel Langer, Sina Mayr , Sebastian Wintz, Blagoj Sarafimov and Jörg Raabe*, Status of the PolLux STXM Beamline*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 476 (2018)

2018WG& J.Wang, J. Geilhufe, Y. Lu, J. Dynes, J. Zhou, R. Berg, A. F.G. Leontowich, I. Coulthard, J. Swirsky, C. Karunakaran, A.P. Hitchcock and S.G. Urquhart, *Soft X-ray Spectromicroscopy at the Canadian Light Source,* Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 228 (2018)

2018WM&a J. Wu, L.G.A. Melo, X.H. Zhu, M.M West, V.Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *4d imaging of polymer electrolyte membrane fuel cell catalyst layers by soft X-ray spectro-tomography,* Journal of Power Sources **381** 72-83 (2018)

2018WM&b Witte K, Mantouvalou I, Sánchez-De-Armas R, Lokstein H, Lebendig-Kuhla J, Jonas A, et al., *On the electronic structure of Cu chlorophyllin and its breakdown products: a carbon K-edge X-ray absorption spectroscopy study,* J. Physical Chemistry B. **122** , 1846-1851 (2018).

2018WP& B. Watts, N. Pilet, B. Sarafimov, K. Witte and J. Raabe, *Controlling optics contamination at the PolLux STXM*, J. Instrumentation **13**, C04001 (201

2018WR& Wadley, P., Reimers, S., Grzybowski, M.J., Andrews, C., Wang, M., Chauhan, J.S., Gallagher, B.L., Campion, R.P., Edmonds, K.W., Dhesi, S.S., Maccherozzi, F., Novak, V., Wunderlich, J., Jungwirth, T., *Current polarity-dependent manipulation of antiferromagnetic domains.* Nature Nanotechnology 13, 362–365 (2018). **HI**

2018WS&a Wu, Q., Soppa, K., Scherrer, N., Watts, B., Yokosawa, T., Bernard, L. Araki, T., Döbeli, M, Meyer, M, Spiecker, E. and Fink, R. *Investigation of the foil structure and corrosion mechanisms of modern Zwischgold using advanced analysis techniques* J. Cultural Heritage **31** 122-132 (2018)c2018WS&b Woo S, Song KM, Zhang X, Zhou Y, Ezawa M, Liu X, et al. *Current-driven dynamics and inhibition of the skyrmion Hall effect of ferrimagnetic skyrmions in GdFeCo films,* Nature Communications. **9,** 959 (2018). **HI**

2018WS&b Y.F. Wang, Y.C. Shao, S.H. Hsieh, Y.K. Chang, P.H. Yeh, H.C. Hsueh, J.W. Chiou, H.T. Wang, S.C. Ray, H.M. Tsai, C.W. Pao, C.H. Chen, H.J. Lin, J.F. Lee, C.T. Wu, J.J. Wu, Y.M. Chang, K. Asokan, K.H. Chae, T. Ohigashi, Y. Takagi, T. Yokoyama, N. Kosugi and W.F. Pong, "*Origin of Magnetic properties in carbon Implanted ZnO nanowires*", Scientific Report, **8**, 7758 (2018). **HI**

2018WS&c Woo S, Song KM, Zhang X, Ezawa M, Zhou Y, Liu X, et al. *Deterministic creation and deletion of a single magnetic skyrmion observed by direct time-resolved X-ray microscopy* , Nature Electronics. **1** 288-296 (2018). **HI**

2018WS&d Y.F. Wang, Y.C. Shao, S.H. Hsieh, Y.K. Chang, P.H. Yeh, H.C. Hsueh, J.W. Chiou, H.T. Wang, S.C. Ray, H.M. Tsai, C.W. Pao, C.H. Chen, H.J. Lin, J.F. Lee, C.T. Wu, J.J. Wu, Y.M. Chang, K. Asokan, K.H. Chae, T. Ohigashi, Y. Takagi, T. Yokoyama, N. Kosugi and W.F. Pong, "*Origin of Magnetic properties in carbon Implanted ZnO nanowires*", *Scientific Report*, **8**, 7758 (2018).

2018WS&e W. Wangm Y. Shi, Zakharov Alexei A., Syvajarvi Mikael, Yakimova Rositsa, Uhrberg Roger I. G., Sun Jianwu, *Flat-Band Electronic Structure and Interlayer Spacing Influence in Rhombohedral Four-Layer Graphene*, Nano Letters **18**, 5862-5866 (2018).

2018WX& C. Wang, Zijian Xu, Haigang Liu, Xulei Tao and Renzhong Tai, Proc. E*liminating Decoherence Effects and Improving Reconstructed Image Quality in Soft X-ray Ptychography* , Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 42 (2018)

2018WZ&a J. Wu, X.H. Zhu, M.M. West, T. Tyliszczak, H-W. Shiu, D. Shapiro,V. Berejnov, D. Susac, J. Stumper and A.P. Hitchcock, *High resolution imaging of polymer electrolyte membrane fuel cell cathode layers by soft X-ray spectro-ptychography***,** J. Phys. Chem. C **122** 11709–11719 (2018)

2018WZ&b J. Wu, X.H. Zhu, D.A. Shapiro, J.R.I. Lee, T. van Buuren, M.M. Biener, S.A Gammon, T.T Li, T.F. Baumann and A. P. Hitchcock, *4D imaging of ZnO coated alumina aerogels by scanning transmission X-ray microscopy and ptychographic tomography*, J. Phys.Chem. C **122** 25374–25385 (2018)

2018XC& Xie C, Classen A, Späth A, Tang X, Min J, Meyer M, et al. *Overcoming microstructural limitations in water processed organic solar cells by engineering customized nanoparticulate inks* Advanced Energy Materials. **8** 1702857 (2018).

2018XH& Xie C, Heumüller T, Gruber W, Tang X, Classen A, Schuldes I, et al., *Overcoming efficiency and stability limits in water-processing nanoparticular organic photovoltaics by minimizing microstructure defects* Nature Communications. **9** 5335, (2018) **HI**

2018XM& Xiao, Z., K.P. Mohanchandra, R. Lo Conte, C. Ty Karaba, J.D. Schneider, A. Chavez, S. Tiwari, H. Sohn, M.E. Nowakowski, A. Scholl, S. Tolbert, J. Bokor, G.P. Carman, and R. Candler, "*Enhanced magnetoelectric coupling in a composite multiferroic system via interposing a thin film polymer*," AIP Advances **8**, 055907 (2018).

2018XK& Xiao, Z., R. Khojah, M.S. Chooljian, R.L. Conte, J.D. Schneider, K. Fitzell, R.V. Chopdekar, Y. Wang, A. Scholl, J. Chang, G.P. Carman, J. Bokor, D. Di Carlo, and R. Candler, "*Cytocompatible magnetostrictive microstructures for nano- and microparticle manipulation on linear strain response piezoelectrics,*" Multifunct. Mater. **1**(1), 014004 (2018).

2018XM& Z. Xiao K.P. Mohanchandra, R. Lo Conte, C. Ty Karaba, J.D. Schneider, A. Chavez, S. Tiwari, H. Sohn, M.E. Nowakowski, A. Scholl, S. Tolbert, J. Bokor, G.P. Carman, and R. Candler, "*Enhanced magnetoelectric coupling in a composite multiferroic system via interposing a thin film polymer,*" AIP Advances **8**(5), 055907 (2018)

2018XT& Xie C, Tang X, Berlinghof M, Langner S, Chen S, Späth A, et al., *Robot-based high-throughput engineering of alcoholic polymer: fullerene nanoparticle inks for an eco-friendly processing of organic solar cells*, ACS Applied Materials and Interfaces. **10** 23225-23234 (2018).

2018YC&a Y-S Yu, R.Celestre , Bjoern Enders , Kasra Nowrouzi , Howard Padmore , Tony Warwick , Jong-Ryul Jeong and David A. Shapiro, *Nanoscale Visualization of Magnetic Contrasts with Soft X-ray SpectroPtychography at the Advanced Light Source*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 530 (2018)

2018YC&b H.F. Yang , Chen C., Wang H., Liu Z. K., Zhang T., Peng H., Schröter N. B. M., Ekahana S. A., Jiang J., Yang L. X., Kandyba V., Barinov A., Chen C. Y., Avila J., Asensio M. C., Peng H. L., Liu Z. F., Chen Y. L. *Single crystalline electronic structure and growth mechanism of aligned square graphene sheets,* APL Materials, **6** 036107 (2018)

2018YC&c L. Ye, L., B.A. Collins, X. Jiao, J. Zhao, H. Yan, and H.W. Ade, "*Miscibility-Function Relations in Organic Solar Cells: Significance of Optimal Miscibility in Relation to Percolation,*" Advanced Energy Materials, 1703058 (2018).

2018YF&a Y.-S. Yu, M. Farmand, C. Kim, Y. Liu, C.P. Grey, F.C. Strobridge, T. Tyliszczak, R. Celestre, P. Denes, J. Joseph, H. Krishnan, F.C. Maia, A.L. Kilcoyne, S. Marchesini, T.P. Leite, T. Warwick, H.A. Padmore, J. Cabana, and D.A. Shapiro, "*Three-dimensional localization of nanoscale battery reactions using soft X-ray tomography*," Nature Communications 9(1), 921 (2018) **HI**

2017YF&b S. Yao, Fan, J.; Chen, Z.; Zong, Y.; Zhang, J.; Sun, Z.; Zhang, L.; Tai, R.; Liu, Z.; Chen, C.; Jiang, H. *Three-Dimensional Ultrastructural Imaging Reveals the Nanoscale Architecture of Mammalian Cells. IUCrJ*, **5**, 141–149 (2018).

2018YH&a Z. Yan, R. Hayes, L.G.A, Melo, G.R. Goward, and A.P. Hitchcock, *Spectroscopic Analysis of Fluorinated Proton Conducting Materials: Comparing NMR and X-ray Absorption Spectroscopies*, Journal of Physical Chemistry C **122** 3233-3244 (2018)

2018YH&b L. Ye, H. Hu, M. Ghasemi, T. Wang, B.A. Collins, J.-H. Kim, K. Jiang, J.H. Carpenter, H. Li, Z. Li, T.R. McAfee, J. Zhao, X. Chen, J.L. Lai, T. Ma, J.-L. Bredas, H. Yan, and H.W. Ade, "*Quantitative relations between interaction parameter, miscibility and function in organic solar cells*," Nature Materials **17**, 253-260 (2018). **HI**

2018YL& Seong Uk Yu, Hwiwon Lee, Woo Jong Cho, Chulhyun Kim, Moon Cheol Kang, Hyun-Joon Shin, Namdong Kim, Sei Kwang Hahn and Kwang S. Kim, *Spectromicroscopic observation of a live single cell in a biocompatible liquid-enclosing graphene system*, Nanoscale, **10**, 150-157 (2018).

2018YSL Nai-Hsuan Yang, Yen-Fang Song, and Ru-Shi Liu, *In-Situ Transmission X-Ray Microscopy Probed by Synchrotron Radiation for Li-Ion Batteries,* Fronteirs in Energy Research, **6** 56, (2018)

2018YW J. Yang and Jian Wang, *Submicron Distribution and Association of Copper and Organic Carbon in A Contaminated Soil Using Scanning Transmission X-ray Microspectroscopy*, Proc. 14th Int. conf. X-ray Microscopy, Microsc. Microanal. **24**, 512 (2018)

2018YX& L. Ye, Y. Xiong, Q. Zhang, S. Li, C. Wang, Z. Jiang, J. Hou, W. You, and H.W. Ade, "*Surpassing 10% Efficiency Benchmark for Nonfullerene Organic Solar Cells by Scalable Coating in Air from Single Nonhalogenated Solvent*," Advanced Materials **30**, 1705485 (2018).

2018ZA& P. Zeller, M. Amati, Sezen Hikmet, Scardamaglia Mattia, Struzzi Claudia, Bittencourt Carla, Lantz Gabriel, Hajlaoui Mahdi, Papalazarou Evangelos, Marino Marsi, Fanetti Mattia, Ambrosini Stefano, Rubini Silvia, Gregoratti Luca, *Scanning Photoelectron Spectro-Microscopy: A Modern Tool for the Study of Materials at the Nanoscale*, Physica Status Solidi (A), **215**, 1800308 (2018)

2018ZF& Zeissler K, Finizio S, Shahbazi K, Massey J, Ma'Mari FA, Bracher DM, et al., *Discrete Hall resistivity contribution from Néel skyrmions in multilayer nanodiscs*, Nature Nanotechnology. **13** 1161-1166 (2018).

2018ZH& X.H. Zhu, A.P. Hitchcock, L. Le Nagard, D.A. Bazylinski, V. Morillo, F. Abreu, P. Leão and U. Lins, *X-ray Absorption Spectroscopy and Magnetism of Synthetic Greigite and Greigite Magnetosomes in Magnetotactic Bacteria,* Geomicrobiology Journal **35**, 215-226 (2018)

2018ZM& Zimmermann M, Meier TNG, Dirnberger F, Kákay A, Decker M, Wintz S, et al. *Origin and manipulation of stable vortex ground states in permalloy nanotubes,* Nano Letters. **18,** 2828-2834 (2018).

2018ZN& X. Zhao, S. Niketic, Chae-Ho Yim, Jigang Zhou, Jian Wang, Yaser Abu-Lebdeh, *Revealing the Role of Poly(vinylidenefluoride) (PVDF) Binder in Si/Graphite Composite Anode for Li-Ion Batteries*, ACS Omega **3**, 11684-11690 (2018)

2019AC&a V.Y. Aristov, A.N. Chaika, O.V. Molodtsova, S.V. Babenkov, Andrea Locatelli, T.O. Menteş, A. Sala, D. Potorochin, D. Marchenko, B. Murphy, B. Walls, K. Zhussupbekov, and I.V. Shvets, *Layer-by-Layer Graphene Growth on β-SiC/Si(001)*, ACS Nano **13**(1), 526–535 (2019)

2019AC&b Alpert PA, Corral Arroyo P, Dou J, Krieger UK, Steimer SS, Förster J-D, et al. *Visualizing reaction and diffusion in xanthan gum aerosol particles exposed to ozone*, Physical Chemistry Chemical Physics. **21** 20613-20627 (2019).

2019AB& Aprojanz Johannes, Bampoulis Pantelis, Zakharov Alexei A., Zandvliet Harold J. W., Tegenkamp Christoph, *Nanoscale imaging of electric pathways in epitaxial graphene nanoribbons*, Nano Research 1**2,** 1697-1702 (2019).

2019AE& M. Asano, V.F. Eseese, H. Shimada, K. Tamura and T. Ohigashi, "*Composition of Carbon Functional Group of Soil Organic Matter in Clay Size Fraction in Initial Forming Stage of Volcanic Ash Soil in Japan*", UVSOR Activity Report, **46**, (2019), 168.

2019AF&a J. Alleon, D.T. Flannery, N. Ferralis, Kenneth H. Williford, Yong Zhang, Jan A. Schuessler & Roger E. Summons, *Organo-mineral associations in chert of the 3.5 Ga Mount Ada Basalt raise questions about the origin of organic matter in Paleoarchean hydrothermally infuenced sediments*, Scientific Reports **9** 16712 (2019). **HI**

2019AF&b L. Aballe, M. Foerster, M. Cabrejo, J. Prat, P. Pittana, R. Sergo, M. Lucian, M. Barnaba, T. O. Menteş, A. Locatelli, *Pulse picking in synchrotron-based XPEEM*, Ultramicroscopy **202**, 10-17 (2019)

2019AG&a C. Arble, H. Guo, Hoskins Brian, Amati Matteo, Zeller Patrick, Gregoratti Luca, Kolmakov Andrei, *Radiation Damage on Liquid Electrolyte during Spatially Resolved Soft X-ray Photoemission Measurements*, Microscopy and Microanalysis, **25** - S2, 730-731 (2019)\

2019AG&b Allan, M., Grinter, D., Dhaliwall, S., Muryn, C., Forrest, T., Maccherozzi, F., Dhesi, S.S., Thornton, G., *Redox behaviour of a ceria–zirconia inverse model catalyst*. Surface Science **682**, 8–13 (2019).

2019AH& S. Alwani, Q.Y.n Hua, S. Iftikhar, Narayan P. Appathurai, Deborah Michel, Chithra Karunakaran, Ildiko Badea, *Lysine functionalized nanodiamonds as gene carriers - Investigation of internalization pathways and intracellular trafficking,* Diamond & Related Materials **98** 107477:1-9 (2019)

2019AK& D. Asakura, K. Akada, Y. Harada, H. Yuzawa, T. Ohigashi and E. Hosono, "*STXM Study of Nanowire Cathode Materials for Li-Ion Batteries*", UVSOR Activity Report, **46**, (2019), 70.

2019AL& M. G. Arredondo, C.R. Lawrence, Marjorie S. Schulz, Malak M. Tfaily, Ravi Kukkadapu, Morris E. Jones, Kristin Boye, Marco Keiluweit, *Root-driven weathering impacts on mineral-organic associations in deep soils over pedogenic time scales*, Geochimica et Cosmochimica Acta **263** 68-84 (2019)

2019AM& V. Aho, VE. Mäntylä, A.A. Ekman, S. Hakanen, S. Mattola, J.-H. Chen, V. Weinhardt, V. Ruokolainen, B. Sodeik, C.A. Larabell, and M. Vihinen-Ranta, "*Quantitative Microscopy Reveals Stepwise Alteration of Chromatin Structure during Herpesvirus Infection,*" Viruses **11**(10), 935 (2019).

2019AP& P. Ares, M. Pisarra, Segovia Pilar, Díaz Cristina, Martín Fernando, Michel Enrique G., Zamora Félix, Gómez-Navarro Cristina, Gómez-Herrero Julio, *Tunable Graphene Electronics with Local Ultrahigh Pressure*, Advanced Functional Materials, **29**, 1806715 (2019)

2019AS&a K. Akada, Takaaki Sudayama, Daisuke Asakura, Hirokazu Kitaura, ... Yoshihisa Harada, Operando *measurement of single crystalline $Li_4Ti_5O_{12}$ with octahedral-like morphology by microscopic X-ray photoelectron spectroscopy*, J. Electron Spectrosc.. **233**, 64-68 (2019)

2019AS&b M Albéric, CA Stifler, Z Zou, C-Y Sun, CE Killian, S Valencia Molina, M Mawass, F Kronast, L Bertinetti, PUPA Gilbert, Y Politi. *Growth and regrowth of adult sea urchin spines involves hydrated and anhydrous amorphous calcium carbonate precursors. J Struct Biol X* **1**, 100004 (2019).

2019AS&c N Akter, J Sadowski, C Zhou, J Zhong, M van Spronsen, Y Xu, X Tong, T Kim, S Tenney, *Morphology of Palladium Thin Film Deposited on a Two-Dimensional Bilayer Aluminosilicate*. Top Catal, **62**(12-16), 1067-1075 (2019)

2019BA& J. Bufon, M. Altissimo, G. Aquilanti, Bellutti P., Bertuccio G., Bille` Fulvio, Borghes Roberto, Borghi G., Cautero Giuseppe, Ciano Stefano, Cicuttin Andres, Cirrincione Daniela, Crespo Maria Liz, Fabiani Sergio, Ficorella F., Gandola M., Gianoncelli Alessandra, Giuressi Dario, Grisonich Riccardo, Kourousias Georgios, Mannatunga Kasun Sameera, Mele F., Menk Ralf Hendrik, Olivi Luca, Orzan Giulio, Picciotto A., Rachevski Alexandre, Rashevskaya I., Sammartini M., Schillani Stefano, Stolfa Andrea, Zampa Gianluigi, Zampa Nicola, Zorzi N., Vacchi Andrea, *Large solid angle and high detection efficiency multi-element silicon drift detectors (SDD) for synchrotron based x-ray spectroscopy,* AIP Conference Proceedings, **2054**, 060061 (2019).

2019BB& M. Barbi, P.R. Bell, F Fanti, J.J. Dynes, A. Kolaceke, J. Buttigieg, . J. Currie, *Integumentary structure and composition in an exceptionally well-preserved hadrosaur (Dinosauria: Ornithischia)*, PeerJ **7** e7875: 1-31 (2019).

2019BC& J. Bian, X. Cheng, Xiaoyi Meng, Jian Wang, Jigang Zhou, Shaoqing Li, Yuefei Zhang, and Chunwen Sun, *Nitrogen-Doped NiCo2O4 Microsphere as an Efficient Catalyst for Flexible Rechargeable Zinc−Air Batteries and Self-Charging Power System*, ACS Appl. Energy Mater. **2** 2296-2304 (2019)

2019BF&a C. Bäumer, C. Funck, A. Locatelli, T.O. Menteş, F. Genuzio, T. Heisig, F. Hensling, N. Raab, C. Schneider, S. Menzel, R. Waser, R. Dittman, *In-Gap States and Band-Like Transport in Memristive Devices*, Nano Lett. **19**, 54–60 (2019)

2019BF&b Bodnar, S.Yu., Filianina, M., Bommanaboyena, S.P., Forrest, T., Maccherozzi, F., Sapozhnik, A.A., Skourski, Y., Kläui, M., Jourdan, M., *Imaging of current induced N\'eel vector switching in antiferromagnetic* $MnAu_2$. Phys. Rev. B **99**, 140409 (2019).

2019BG& Baldrati, L., Gomonay, O., Ross, A., Filianina, M., Lebrun, R., Ramos, R., Leveille, C., Fuhrmann, F., Forrest, T.R., Maccherozzi, F., Valencia, S., Kronast, F., Saitoh, E., Sinova, J., Kläui, M., *Mechanism of Neel Order Switching in Antiferromagnetic Thin Films Revealed by Magnetotransport and Direct Imaging*. Phys. Rev. Lett. **123**, 177201 (2019). **HI**

2019BH&a A.D. Bang, I.G. Hallsteinsen, F.K. Olsen, S.D. Sloetjes, S.T. Retterer, A. Scholl, E. Arenholz, E. Folven, and J.K. Grepstad, "*Néel vector reorientation in ferromagnetic/antiferromagnetic complex oxide nanostructures,*" Appl. Phys. Lett. **114**(19), 192403 (2019).

2019BH&b Bang, A.D., I.G. Hallsteinsen, R.V. Chopdekar, F.K. Olsen, S.D. Sloetjes, K. Kjærnes, E. Arenholz, E. Folven, and J.K. Grepstad, "*Shape-imposed anisotropy in antiferromagnetic complex oxide nanostructures*," Appl. Phys. Lett. **115**(11), 112403 (2019).

2019BH&c S. Boeynaems, A.S. Holehouse, V. Weinhardt, D. Kovacs, J. Van Lindt, C.A. Larabell, L. Van Den Bosch, R. Das, P.S. Tompa, R.V. Pappu, and A.D. Gitler, "*Spontaneous driving forces give rise to protein-RNA condensates with coexisting phases and complex material properties*," Proc. Natl. Acad. Sci. U.S.A. **116**(16), 7889-7898 (2019) **HI**

2019BJ& Joe E. Baio, Cherno Jaye, Erin Sullivan, Mette H. Rasmussen, Daniel A. Fischer, Stanislav Gorb and Tobias Weidner, *NEXAFS imaging to characterize the physio-chemical composition of cuticle from African Flower Scarab Eudicella gralli,* Nature Comm. **10**, 4758 (2019). **HI**

2019BK S. Bohaichuk, S., and S. Kumar, "*Computing with device dynamics,*" in *Memristive Devices for Brain-Inspired Computing*, S. Spiga, A. Sebastian, D. Querlioz, B. Rajendran, (Elsevier New York, 2019).

2019BK& B. Bozzini, M. Kazemian, M. Kiskinova, G. Kourousias, C. Mele, A. Gianoncelli, *Operando soft X-ray microscope study of rechargeable Zn–air battery anodes in deep eutectic solvent electrolyte*, X-Ray Spectrometry, **48**, 527-535 (2019)

2019BK&b B. Bozzini, D. Kuscer, Amati Matteo, Gregoratti Luca, Zeller Patrick, Dobrovolska Tsvetina, Krastev Ivan, *Spatially Resolved XPS Characterization of Electrochemical Surfaces,* Surfaces, **2** , 295-314 (2019)

2019BM& L. Bombelli, M., Manotti, M. Altissimo, Kourousias George, Alberti Roberto, Gianoncelli Alessandra, *Towards on-the-fly X-ray fluorescence mapping in the soft X-ray regime*, X-Ray Spectrometry, **48**, 325-329 (2019)

2019BS&a J.Bian, R Su, Y. Yao, Jian Wang, Jigang Zhou, Fan Li, Zhong Lin Wang, and Chunwen Sun, *Mg Doped Perovskite LaNiO3 Nanofibers as an Efficient Bifunctional Catalyst for Rechargeable Zinc−Air Batteries*, ACS Appl. Energy Mater.**2** 923-931 (2019)

2019BS&b E Beniash, CA Stifler, C-Y Sun, GS Jung, Z Qin, MJ Buehler, PUPA Gilbert, *The hidden structure of human enamel*. Nature Communications **10**, 4383/1-13 (2019). **HI**

2019BW& J.F. Bryson, B.P. Weiss, B. Getzin, J.H. Abrahams, F. Nimmo, and A. Scholl, "*Paleomagnetic evidence for a partially differentiated ordinary chondrite parent asteroid,"* J.Geophyiscial Research: Planets **124**(7), 1880-1898 (2019).

2019CD& C. Carrière, P. Dillmann, E. Foy, D. Neff, J.J. Dynes, Y. Linard, N. Michau, C. Martin, *Use of nanoprobes to identify iron-silicates in a glass/iron/argillite system in deep geological disposal*, Corrosion Science **158** 108104:1-12 (2019).

2019CE& H. Chang, P. Enfedaque, J. Zhang, J. Reinhardt, B. Enders, Y.-S. Yu, D. Shapiro, C.G. Schroer, T. Zeng, and S. Marchesini, *"Advanced denoising for X-ray ptychography*," Optics Express **27**(8), 10395-10418 (2019).

2019CF& X.M. Chen, B. Farmer, J.S. Woods, S. Dhuey, W. Hu, C. Mazzoli, S.B. Wilkins, R.V. Chopdekar, A. Scholl, I.K. Robinson, L.E. De Long, S. Roy, and J.T. Hastings, "*Spontaneous Magnetic Superdomain Wall Fluctuations in an Artificial Antiferromagnet,*" Phys. Rev. Lett. **123**, 197202 (2019). **HI**

2019CH& C.H. Chuang, W.H. Hsu, I.S. Huang, W.F. Pong, T. Ohigashi, H. Yuzawa and N. Kosugi, "C*hemical amd Spatial Identification for Gas-Dependent Nanobubbles Sandwiched in Graphene Liquid Cells"*, UVSOR Activity Report, **46**, (2019), 75.

2019CL& N.P. Chongsiriwatana, J.S. Lin, R. Kapoor, M. Wetzler, J.C. Rea, M.K. Didwania, C.H. Contag, and A. Barron, "*Intracellular biomass flocculation as a key mechanism of rapid bacterial killing by cationic, amphipathic antimicrobial peptides and peptoids*," Scientific Reports **7**(1), 16718 (2017) **HI**

2019CN& J. Cosmidis, C.W. Nims, D.Diercks, A. S. Templeton, *Formation and stabilization of elemental sulfur through organomineralization*, Geochimica et Cosmochimica Acta **247** 59-82 (2019).

2019DD& R.D. Desautels, L. DeBeer-Schmitt, S.A. Montoya, J.A. Borchers, S.-G. Je, N. Tang, M.-Y. Im, M.R. Fitzsimmons, E.E. Fullerton, and D.A. Gilbert, *"Realization of ordered magnetic skyrmions in thin films at ambient conditions,"* Phys. Rev. Materials **3**(10), 104406 (2019).

2019DG& E. Dobrica, C. Le Guillou, A.J. Brearley, *Aqueous alteration of porous microchondrules in Semarkona: Implications for hydration, oxidation and elemental exchange processes*, Geochimica et Cosmochimica Acta **244** 292–307 (2019)

2019DT& F. del Prado, M. Taeño, Maestre David, Ramírez-Castellanos Julio, González-Calbet José M., Cremades Ana, *Effect of the synthesis method on the properties of lithium doped graphene oxide composites with tin oxide nanoparticles: Towards white luminescence*, J. Physics and Chemistry of Solids, **129**, 133-139 (2019)

2019EC&a P. Enfedaque, H. Chang, B. Enders, D. Shapiro, and S. Marchesini, "*High Performance Partial Coherent X-Ray Ptychography*," in *Lecture Notes in Computer Science*, (Springer Nature Basel, Switzerland, 2019) 46-59.[Proceedings of Computational Science ,Äì ICCS 2019, (Faro, Portugal, 2019)]. (doi:10.1007/978-3-030-22734-0_4)

2019EC&b A.A. Ekman , J.-H. Chen, V. Weinhardt, M. Do, G. McDermott, M.A. Gros, and C.A. Larabell, "Putting Molecules in the Picture: Using Correlated Light Microscopy and Soft X-Ray Tomography to Study Cells," in *Synchrotron Light Sources and Free-Electron Lasers*, Jaeschke E., Khan S., Schneider J., Hastings J., (Springer Basel, 2019).1-32

2019EK& T. Ejima, M Kado, T. Ohigashi and S. Tone, "*P-$L_{2,3}$ Absorption Spectra of Phosphates in Plasmid DNA and Cell Nucleus*", UVSOR Activity Report, **46**, (2019), 120.

2019FP& M. Fraund, T. Park, L. Yao, Daniel Bonanno, Don Q. Pham, and Ryan C. Moffet, *Quantitative capabilities of STXM to measure spatially resolved organic volume fractions of mixed organic/inorganic particle*, Atmos. Meas. Tech. **12** 1619-1633 (2019)

2019FS J. Feng, and A. Scholl, "Photoemission Electron Microscopy," in *Springer Handbook of Microscopy*, P.W. Hawkes, J.C.H. Spence, (Springer Nature Basel, 2019), 537-564.

2019FW& S. Finizio, S. Wintz, Zeissler K, Sadovnikov AV, Mayr S, Nikitov SA, et al. *Dynamic imaging of the Delay- and tilt-free motion of Néel domain walls in perpendicularly magnetized superlattices* Nano Letters. **19** 375-380 (2019).

2019FZ& Finizio S, Zeissler K, Wintz S, Mayr S, Weßels T, Huxtable AJ, et al. *Deterministic field-free skyrmion nucleation at a nanoengineered injector device,* Nano Letters. **19** 7246-7255 (2019).

2019GB& P.A. Gilbert, K.D. Bergmann, C.E. Myers, M.A. Marcus, R.T. DeVol, C.-Y. Sun, A.Z. Blonsky, E. Tamre, J. Zhao, E... Karan, N. Tamura, S. Lemer, A.J. Giuffre, G. Giribet, J.M. Eiler, and A.H. Knoll, *"Nacre tablet thickness records formation temperature in modern and fossil shells,*" Earth and Planetary Science Letter*s* **460**, 281-292 (2017)

2019GC& A. Gianoncelli, F. Cammisuli. M. Altissimo, Salomé Murielle, Radillo Oriano, Ricci Giuseppe, Giordani Silvia, Rizzardi Clara, Pascolo Lorella, *Iron-related toxicity effects of single-walled carbon nanotubes in human placental cells (BeWo) investigated by X-ray fluorescence microscopy*, X-Ray Spectrometry, **48**, 413-421 (2019)

2019GG& F. Genuzio, P. Genoni, T.O. Menteş, B. Santos, A. Sala, C. Lenardi, A. Locatelli, *Stimulated CO Dissociation and Surface Graphitization by Micro-Focused X-ray and Electron Beams*, J. Phys. Chem. C **123**(13), 8360-8369 (2019)

2019GH& M.J. Griffith, N.P. Holmes, D.C. Elkington, S. Cottam, J. Stamenkovic, A.L. Kilcoyne, and T.R. Andersen, "*Manipulating nanoscale structure to control functionality in printed organic photovoltaic, transistor and bioelectronic devices,*" Nanotechnology **31**(9), 092002 (2019).

2019GJ& N. Gao, , S.-G. Je, M.-Y. Im, J.W. Choi, M. Yang, Q. Li, T.Y. Wang, S. Lee, H.-S. Han, K.-S. Lee, W. Chao, C. Hwang, J. Li, and Z.Q. Qiu, *"Creation and annihilation of topological meron pairs in in-plane magnetized films,*" Nature Communications **10**(1), 5603 (2019). **HI**

2019GK& A. Gianoncelli, G. Kourousias, M. Zweyer, G. Ricci, L. Pascolo, *Recent achievements in reproductive medicine applications at the TwinMic soft spectromicroscopy beamline of Elettra*, NIM A, **936**, 67-69 (2019)

2019GL& J. Guo, and C.A. Larabell, "*Soft X-ray tomography: virtual sculptures from cell cultures*," Curr. Opin. Struct. Biol. **58**, 324-332 (2019).

2019GML F. Genuzio, T.O. Menteş, A. Locatelli, *Magnetization reversal and domain nucleation in ultra-thin Co/Re(0001) capped by graphitic C*, IEEE Transactions on Magnetics **55**(2), 1-4 (2019)

2019GM& Ghidini, M., Mansell, R., Maccherozzi, F., Moya, X., Phillips, L.C., Yan, W., Pesquera, D., Barnes, C.H.W., Cowburn, R.P., Hu, J.-M., Dhesi, S.S., Mathur, N.D., *Shear-strain-mediated magnetoelectric effects revealed by imaging*. Nature Materials **18**, 840–845 (2019). **HI**

2019GO& G. Germer, T. Ohigashi, H. Yuzawa, F. Rancan, A. Vogt and E. Rühl, "*Hyperspectral Imaging by Scanning Transmission X-ray Microscopy: Probing the Penetration of Rapamycin in Fixed Human Skin"*, UVSOR Activity Report, **46**, (2019), 165.

2019GP& P.A. Gilbert, P.A., S.M. Porter, C.-Y. Sun, S. Xiao, B.M. Gibson, N. Shenkar, and A.H. Knoll, "*Biomineralization by particle attachment in early animals*," Proc. Natl. Acad. Sci. U.S.A. **116**(36), 17659-17665 (2019).

2019HB& T. Hajiri, L. Baldrati, R. Lebrun, M. Filianina, A. Ross, N. Tanahashi, M. Kuroda, W. Gan, T.O. Menteş, F. Genuzio, A. Locatelli, H. Asano, M. Klaui, *Spin structure and spin Hall magnetoresistance of epitaxial thin lms of the insulating non-collinear antiferromagnet $SmFeO_3$*

2019HG& J. Hong, W.E. Gent, P. Xiao, K. Lim, D.-H. Seo, J. Wu, P.M. Csernica, C.J. Takacs, D. Nordlund, C.-J. Sun, K.H. Stone, D. Passarello, W. Yang, D. Prendergast, G. Ceder, M.F. Toney, and W.C. Chueh, "*Metal-oxygen decoordination stabilizes anion redox in Li-rich oxides*," Nature Materials, **18** 256-265 (2019). **HI**

2019HJ& P. He, J.S. Jarvis, Shijun Meng, Qingyin Li, Guy M. Bernard, Lijia Liu, Xiaohui Mao, Zhao Jiang, Hongbo Zeng, Vladimir K. Michaelis, Hua Song, *Co-aromatization of methane with propane over Zn/HZSM-5: The methane reaction pathway and the effect of Zn distribution*, Applied Catalysis B: Environmental **250** 9-111 (2019).

2019HL&a W.A. Hubbard, J.J. Lodico, B. Zutter, D. Shapiro, Y.H. Lo, A. Rana, D. Morrill, C. Gentry, H.L. Chan, and B.C. Regan, "*Total Electron Yield Mapping of Electronic Device Features via Measurement of X-Ray Beam-Induced Currents,*" Microscopy and Microanalysis **25**(S2), 256-257 (2019).

2019HL&b J. Hong, Q. Luo, D. Jung, S.-G. Je, Y. Kim, M.-Y. Im, C.-C. Hwang, S. Khizroev, S. Chung, and L. You, "*Shape transformation and self-alignment of Fe-based nanoparticles*," Nanoscale Adv. **1**(7), 2523-2528 (2019).

2019HO& Y. Harada, T. Ohdaira, K. Akada and T. Ohigashi, "*STXM Imaging of Water Surrounding Air Bubbles*", UVSOR Activity Report, **46**, (2019), 72.

2019HT Y. Higaki and A. Takahara, "*Heterogenuous Network Structure in Natural Rubber*", UVSOR Activity Report, **46**, (2019), 121.

2019HW& A.P. Hitchcock, X. Wang, K.Grandfield, J.Everett, J.F. Collingwood and N.D. Telling, *Correlative Spectromicroscopy and Tomography for Biomedical Applications involving Electron, Ion, and Soft X-ray Microscopies,* Microscopy Today **27**, 12-17 (2019) **cover**

2019ID& M.RM Izawa, J.J Dynes, N.R Banerjee, R.L Flemming, L.CW MacLean, C. J Hetherington, S. Matveev, G. Southam, *Organic matter preservation and incipient mineralization of microtubules in 120 Ma basaltic glass*, Front. Earth Sci. **7**, 149 (2019).

2019IH&a M.-Y. Im, H.-S. Han, M.-S. Jung, Y.-S. Yu, S. Lee, S. Yoon, W. Chao, P. Fischer, J.-I. Hong, and K.-S. Lee, "*Dynamics of the Bloch point in an asymmetric permalloy disk*," Nature Communications **10**(1), 593 (2019). **HI**

2019IH&b M.Y. Ismail, M. Huttula, M. Patanen, H. Liimitainen, T. Ohigashi, H. Yuzawa and N. Kosugi, "*In Depth Qualititative Structural Analysis of Nanocellulose Huybrid Materials*", UVSOR Activity Report, **46**, (2019), 74.

2019IN& M. Ito, R. Nakada, H. Suga, T. Ohigashi, Y. Kodama and H. Naraoka, *"Sulfur Map in Organics in Meteorites by STXM-XANES and NanoSIMS*", UVSOR Activity Report, **46**, (2019), 164.

2019IO& M. Igisu, T. Ohigashi, H. Yuzawa and T. Komiya, "STXM-XANES Analysis of Carbonaceous Matter in ~3.95 Billion-year-old Sedimentary Rocks", UVSOR Activity Report, **46**, (2019), 169

2019IP& M.Y. Ismail, M. Patanen, J.A. Sirviö, M. Visanko, T. Ohigashi, N. Kosugi, M. Huttula and H. Liimatainen, *"Hybrid films of cellulose nanofibrils, chitosan and nanosilica—Structural, thermal, optical, and mechanical properties"*, Carbohydrate Polymers, **218**, 87-94 (2019).

2019IS& A. Ito, K. Shinohara, H. Yuzawa and T. Ohigashi, "*Different Distribution of DNA and RNA in Chromosome Revealed by Spectromicroscopy with STXM*", UVSOR Activity Report, **46**, (2019), 155.

2019J C.J. Jacobsen, *X-ray Microscopy* (Cambridge University Press, 2019)

2019JG& M. Jugovac, F. Genuzio, E.G. Lazo, N. Stojic, G. Zamborlini, V. Feyer, T.O. Menteş, A. Locatelli, C.M. Schneider, *Role of carbon dissolution and recondensation in graphene epitaxial alignment on cobalt*, Carbon **152**, 489-496 (2019)

2019JJ& R. Juge, S.-G. Je, D. de Souza Chaves, L.D. Buda-Prejbeanu, J. Peña-Garcia, J. Nath, I.M. Miron, K.G. Rana, L. Aballe, M. Foerster, F. Genuzio, T.O. Menteş, A. Locatelli, F. Maccherozzi, S.S. Dhesi, M. Belmeguenai, Y. Roussigné, S. Auffret, S. Pizzini, G. Gaudin, J. Vogel, O. Boulle, *Current-Driven Skyrmion Motion and Drive-Dependent Skyrmion Hall Effect in an Ultrathin Film*, Phys. Rev. Applied **12**, 044007 (2019)

2019JV& P. Jacquemot, Viennet, J.C., Bernard, S., Le Guillou, C., Rigaud, B., Delbes, L., Georgelin, T., Jaber, M. "*The degradation of organic compounds impacts the crystallization of clay minerals and vice versa"* Scientific Reports., **9**, 20251. (2019). **HI**

2019KB&a R.M. Kirpes, D.J. Bonanno, N.W. May, M.W. Fraund, A.J. Barget, R.C. Moffet, A.P. Ault, and K.A. Pratt, "*Wintertime Arctic Sea Spray Aerosol Composition Controlled by Sea Ice Lead Microbiology*," ACS Cent Sci **5**(11), 1760-1767 (2019).

2019KB&b G. Kourousias, F. Billè, Cautero G., Bufon J., Rachevski A., Schillani S., Cirrincione D., Altissimo M., Menk R.H., Zampa G., Zampa N., Rashevskaya I., Borghes R., Gandola M., Picciotto A., Borghi G., Ficorella F., Zorzi N., Bellutti P., Bertuccio G., Vacchi A., Gianoncelli A, *XRF topography information: Simulations and data from a novel silicon drift detector system*, NIM A **936**, 80-81 (2019)

2019KC& Kane, A.M., R.V. Chopdekar, A.T. N'Diaye, A. Scholl, E. Arenholz, A. Mehta, and Y. Takamura, "*Decoupling exchange bias and coercivity enhancement in a perovskite oxide exchange spring bilaye*r," Phys. Rev. Materials **3**(1), 014413 (2019)

2019KE& Carlo Kleine, Maria Ekimova, Gildas Goldsztejn, Sebastian Raabe, Christian Strüber, Jan L□dwig, S□resh Yarlagadda, Stefan Eisebitt, Marc J. J. Vrakking, Thomas Elsaesser, Erik T. J. Nibbering, and Arna□d Ro□zé, *Soft X-ray Absorption Spectroscopy of Aqueous Solutions Using a Table-Top Femtosecond Soft X-ray Source* J.Phys.Chem Lett.**10**, 52-68 (2019)

2019KK&a K. Kiryu, Y. Kebukawa, T. Ohigashi and K. Kobayashi, "T*he Molecular Structure and Distribus\tions of Organic Matter Depending on the Lithologies of the Tagish Lake Meteorite Examined by C- and Fe-XANES*", UVSOR Activity Report, **46**, (2019), 167

2019KK&b Kim, S.; Kim, T.; Lee, Y.; Kim, J. H. *Soft X-Ray Study on Electronic Structure of Passive Oxide Layer of Carbon Steel and Low Alloy Steel in Flow-Accelerated Corrosion Environments of Pressurized Water Reactors*. Corrosion Science **159**, 108143 (2019).

2019KL& R.R. Kamal, J.J. Lin, G. Michailoudi, H. Yuzawa, T. Ohigashi and N.L. Prisle, "*Chemical Mapping of Individual Atomospheric Nanoparticles*", UVSOR Activity Report, **46**, (2019), 172.

2019KO&a Y. Kebukawa, K. Okudaira, H. Yabuta, S. Hasegawa, M. Tabata, Y. Furukawa, M. Ito, A. Nakato, A.L. Kilcoyne, K. Kobayashi, S.-i. Yokobori, E. Imai, Y. Kawaguchi, H. Yano, and A. Yamagishi, "S*TXM-XANES analyses of Murchison meteorite samples captured by aerogel after hypervelocity impacts: A potential implication of organic matter degradation for micrometeoroid collection experiments*," Geochemical Journal **53**, 53-67 (2019).

2019KO&b T. Komiya, T. Ohigashi, D. Shu, J.F.H. Cuthill and J. Han, "*STXM-XANES Analysis of Carbonaceous Matter of the Ediacara Biota-tuype Fossils from the Early Cambrian Chegjiang Section*", UVSOR Activity Report, **46**, (2019), 173.

2019KS&a N. Kent, R. Streubel, C.-H. Lambert, A. Ceballos, S.-G. Je, S. Dhuey, M.-Y. Im, F. Büttner, F. Hellman, S. Salahuddin, and P. Fischer, "*Generation and stability of structurally imprinted target skyrmions in magnetic multilayers*," Appl. Phys. Lett. 115(11), 112404 (2019).

2019KS&b I.A. Kowalik, N.G. Szwacki, M.Á. Niño, F.J. Luque and D. Arvanitis, *Stable antiferromagnetic nanocrystals for room temperature applications: the case of iron nitride*, J. Materials Chemistry C **7**, 9474-9480 (2019)

2019LA&a L., Luhl, Andrianov, K., Dierks, H., Haidl, A., Dehlinger, A., Heine, M., Heeren, J., Nisius, T., Wilhein, T. & Kanngiesser, B. *Scanning transmission X-ray microscopy with efficient X-ray fluorescence detection (STXM-XRF) for biomedical applications in the soft and tender energy range*, J. Synchrotron Rad. **26**, 430-438, (2019)

2019LA&b S.C. Leemann, P.h. Amstutz, M. Ehrlichman, T. Hellert, A. Hexemer, S. Liu, M.A. Marcus, C.N. Melton, H. Nishimura, G. Penn, F. Sannibale, D.A. Shapiro, C.-Y. Sun, D. Ushizima, and M. Venturini, "*First Attempts at Applying Machine Learning to ALS Storage Ring Stabilization*," in *Proc. IPAC'19*, (JACoW Publishing Geneva, Switzerland), pp.1631-1634 (2019)

2019LB& S. Lutfalla, P. Barré, S. Bernard, C. Le Guillou, . Alléon, and C. Chenu, *Multidecadal persistence of organic matter in soils: investigations at the submicrometer scale*, Biogeosciences **16,** 1401-1410 (2019)

2019LC&a Y.-D. Liou, Y.-Y. Chiu, R.T. Hart, C.-Y. Kuo, Y.-L. Huang, Y.-C. Wu, R.V. Chopdekar, H.-J. Liu, A. Tanaka, C.-T. Chen, C.-F. Chang, L.H. Tjeng, Y. Cao, V. Nagarajan, Y.-H. Chu, Y.-C. Chen, and J.-C. Yang, "*Deterministic optical control of room temperature multiferroicity in $BiFeO_3$ thin films*," Nat. Mater. **18**(6), 580-587 (2019). **HI**

2019LC&b Lough, A.J.M., Connelly, D.P., Homoky, W.B., Hawkes, J.A., Chavagnac, V., Castillo, A., Kazemian, M., Nakamura, K., Araki, T., Kaulich, B., Mills, R.A., *Diffuse Hydrothermal Venting: A Hidden Source of Iron to the Oceans*. Front. Mar. Sci. **6** , 329 (2019).

2019LC&c Y.R. Lu, C.H. Chuang, C.L. Dong, W.F. Pong, T. Ohigashi and N. Kosugi, *"Effect of Defect on Perovskite Hydroxide for Oxygen Evolution Reaction*", UVSOR Activity Report, **46**, (2019), 76.

2019LE& Lermyte F, Everett J, Brooks J, Bellingeri F, Billimoria K, Sadler PJ, *et al. Emerging approaches to investigate the influence of transition metals in the proteinopathies*, Cells. **8**, 1231 (2019)

2019LF& Link S., Forti S., Stoehr A., Kuester K., Roesner M., Hirschmeier D., Chen C., Avila J., Asensio M. C., Zakharov A. A., Wehling T. O., Lichtenstein A. I, Katsnelson M. I, Starke U., *Introducing strong correlation effects into graphene by gadolinium intercalation*, Phys. Rev B **100** 121407 (2019).

2019LG&a J. Li, G. Geng, W. Zhang, Y.-S. Yu, D.A. Shapiro, and P.M. Monteiro, "The Hydration of ?- and ?' H-Dicalcium Silicates: An X-ray Spectromicroscopic Study," ACS Sustainable Chemistry & Engineering **7**, 2316-2326 (2019)

2019LG&b Li, J., G. Geng, R. Myers, Y.-S. Yu, D. Shapiro, C. Carraro, R. Maboudian, and P.M. Monteiro, "*The chemistry and structure of calcium (alumino) silicate hydrate: A study by XANES, ptychographic imaging, and wide- and small-angle scattering,*" Cement and Concrete Research **115**, 367-378 (2019)

2019LH& Lough, A.J.M., Homoky, W.B., Connelly, D.P., Comer-Warner, S.A., Nakamura, K., Abyaneh, M.K., Kaulich, B., Mills, R.A., *Soluble iron conservation and colloidal iron dynamics in a hydrothermal plume*. Chemical Geology **511**, 225–237 (2019).

2019LL&a Qi Li, Xiangsi Liu, Xiang Han, Yuxuan Xiang, Guiming Zhong, Jian Wang, Bizhu Zheng, Jigang Zhou, Yong Yang, *Identification of the Solid Electrolyte Interface on Si/C Composite Anode with FEC as the additive*, ACS Applied Materials & Interfaces **11** 14066-14075. (2019)

2019LL&b Y.H. Lo, C.-T. Liao, J. Zhou, A. Rana, C.S. Bevis, G. Gui, B. Enders, K.M. Cannon, Y.-S. Yu, R. Celestre, K. Nowrouzi, D. Shapiro, H.C. Kapteyn, R.W. Falcone, C. Bennett, M.M. Murnane, and J. Miao, "*Multimodal x-ray and electron microscopy of the Allende meteorite*," Science Advances **5**(9), eaax3009 (2019).

2019LL&c C.-T. Liao, Y.H. Lo, J. Zhou, A. Rana, C.S. Bevis, G. Gui, B. Enders, K. Cannon, D. Shapiro, C. Bennett, H. Kapteyn, R. Falcone, J. Miao, and M. Murnane, *"SQUARREL: Scattering Quotient Analysis to Retrieve the Ratio of Elements in X-ray Ptychography,*" Microscopy and Microanalysis **25**(S2), 112-113 (2019).

2019LL&d S.C. Leemann, S. Liu, A. Hexemer, M.A. Marcus, C.N. Melton, H. Nishimura, and C.-Y. Sun, "*Demonstration of Machine Learning-Based Model-Independent Stabilization of Source Properties in Synchrotron Light Sources*," Phys. Rev. Lett. **123**, 194801 (2019). **HI**

2019LMG A. Laskin, R.C. Moffet, and M.K. Gilles, "*Chemical Imaging of Atmospheric Particles,*" Accounts of Chemical Research **52**(12), 3419-3431 (2019).

2019LP& J Li, J Pelliciari, C Mazzoli, S Catalano, F Simmons, J Sadowski, A Levitan, M Gibert, E Carlson, *Scale-invariant magnetic textures in the strongly correlated oxide NdNiO3.* Nat. Commun., **10**, 4568 (2019) **HI**

2019LS& Liati A, Schreiber D, Alpert PA, Liao Y, Brem BT, Corral Arroyo P, et al. *Aircraft soot from conventional fuels and biofuels during ground idle and climb-out conditions: electron microscopy and X-ray micro-spectroscopy,* Environmental Pollution. **247** 658-667 (2019).

2019LW& K. Lepot, K.H. Williford, P. Philippot, C. Thomazo, T. Ushikubo, K. Kitajima, S. Mostefaoui, J.W. Valley, *Extreme ^{13}C-depletions and organic sulfur content argue for S-fueled anaerobic methane oxidation in 2.72 Ga old stromatolites*, Geochimica et Cosmochimica Acta **244** 522-547 (2019)

2019LY& L. Le Nagard, L. Yu, M. Rajkotwala, S. Barkley, D.A. Bazylinski, A.P. Hitchcock and C. Fradin, *Misalignment between the magnetic dipole moment and the cell axis in the magnetotactic bacterium Magnetospirillum magneticum AMB-1*, Physical Biology, 16 066008 (2019)

2019LZ& Le Nagard, L., Zhu, X., Yuan, H., Benzerar, K., Bazylinski, D.A., Fradin, C., Besso, A., Swaraj, S., Stanescu, S., Belkhou, R., Hitchcock, A.P. "*Magnetite Magnetosome Biomineralization in Magnetospirillum magneticum strain AMB-1: a Time Course Study*" Chemical Geology., **530,** 119348 (2019).

2019MA& R.H. Menk, M. Antonelli, G. Brajnik G., Bufon J., Dri C., Giuressi D., Gubertini A., Nichetti C., Pinaroli G., Pittana P., Schillani S., Sergo R., Stebel L., Cautero G., *Detectors for present and future light sources at Elettra*, AIP Conference Proceedings, **2054**, 0600071, (2019).

2019MD& D. Medas, G. De Giudici, C. Puscedd, Casu Maria Antonietta, Birarda Giovanni, Vaccari Lisa, Gianoncelli Alessandra, Meneghini Carlo, *Impact of Zn excess on biomineralization processes in Juncus acutus grown in mine polluted sites*, J. Hazardous Materials, **370**, 98-107 (2019)

2019MF& D. Macholdt, J.-D. Förster, M. Müller, B. Weber, M. Kappl, A.L. Kilcoyne, M. Weigand, J. Leitner, K.P. Jochum, C. Pohlker, and M.O. Andreae, "*Artifacts from manganese reduction in rock samples prepared by focused ion beam (FIB) slicing for X-ray microspectroscopy*," Geosci. Instrum. Methods Data Syst. **8**(1), 97-111 (2019).

2019MG& I.P. Mikheenko, J. Gomez-Bolivar, M.I. Merroun, L.E. Macaskie, S. Sharma, M. Walker, R.A. Hand, B.M. Grail, D.B. Johnson, Orozco Rafael L., *Upconversion of Cellulosic Waste Into a Potential "Drop in Fuel" via Novel Catalyst Generated Using Desulfovibrio desulfuricans and a Consortium of Acidophilic Sulfidogens,* Frontiers in Microbiology **10**, 970 (2019)

2019MH L.G.A. Melo and A.P. Hitchcock, *Electron beam damage of perfluorosulfonic acid studied by soft X-ray spectromicroscopy*, Micron **121** 8-20 (2019).

2019MH& M. Marks, N.P. Holmes, A. Sharma, X. Pan, R. Chowdhury, M.G. Barr, C. Fenn, M.J. Griffith, K. Feron, A.L. Kilcoyne, D.A. Lewis, M.R. Andersson, W.J. Belcher, and P. Dastoor, *"Building intermixed donor-acceptor architectures for water-processable organic photovoltaics*," Phys. Chem. Chem. Phys. **21**(10), 5705-5715 (2019)

2019MK& T. Mefford, K. Karki, D.H. Alsem, D. Shapiro, N. Salmon, and W.C. Chueh, "*Operando Scanning Transmission X-ray Microscopy of $Co(OH)_2$ Oxygen Evolution Electrocatalysts,*" *Microscopy and Microanalysis* **25**(S2), 2094-2095 (2019).

2019MKS M Mroz, M Kordesch, J Sadowski, *Scandium function in "scandate" thermionic cathodes: A microspot synchrotron radiation x-ray photoelectron spectroscopy study of co-adsorbed Ba-Sc-O on W(100)*. J. Vac. Sci. Technol. A, **37**, 030602 (2019).

2019MM&a I. Martens, L.G.A. Melo, D. Wilkinson, D. Bizzotto and A.P. Hitchcock, *Characterization of X-ray Damage to Perfluorosulfonic acid Using Correlative Microscopy,* J. Phys.Chem. C**23** 16023-16033 (2019).

2019MM&b Mallick, S., Mondal, S., Seki, T., Sahoo, S., Forrest, T., Maccherozzi, F., Wen, Z., Barman, S., Barman, A., Takanashi, K., Bedanta, S., *Tunability of Domain Structure and Magnonic Spectra in Antidot Arrays of Heusler Alloy*. Phys. Rev. Applied **12**, 014043 (2019).

2019MM&c F. Matsui, S. Makita, H. Matsuda, T. Ohigashi, H. Yamane, and N. Kosugi.. *'Identification of Twinning-Induced Edges on the Cleaved Graphite Crystal Surface*'. J. Physical Society of Japan **88** 114704 (2019)

2019MN& K. Miyaji, T. Nakajima, Y. Sasaki, J. Preeyanuch and Y. Ikeda, "*Characterization of Two-phase Network Structure of Sulfur Cross-linked Isoprene Rubber*", UVSOR Activity Report, **46**, (2019), 77.

2019MP&a M. Fraund, T. Park, L. Yao, D. Bonanno, D. Q. Pham, and R. C. Moffet, *Quantitative capabilities of STXM to measure spatially resolved organic volume fractions of mixed organic/inorganic particle*, Atmos. Meas. Tech. **12** 1619-1633 (2019)

2019MP& Morley, S., J.M. Porro, A. Hrabec, M.C. Rosamond, D.A. Venero, E.H. Linfield, G. Burnell, M.-Y. Im, P. Fischer, S. Langridge, and C.H. Marrows, "Thermally and field-driven mobility of emergent magnetic charges in square artificial spin ice," Scientific Reports **9**(1), 15989 (2019). **HI**

2019MUF S. Mitsunobu, S. Urano and J. Fukudo, "*Study on the Mechanism of Microbial Wethering of Oceanc Crust by in situ Observation of the Basalt-cell Interface"*, UVSOR Activity Report, **46**, (2019), 171.

2019MV& R. Montanari, A.Varone, Gregoratti Luca, Kaciulis Saulius, Mezzi Alessio, *Lead-Bismuth Eutectic: Atomic and Micro-Scale Melt Evolution*, Materials, **12** , 3158 (2019)

2019MZ& L. Ma, X. Zhang, Zijian Xu, Andreas Späth, Zhenjiang Xing, Tianxiao Sun, Renzhong Tai, *Three-dimensional focal stack imaging in scanning transmission X-ray microscopy with an improved reconstruction algorithm*, Optics Express **27** 356232. (2019)

2019NE& C.O. Nichols, J.F. Einsle, M.-Y. Im, T. Kasama, Z. Saghi, P.A. Midgley, and R.J. Harrison, "*Field Response of Magnetic Vortices in Dusty Olivine From the Semarkona Chondrite,*" Geochem. Geophys. Geosyst. **20**(3), 1441-1453 (2019).

2019NS& L. Nittler, R.M. Stroud, J.M. Trigo-Rodríguez, B.T. De Gregorio, C.D. Alexander, J. Davidson, C.E. Moyano-Cambero, and S. Tanbakouei, "*A cometary building block in a primitive asteroidal meteorit*e," Nat. Astron. **3**(7), 659-666 (2019). **HI**

2019OB& K. Omari, T.J. Broomhall, R.W. Dawidek, D.A. Allwood, R.C. Bradley, J.M. Wood, P.W. Fry, M.C. Rosamond, E.H. Linfield, M.-Y. Im, P.J. Fischer, and T.J. Hayward, "*Toward Chirality-Encoded Domain Wall Logic*," Advanced Functional Materials **29**(10), 1807282 (2019).

2019OG& Osterhoff, M., Goeman, J., Salditt, T. & Köster, S. *STXM analysis: Preparing to go live @ 750 Hz*. AIP Conference Proceedings **2054**, 060075 (2019).

2019OO& Ohkochi T, Osawa H, Yamaguchi A, Fujiwara H, Oura M *Present status of photoemission electron microscope newly installed in SPring-8 for time-resolved nanospectroscopy.* Jpn. J. Appl. Phys. 58: 118001 (2019)

2019OY T. Ohigashi and H. Yuzawa, "*Development of a Secondary Electron Detector for a Scanning Transmission X-ray Mircoscope*", UVSOR Activity Report, **46**, 37 (2019).

2019OY& T. Ohigashi, H. Yuzawa, S. Toné, K. Shinohara and A. Ito, "*3-dimensional Spectroscopy of an Isolated Cell Nucleus by Using a Scanning Transmission X-ray Microscope"*, UVSOR Activity Report, **46**,170 (2019)

2019PC& A. Procopio, Cappadone C., Zaccheroni N., Malucelli E., Merolle L., Gianoncelli A., Sargenti A., Farruggia G., Palomba F., Rampazzo E., Rapino S., Prodi L., Iotti S., *Concentration and distribution of silica nanoparticles in colon cancer cells assessed by synchrotron based X-ray techniques*, Talanta, **202**, 251-258 (2019)

2019PD& D. Papineau, B.T. De Gregorio, J. Sagar, R. Thorogate, J. Wang, L. Nittler, D.A. Kilcoyne, H. Marbach, M. Drost, and G. Thornton, "*Fossil biomass preserved as graphitic carbon in a late Paleoproterozoic banded iron formation metamorphosed at more than 550C*," J. Geol. Soc. **176**(4), 651-668 (2019)

2019PG& A. Picard, A. Gartman, J. Cosmidis, M. Obst, C. Vidoudez, D.R. Clarke, and P.R. Girguis, "*Authigenic metastable iron sulfide minerals preserve microbial organic carbon in anoxic environments*," Chem. Geol. **530**, 119343 (2019).

2019PL& A. Pattammattel, V. J. Leppert, H. J. Formanc, P. A. O'Day, *Surface characterization and chemical speciation of adsorbed iron(III) on oxidized carbon nanoparticles*, Environ. Sci.: Processes Impacts **21** 548-563 (2019)

2019PM&a A. Pickler, A. Mantuano, Mota Carla L., Tanure Tayane, Serqueira Luanna, Ferreira-Machado Samara, Lau Cláudio S.C., Salata Camila, de Almeida Carlos E., Nascimento Alessandro, Sena Gabriela, Fidalgo Gabriel, Colaço Marcos V., Altissimo Matteo, Bedolla Diana E., Gianoncelli Alessandra, Braz Delson, Barroso Regina C., *Effects of angiotensin II receptor blockers in the coronary arteries of hypertensive rats: Analysis of elemental distribution using LEXRF*, X-Ray Spectrometry, **48**, 422-431 (2019)

2019PM&b A. Pickler , A. Mantuano , C.L. Mota , S. Ferreira-Machado , C.C. Laub , C.E. de Almeida , A. Nascimento , T. Tanure , L. Serqueira , G. Sena , G. Fidalgo , M. Colaço , D.E. Bedolla , A. Gianoncelli , D. Braz , R.C. Barroso, *Elemental distribution in the aortic arch using LEXRF: Side effects of angiotensin receptor blockers as antihypertensive treatment*, Microchemical Journal, **148**, 467-474 (2019)

2019PM&c A. Procopio, E. Malucelli, Pacureanu, A.; Cappadone, C.; Farruggia, G.; Sargenti, A.; Castiglioni, S.; Altamura, D.; Sorrentino, A.; Giannini, C.; Pereiro, E.; Cloetens, P.; Maier, J. A. M.; Iotti, S. *Chemical Fingerprint of Zn–Hydroxyapatite in the Early Stages of Osteogenic Differentiation*. *ACS Central Science*, **5** (8), 1449–1460 (2019).

2019PS& L. Pascolo, G. Sena, A. Gianoncelli et al., *Hard and soft X-ray imaging to resolve human ovarian cortical structures* J. Synchr Rad **26**, 132 - 1329 (2019)

2019PWU S. Perera, J. Wang, S.G. Urquhart, *Linear Dichroism in the NEXAFS Spectra of n-Alkane Crystalline Polymorphs*, J. Electron Spectroscopy and Related Phenomena **232** 5-10 (2019)

2019PY& M. Patanen, H. Yuzawa, T. Ohigashi, T. Mansikkala, I. Miinalainen, S.M. Kangas, A.E. Hiltunen, E.-V. Immonen, R. Hinttala, J. Uusimaa, N. Kosugi and M. Huttula, *"Ultrastructural Features in Mice Liver Samples Imaged Using STXM*", UVSOR Activity Report, **46**, (2019),166.

2019PZ& L. Pascolo, L. Zupin, A. Gianoncelli, Giolo Elena, Luppi Stefania, Martinelli Monica, De Rocco Daniela, Sala Simone, Crovella Sergio, Ricci Giuseppe, *XRF analyses reveal that capacitation procedures produce changes in magnesium and copper levels in human sperm,* NIM B **459**, 120-124 (2019)

2019RB&a B. Reeves, M.R. Beccia, P.L. Solari, D.E. Smiles, D.K. Shuh, C. Berthomieu, D. Marcellin, N. Bremond, L. Mangialajo, S. Pagnotta, M. Monfort, C. Moulin, and C. Den Auwer, "*Uranium Uptake in Paracentrotus lividus Sea Urchin, Accumulation and Speciation*," Environ. Sci. Technol. **53**(14), 7974-7983 (2019).

2019RB&b C. Rivard, Bakan, B., Boulogne, C., Elmorjani, K., Swaraj, S., Belkhou, R., Marion, D. *"Spatial distribution of starch, proteins and lipids in maize endosperm probed by scanning transmission X-ray microscopy*" Journal of Spectral Imaging., **8**, a21. (2019).

2019RE& Rullik Lisa, Evertsson Jonas, Johansson Niclas, Bertram Florian, Nilsson Jan-Olov, Zakharov Alexei A., Mikkelsen Anders, Lundgren Edvin, *Surface oxide development on aluminum alloy 6063 during heat treatment,* Surface And Interface Analysis **51,** 1214-1224 (2019).

2019RG&a M.S. Roth, S.D. Gallaher, D.J. Westcott, M. Iwai, K.B. Louie, M. Mueller, A. Walter, F. Foflonker, B.P. Bowen, N.N. Ataii, J. Song, J.-H. Chen, C. Blaby-Haas, C.A. Larabell, M. Auer, T. Northen, S.S. Merchant, and K.K. Niyogi, "*Regulation of Oxygenic Photosynthesis during Trophic Transitions in the Green Alga Chromochloris zofingiensis*," Plant Cell **31**(3), 579-601 (2019).

2019RG&b S. Raneri, A. Giannoncelli, E., Mascha, Toniolo Lucia, Roveri Marco, Lazzeri Andrea, Coltelli Maria Beatrice, Panariello Luca, Lezzerini Marco, Weber Johannes, *Inspecting adhesion and cohesion of protectives and consolidants in sandstones of architectural heritage by X-ray microscopy methods*, Materials Characterization, **156** , 109853, (2019)

2019RH& Ronchi, A., Homm, P., Menghini, M., Franceschini, P., Maccherozzi, F., Banfi, F., Ferrini, G., Cilento, F., Parmigiani, F., Dhesi, S.S., Fabrizio, M., Locquet, J.-P., Giannetti, C., Early-stage dynamics of metallic droplets embedded in the nanotextured Mott insulating phase of V_2O_3. Phys. Rev. B **100**, 075111 (2019).

2019RK& Rasmussen MK, Kardjilov N, Oliveira CLP, Watts B, Villanova J, Botosso VF, et al. *3D visualisation of hepatitis B vaccine in the oral delivery vehicle SBA-15* Scientific Reports. **9**, 6106 (2019). **HI**

2019RP&a A. Ribeiro Passos, Pulcinelli, S. H., Santilli, C. V., Briois, V. "*Operando monitoring of metal sites and coke evolution during non-oxidative and oxidative ethanol steam reforming over Ni and NiCu ex-hydrotalcite catalysts"* Catalysis Today., **336**: 122-130. (2019).

2019RP&b I.M. Rio-Echevarria, J. Ponti, A., Bogni,, Gilliland Douglas, Altissimo Matteo, Pascolo Lorella, Ceccone Giacomo, Gianoncelli Alessandra, *XRF mapping and TEM analysis of coated and uncoated silica nanoparticles in A549 cells and human monocytes*, X-Ray Spectrometry, **48** , 94-101 (2019)

2019RR& X. Rodiles, V. Reguero, Vila M., Alemán B., Arévalo L., Fresno F., O'Shea V. A. de la Peña, Vilatela J. J., *Carbon nanotube synthesis and spinning as macroscopic fibers assisted by the ceramic reactor tube*, Scientific Reports, **9** , 9239 (2019) **HI**

2019S Späth A, *Additive nano-lithography with focused soft X-rays: basics, challenges, and opportunities,* Micromachines. **10,** 834 (2019).

2019SB& C. Strullu-Derrien, S. Bernard, A.R.T. Spencer, L. Remusat, Paul Kenrick, Delphine Derrien, *On the structure and chemistry of fossils of the earliest woody plant*, Palaeontology **62** 1015-1026. (2019)

2019SD& M. Schöbitz, A. De Riz, S. Martin, S. Bochmann, C. Thirion, J. Vogel, M. Foerster, L. Aballe, T. O. Mentes, A. Locatelli, F. Genuzio, S. Le-Denmat, L. Cagnon, J. C. Toussaint, D. Gusakova, J. Bachmann, and O. Fruchart, *Fast domain walls governed by topology and OErsted fields in cylindrical magnetic nanowires*, Phys. Rev. Lett. 123, 217201 (2019). **HI**

2019SE& I. Sakon, I. Endo, H. Yabuta and T. Noguchi, "*Investigating the Effect of Space Exposure Experiment on Carbonaceous Dust Based on XANES/STXM Analysis*", UVSOR Activity Report, **46**, (2019), 161.

2019SF& J. Schaller, S. Faucherre, H. Joss, M. Obst, M. Goeckede, . Planer-Friedrich, S. Peiffer, B. Gilfedder, B. Elberling, *Silicon increases the phosphorus availability of Arctic soils*, Scientific Reports **9** 449:1-11 (2019) **HI**

2019SH&a M.D. Saccone, K.A. Hofhuis, Y.-L. Huang, S. Dhuey, Z. Chen, A. Scholl, R.V. Chopdekar, S. van Dijken, and A. Farhan, "*Dipolar Cairo lattice: Geometrical frustration and short-range correlations,*" Phys. Rev. Materials **3**(10), 104402 (2019).

2019SH&b T. D. Sowers, K.L. Holden, E.K. Coward, and D.L. Sparks, *Dissolved Organic Matter Sorption and Molecular Fractionation by Naturally Occurring Bacteriogenic Iron (Oxyhydr)oxides*, Environ. Sci. Technol. **53** 4295-4304 (2019).

2019SI& K. Shinohara, A. Ito, Takuji Ohigashi, M.a Kado, and . Toné '*Discrimination of DNA and RNA Distribution in a Mammalian Cell by Scanning Transmission Soft X-Ray Microscopy*'. J. X-Ray Science and Technology 877–84 (2018)

2019SK& K. Schweinar, O. Kasian, Nicholls Rachel L., Rajamathi Catherine R., Zeller Patrick, Amati Matteo, Gregoratti Luca, Raabe Dierk, Greiner Mark, Gault Baptiste, *An Integrated Workflow To Investigate Electrocatalytic Surfaces By Correlative X-ray Photoemission Spectroscopy, Scanning Photoemission Electron Microscopy and Atom Probe Tomography*, Microscopy and Microanalysis, **25 - S2**, 306-307 (2019)

2019SL&a Z. Shadike, H.S. Lee, C. Tian, Ke Sun, Liang Song, Enyuan Hu, Waluyo Iradwikanari, Adrian Hunt, Sanjit Ghose, Yongfeng Hu, Jigang Zhou, Jian Wang, Paul Northrup, Seong-Min Bak and Xiao-Qing Yang, *Synthesis and Characterization of a Molecularly Designed High Performance Organodisulfide as Cathode Material for Lithium Batteries*, Advanced Energy Materials 1900705:1-8. (2019)

2019SL&b H.W. Shiu, M.S. Li, L.C. Yu, Y.L. Lai, T. Ohigashi, N. Kosugi, P. Chen and Y.J. Hsu, "*STXM Studies on Vapor-assisted Quasi-2D Perovskite Solar Cells"*, UVSOR Activity Report, **46**, 73.(2019).

2019SM& D. Stanescu, Magnan, H., Sarpi, B., Rioult, M., Aghavnian, T., Moussy, J.B., Rountree, C.L., Barbier, A. "*s, Electroresistance and Electromigration in Epitaxial BaTiO3 - based Heterostructures: Role of Interfaces and Electric Poling*" ACS Applied Nano Materials., **2**(6): 3556-3569. (2019).

2019SN& K. Schweinar, R.L. Nicholls, Rajamathi Catherine, Zeller Patrick, Amati Matteo, Gregoratti Luca, Raabe Dierk, Greiner Mark, Gault Baptiste, Kasian Olga, *Probing catalytic surfaces by correlative scanning photoemission electron microscopy and atom probe tomography*, J. Materials Chemistry A, **8**, 388-400 (2019)

2019SS D.E. Smiles, and D.K. Shuh, "Soft X-ray Synchrotron Radiation Studies of Plutonium Materials," in *Plutonium Handbook*, D.L. Clark, D.A. Geeson and R.J. Hanrahan Jr, Vol. 6, (American Nuclear Society La Grange Park, 2019).

2019SS&a M.D.Saccone, A. Scholl, S. Velten, S. Dhuey, K.A. Hofhuis, C. Wuth, Y.-L. Huang, Z. Chen, R.V. Chopdekar, and A. Farhan, *"Towards artificial Ising spin glasses: Thermal ordering in randomized arrays of Ising-type nanomagnets,"* Physical Review B **99**(22), 224403 (2019).

2019SS&b M. Scardamaglia, C. Struzzi, Zakharov Alexei, Reckinger Nicolas, Zeller Patrick, Amati Matteo, Gregoratti Luca, *Highlighting the Dynamics of Graphene Protection toward the Oxidation of Copper Under Operando Conditions,* ACS Applied Materials and Interfaces, **11** ,29448-29457 (2019)

2019SS&c Sluka V, Schneider T, Gallardo RA, Kákay A, Weigand M, Warnatz T, et al. *Emission and propagation of 1D and 2D spin waves with nanoscale wavelengths in anisotropic spin textures,* Nature Nanotechnology. **14,** 328-333 (2019). **HI**

2019SS&d N. Shiraishi, H. Suga, M. Miyahara, T. Ohigashi, Y. Inagaki, A. Yamaguchi, N. Tomioka, Y. Kodama and E. Ohtani, "*Aqueous Alteration Scenario in Martigan Meteorite Based on Chemical Speciation*", UVSOR Activity Report, **46**, (2019), 163.

2019ST& K. Shinohara, S. Toné, T. Ejima, T. Ohigashi, A. Ito, "*Quantitative Distribution of DNA, RNA, Histone and Proteins Other than Histone in Mammalian Cells, Nuclei and a Chromosome at High Resolution Observed by Scanning Transmission Soft X-Ray Microscopy (STXM)*", Cells, **8**, (2019), 164. **HI**

2019SY&a Schmidt, J.E., X. Ye, I.K. van,ÄÖRavenhorst, R. Oord, D.A. Shapiro, Y. Yu, S.R. Bare, F. Meirer, J.D. Poplawsky, and B.M. Weckhuysen, "*Probing the Location and Speciation of Elements in Zeolites with Correlated Atom Probe Tomography and Scanning Transmission X-Ray Microscopy*," ChemCatChem **11**(1), 488-494 (2019)

2019SY&b C. Suzuki, T. Yaita, S. Suzuki, J. Pacold, A.B. Altman, S.G. Minasian, T. Tyliszczak, D.K. Shuh, H. Yoshida, and M. Osaka, "*Evaluation of electronic state of Cs-adsorbed clay minerals by NEXAFS analysis using DFT calculations,"* J. Physics and Chemistry of Solids **127**, 169-177 (2019).

2019SZ& Saha S, Zelent M, Finizio S, Mruczkiewicz M, Tacchi S, Suszka AK, et al. *Formation of Néel-type skyrmions in an antidot lattice with perpendicular magnetic anisotropy,* Physical Review B. **100,** 144435 (2019).

2019TKK T. Tamura, A. Kyono and I. Kinebuchi, "*Estimation of the Thickness of Fe(III)-oxides Layer near the Magnetite (111) Surface after Hydrothermal Treatment*", UVSOR Activity Report, **46**, (2019), 160.

2019UI&a M. Uesugi, M. Ito, H. Yabuta, M. Naraoka, F. Kitajima, Y. Takano, H. Mita, Y. Kebukawa, A. Nakato, Y. Karouji, *"Further characterizations of carbonaceous materials in Hayabusa-returned samples for understanding of their origin", Meteorit. Planet. Sci.*, **54**, 638-666 (2019).

2019UI&b M. Uesugi, M. Ito, K. Tomioka, Y. Kodama, T. Ohigashi, H. Yuzawa, K. Uesugi, A. Yamaguchi, N. Imae, Y. Karouji, N. Shirai, T. Yada and M. Abe, "*Investigation of Origin and Evolution of Organic Material inside the Extraterrestrial Material with a Series of in-situ Analyses: Construction of System for the Inter-facility Collaboration for the Analysis of Hayabusa2 Returned Sample*s", UVSOR Activity Report, **46**, (2019), 162.

2019UW& S. Ulas, J. Weippert, Malik Sharali, Strelnikov Dmitry, Kern Bastian, Amati Matteo, Gregoratti Luca, Kiskinova Maya, Böttcher Artur, *High-Temperature CsxC58 Fullerides,* Physica Status Solidi (B) **256** , 1800453 (2019)

2019UZ& M. Uceda, J. Zhou, J.Wang, R. Gauvin, K. Zaghib, G. P. Demopoulos, *Highly conductive NMP-free carbon-coated nano-lithium titanate/carbon composite electrodes via SBR-assisted electrophoretic deposition*, Electrochimica Acta **299** 107-115 (2019)

2019VB& J.C. Viennet, S. Bernard, Le Guillou, C., Jacquemot, P., Balan, E., Delbes, L., Rigaud, B., Georgelin, T., Jaber, M. "*Experimental clues for detecting biosignatures on Mars*" Geochemical Perspectives Letters., **12**,: 28-33. (2019).

2019WB& A.J. Westphal, A.L. Butterworth, J.A. Tomsick, and Z. Gainsforth, "*Measurement of the Oxidation State of Fe in the ISM Using X-Ray Absorption Spectroscopy*," The Astrophysical Journal **872**(1), 66 (2019).

2019WA& A.D. Walters,. K. Amoateng, R. Wang, J.-H. Chen, G. McDermott, C.A. Larabell, O. Gadal, and O. Cohen-Fix, "*Nuclear envelope expansion in budding yeast is independent of cell growth and does not determine nuclear volume*," Molecular Biology of the Cell **30**(1), 131-145 (2019).

2019WC& V. Weinhardt, J.-H. Chen, A.A. Ekman, G. McDermott, M.A. Le Gros, and C.A. Larabell, "*Imaging cell morphology and physiology using X-rays,*" Biochem. Soc. Trans. **47**(2), 489-508 (2019).

2019WL& J. White, A.E. Lawrence., Rowberg, L. Wan, S. Kang, T. Ogitsu, R.David. Kolasinski, J.A. Whaley, A. Baker, J.I. Lee, Y.-S. Liu, L.Esters. Trotochaud, J. Guo, V. Stavila, D. Prendergast, H. Bluhm, M. Allendorf, B.C. Wood, and F. El Gabaly, "*Identifying the Role of Dynamic Surface Hydroxides in the Dehydrogenation of Ti-doped NaAlH4*," ACS Applied Materials and Interfaces, acsami.8b17650 (2019)

2019WR& J.L White, A.E. Rowberg, L. Wan, S. Kang, T. Ogitsu, R.D. Kolasinski, J.A. Whaley, A. Baker, J.R. Lee, Y.-S. Liu, L.E. Trotochaud, J. Guo, V. Stavila, D. Prendergast, H. Bluhm, M. Allendorf, B.C. Wood, and F. El Gabaly, "*Identifying the Role of Dynamic Surface Hydroxides in the Dehydrogenation of Ti-doped $NaAlH_4$,*" ACS Applied Materials **11**, 4930-4941 (2019).

2019WT& A. Wartelle, B. Trapp, M. Staňo, C. Thirion, S. Bochmann, J. Bachmann, M. Foerster, L. Aballe, T. O. Menteş, A. Locatelli, A. Sala, L. Cagnon, J. -C. Toussaint, and O. Fruchart, *Bloch-point-mediated topological transformations of magnetic domain walls in cylindrical nanowires*, Phys. Rev. B **99**, 024433 (2019)

2019WU& J. Weippert, S. Ulas, Waldt Eugen, Amati Matteo, Gregoratti Luca, Kiskinova Maya, Böttcher Artur, *C68: A non-IPR fullerene capable of binding extraordinary amounts of Cs atoms,* Fullerenes Nanotubes and Carbon Nanostructures, **27**,. 206-214 (2019)

2019WY& M.J. Wang, F. Yu, G.Sun, Jian Wang, Jigang Zhou, Da-Ming Gu, Zhen-Bo Wang, *Co-regulating Surface and Bulk Structure of Li-Rich Layered Oxide by Phosphor Doping Strategy for High-Energy Li-Ion Battery*, J. Materials Chemistry A **7** 8302-8314 (2019).

2019XL&a Z. Xiao, R. Lo Conte, M. Goiriena, R.V. Chopdekar, X. Li, S. Tiwari, C.-H. Lambert, S. Salahuddin, G.P. Carman, K. Wang, J. Bokor, and R. Candler, *"Electric-field controlled magnetic reorientation in exchange coupled CoFeB/Ni bilayer microstructures*," J. Phys. Conf. Series **1407**, 012024 (2019).

2019XZ& Y. Xue, L.Zheng, J. Wang, J. Zhou, F.-D.a Yu, .-. Zhou, Z.-B. Wang, *Improving electrochemical performance of high-voltage spinel LiNi0.5Mn1.5O4 cathode by cobalt surface modification*, ACS Applied Energy Materials **2** 2982-2989 (2019)

2019XZ& Y. Xue, L.Zheng, J. Wang, Jigang Zhou, Fu-Da Yu, Guo-Jiang Zhou, Zhen-Bo Wang, *Improving electrochemical performance of high-voltage spinel LiNi0.5Mn1.5O4 cathode by cobalt surface modification*, ACS Applied Energy Materials **2** 2982-2989 (2019)

2019YA& Yazdi R, Akhtar F, Ivanov I, Schmidt S, Shtepliuk I, Zakharov AA, Iakimov T, Yakimova R, *Effect of epitaxial graphene morphology on adsorption of ambient species*, Applied Surface Science **486**, 239 (2019).

2019YJ& H.D.Yoo, J.R. Jokisaari, Y.-S. Yu, B.J. Kwon, L. Hu, S. Kim, S.-D. Han, M. Lopez, S.H. Lapidus, G. Nolis, B.J. Ingram, I. Bolotin, S. Ahmed, R.F. Klie, J.T. Vaughey, T.T. Fister, and J. Cabana, "*Intercalation of Magnesium into a Layered Vanadium Oxide with High Capacity*," ACS Energy Lett. **4**(7), 1528-1534 (2019).

2019YK& Yamamoto K, Klossek A, Fuchs K, Watts B, Raabe J, Flesch R, et al. *Soft X-ray microscopy for probing of topical tacrolimus delivery via micelles* European Journal of Pharmaceutics and Biopharmaceutics. **139** 68-75 (2019).

2019ZC& P.Zhang, Y.-P. Chen, .J.-H. Qiu, You-Zhi Dai, Bo Feng, *Imaging the Microprocesses in Biofilm Matrices*, Trends in Biotechnology **37**, 214-226 (2019)

2019ZH& Z. Zou, W.M. Habraken, G. Matveeva, A.S. Jensen, L. Bertinetti, M.A. Hood, C.-y. Sun, P.A. Gilbert, I. Polishchuk, B. Pokroy, J. Mahamid, Y. Politi, S. Weiner, P. Werner, S. Bette, R. Dinnebier, U. Kolb, E. Zolotoyabko, and P. Fratzl, "*A hydrated crystalline calcium carbonate phase: Calcium carbonate hemihydrate,*" Science **363**(6425), 396-400 (2019)

2019ZM&a W. Zhang, L Melo, A.P. Hitchcock and N.l Bassim, *Electron beam damage of epoxy resin film studied by scanning transmission X-ray spectromicroscopy*, Micron **120** 74-79 (2019)

2019ZM&b J. Zhao, K. Nowrouzi, R.S. Celestre, M.A. Marcus, Y.-S. Yu, and D.A. Shapiro, "*Correlative conventional scanning and ptychographic soft x-ray microscopy*," Proceedings of SPIE **11112**, 111120C (2019)

2019ZO& Y. Zhou, C.A. Orozco, E. Duque-Redondo, H. Manzano, G. Geng, P. Feng, P.M. Monteiro, and C. Miao, *"Modification of poly(ethylene glycol) on the microstructure and mechanical properties of calcium silicate hydrates*," Cement and Concrete Research **115**, 20-30 (2019).

2010ZV& AA Zakharov, Vinogradov NA, Aprojanz J, Nguyen TTN, Tegenkamp C, Struzzi C, Iakimov T, Yakimova R, Jokubavicius V, *Wafer Scale Growth and Characterization of Edge Specific Graphene Nanoribbons for Nanoelectronics,* ACS Applied Nano Materials 2 (2019) 156

2019ZW& C. Zhang, J. Wang, Yuanshi Li, Xiaoju Li, Cyril Koughia, Shi-Jie Wen, Rick Wong, Qiaoqin Yang, Safa Kasap, *VO2 microrods synthesized from V2O5 thin films*, Applied Surface Science **476** 259-264 (2019).

2020AD& Airaghi L, Dubacq B, Verlaguet A, Bourdelle F, Bellahsen N, Gloter A *From static alteration to mylonitization: a nano- to micrometric study of chloritization in granitoids with implications for equilibrium and percolation length scales* Contributions to Mineralogy and Petrology. **175,** 108 (2020).

2020AT& Albisetti E, Tacchi S, Silvani R, Scaramuzzi G, Finizio S, Wintz S, *et al.*, *Optically inspired nanomagnonics with nonreciprocal spin waves in synthetic antiferromagnets* Advanced Materials. **32,** 1906439 (2020)

2020AG&a M. Al-Hada, L. Gregoratti, M. Amati and M. Neeb, *Pristine and oxidised Ag-nanoparticles on free-standing graphene as explored by X-ray photoelectron and Auger spectroscopy*, Surface Science, **693** 121533 (2020)

2020AG&b C. Arble, H. Guo, Strelcov Evgheni, Hoskins Brian, Zeller Patrick, Amati Matteo, Gregoratti Luca, Kolmakov Andrei, *Radiation Damage of Liquid Electrolyte during Focused X-ray Beam Photoelectron Spectroscopy*, Surface Science, **697**, 121608 (2020)

2020AH& Al-Mudhaffer, M.F., N.P. Holmes, P. Kumar, M.G. Barr, S. Cottam, R. Crovador, T.W. Jones, R. Lim, X. Zhou, J. Holdsworth, W.J. Belcher, P.C. Dastoor, and M.J. Griffith, "*Relating nanoscale structure to optoelectronic functionality in multiphase donor-acceptor nanoparticles for printed electronics applications*," MRS Communications **10**(4), 600-608 (2020).

2020AL& Ait Oukaci, K., Lacour, D., Stoeffler, D., Sarpi, B., Montaigne, F., Belkhou, R., Hehn, M. "*Weak Stripe Angle Determination by Quantitative x-ray Magnetic Microscopy*" Physical Review Applied, **14**, 024083. (2020).

2020AR& Aprojanz J., Rosenzweig Ph, Nguyen T. T. Nhung, Karakachian H., Kuester K., Starke U., Lukosius M., Lippert G., Sinterhauf A., Wenderoth M., Zakharov A. A., Tegenkamp C., *High-Mobility Epitaxial Graphene on Ge/Si(100) Substrates*, Acs Appli. Mate. & Interf. **12**, 43065-4307 (2020).

2020AT& Albisetti E, Tacchi S, Silvani R, Scaramuzzi G, Finizio S, Wintz S, et al. *Optically inspired nanomagnonics with nonreciprocal spin waves in synthetic antiferromagnets,* Advanced Materials. **32** 1906439 (2020)

2020BA& Beheshti Askari, A., al Samarai, M., Morana, B., Tillmann, L., Pfänder, N., Wandzilak, A., Watts, B., Belkhou, R., Muhler, M., DeBeer, S., *In Situ X-ray Microscopy Reveals Particle Dynamics in a NiCo Dry Methane Reforming Catalyst under Operating Conditions.* ACS Catal**. 10,** 6223–6230 (2020).

2020BC& S. E. Bone, J. Cliff, K. Weaver, Christopher J. Takacs, Scott Roycroft, Scott Fendorf, and John R. Bargar, *Complexation by Organic Matter Controls Uranium Mobility in Anoxic Sediments*, Environ. Sci. Technol. **54** 1493-1502 (2020).

2020BD&a S. Bonneville, F. Delpomdor, Préat, A., Chevalier, C., Araki, T., Kazemian, M., Steele, A., Schreiber, A., Wirth, R., Benning, L.G., Molecular identification of fungi microfossils in a Neoproterozoic shale rock. Science Advances **6**, eaax7599 (2020).

2020BD&b Berg, J.S., Duverger, A., Cordier, L., Laberty-Robert, C., Guyot, F., Miot, J. "*Rapid pyritization in the presence of a sulfur/sulfate-reducing bacterial consortium*" Scientific Reports., **10**, 8264. (2020). **HI**

2020BE&a Brooks, J., Everett, J., Lermyte, F., Tjendana Tjhin, V., Sadler, P.J., Telling, N., Collingwood, J.F.,. *Analysis of neuronal iron deposits in Parkinson's disease brain tissue by synchrotron x-ray spectromicroscopy*. J. Trace Elements in Medicine and Biology **62**, 126555 (2020).

2020BE&b Brooks, J., Everett, J., Lermyte, F., Tjhin, V.T., Banerjee, S., O'Connor, P.B., Morris, C.M., Sadler, P.J., Telling, N.D., Collingwood, J.F., . *Label-Free Nanoimaging of Neuromelanin in the Brain by Soft X-ray Spectromicroscopy*. Angewandte Chemie In. Ed. **132** 12082-12089 (2020)

2020BMF Brock, J.A., S.A. Montoya, M.-Y. Im, and E.E. Fullerton, "*Energy-efficient generation of skyrmion phases in Co/Ni/Pt-based multilayers using Joule heating,*" Phys. Rev. Materials **4**(10), 104409 (2020). (doi:10.1103/PhysRevMaterials.4.104409) **HI**

2020BM&a E.M. Boi, D. Medas, G. Aquilanti, Bacchetta Gianluigi, Birarda Giovanni, Cappai Giovanna, Carlomagno Ilaria, Casu A. Maria, Gianoncelli Alessandra, Meneghini Carlo, Piredda Martina, Podda Francesca, Porceddu Marco, Rimondi Valentina, Vaccari Lisa, De Giudici Giovanni, *Mineralogy and Zn Chemical Speciation in a Soil-Plant System from a Metal-Extreme Environment: A Study on Helichrysum microphyllum subsp. tyrrhenicum (Campo Pisano Mine, SW Sardinia, Italy)*, Minerals, **10**, 259 (2020)

2020BM&b F. Büttner, Mawass MA, Bauer J, Rosenberg E, Caretta L, Avci CO, et al. *Thermal nucleation and high-resolution imaging of submicrometer magnetic bubbles in thin thulium iron garnet films with perpendicular anisotropy* Physical Review Materials. **4** 011401 (2020)

2020BM&c Š. Bálint, Müller, S., Fischer, R., Kessler, B.M., Harkiolaki, M., Valitutti, S., Dustin, M.L., *Supramolecular attack particles are autonomous killing entities released from cytotoxic T cells*. Science **368**, 897 (2020) **HI**

2020BR& J. Bergsveinson, J. Roy, C. Maynard, Sylvie Sanschagrin, Claire N. Freeman, George D. W. Swerhone, James J. Dynes, Julien Tremblay, Charles W. Greer, Darren R. Korber and John R. Lawrence, *Metatranscriptomic Insights Into the Response of River Biofilm Communities to Ionic and Nano-Zinc Oxide Exposures*, Front. Microbiol. **11** 267:1-15 (2020).

2020BSM S. Brisard, M. Serdar, and P.M. Monteiro, "*Multiscale X-ray tomography of cementitious materials: A review*," Cement Contrete Res. **128**, 105824 (2020).

2020BS&a E.M. Bolitho, Sanchez-Cano, C., Huang, H. et al. *X-ray tomography of cryopreserved human prostate cancer cells: mitochondrial targeting by an organoiridium photosensitiser*. J Biol Inorg Chem **25**, 295–303 (2020).

2020BS&b Beheshti-Askari, A., Al Samarai, M., Morana, B., Tillmann, L., Pfänder, N., Wandzilak, A., Watts, B., Belkhou, R., Muhler, M., DeBeer, S. *"In-situ X-ray Microscopy reveals particle dynamics in a NiCo dry methane reforming catalyst under operating conditions*" ACS Catalysis., **10**(11): 6223–6230. (2020).

2020CB& Carrillo-Sánchez, J.D., Bones, D.L., Douglas, K.M., Flynn, G.J., Wirick, S., Fegley, B., Araki, T., Kaulich, B., Plane, J.M.C. *Injection of meteoric phosphorus into planetary atmospheres*. Planetary and Space Science 187, 104926 (2020) **HI**

2020CD& Chang, H., J.J. Donatelli, P. Enfedaque, G. Freychet, M. Haranczyk, A. Hexemer, Z. Hu, O. Jain, H. Krishnan, D. Kumar, X. Li, L. Lin, M. MacNeil, S. Marchesini, X. Mo, M. Noack, K. Pande, R. Pandolfi, D. Parkinson, D.M. Pelt, T. Perciano, D.A. Shapiro, D. Ushizima, C. Yang, P.H. Zwart, and J.A. Sethian, "*Building Mathematics, Algorithms, and Software for Experimental Facilities,*" in *Handbook on Big Data and Machine Learning in the Physical Science*s, S.R. Kalidindi, S.V. Kalinin, T. Lookman, Vol. 1, (World Scientific Publishing Co Pte Ltd Singapore, 2020)p.189-240

2020CH& J.-H Choi, Jung-A Hong, Ye Rim Son, Jian Wang, Hyun Sung Kim, Hansol Lee, and Hangil Lee, *Comparison of Enhanced Photocatalytic Degradation Efficiency and Toxicity Evaluations of CeO2 Nanoparticles Synthesized Through Double-Modulation*, Nanomaterials **10**, 1543:1-11 (2020).

2020CK&a I.-T. Chiu, A.M. Kane, R.V. Chopdekar, P. Lyu, A. Mehta, C.M. Rouleau, A.T. N'Diaye, E. Arenholz, and Y. Takamura, "*Phase transitions and magnetic domain coexistence in $Nd_{0.5}Sr_{0.5}MnO_3$ thin films*," J. Magn. Magn. Mater. **498**, 166116 (2020).

2020CK&b Cai, F., S. Kumar, T. Van Vaerenbergh, X. Sheng, R. Liu, C. Li, Z. Liu, M. Foltin, S. Yu, Q. Xia, J.J. Yang, R. Beausoleil, W.D. Lu, and J.P. Strachan, "*Power-efficient combinatorial optimization using intrinsic noise in memristor Hopfield neural networks,*" Nature Electron. **3** 409-418 (2020). doi:10.1038/s41928-020-0436-6 **HI**

2020CK&c Cheema, S.S., D. Kwon, N. Shanker, R. dos Reis, S.-L. Hsu, J. Xiao, H. Zhang, R. Wagner, A. Datar, M.R. McCarter, C.R. Serrao, A.K. Yadav, G. Karbasian, C.-H. Hsu, A.J. Tan, L.-C. Wang, V. Thakare, X. Zhang, A. Mehta, E. Karapetrova, R.V. Chopdekar, P. Shafer, E. Arenholz, C. Hu, R. Proksch, R. Ramesh, J. Ciston, and S. Salahuddin, "*Enhanced ferroelectricity in ultrathin films grown directly on silicon*," Nature **580** 478-482 (2020). (doi:10.1038/s41586-020-2208-x) **HI**\

2020CS& B. Cron, C. Sheik, F.-C. Kafantaris, G.K. Druschel, J.S. Seewald, C.R. German, G.J. Dick, J.A. Breier, and B.M. Toner, "*Dynamic biogeochemistry of the particulate sulfur pool in a buoyant deep-sea hydrothermal plume*," ACS Earth Space Chem **4**(2), 168-182 (2020).

2020CT& Z. Chen, Y. Tang, B. Lin, H. Zhao, T. Li, T. Min, H. Yan, and W. Ma, "*Probe and Control of the Tiny Amounts of Dopants in BHJ Film Enable Higher Performance of Polymer Solar Cells,*" ACS Applied Materials & Interfaces **12**(22), 25115-25124 (2020).

2020CV& S. China, D. Veghte, A.H. Ahkami, J. Weis, C. Jansson, A.B. Guenther, M.K. Gilles, and A. Laskin, "*Microanalysis of Primary Biological Particles from Model Grass over Its Life Cycle*," ACS Earth and Space Chemistry 4(10), 1895-1905 (2020).

2020DB& A. Duverger, S. Berg, Busigny, V., Guyot, F., Bernard, S., Miot, J. *"Mechanisms of Pyrite Formation Promoted by Sulfate-Reducing Bacteria in Pure Culture*" Frontiers in Earth Science., **8**, 588310. (2020).

2020DC& Domart, F., Cloetens, P., Roudeau, S., Carmona, A., Verdier, E., Choquet, D., Ortega, R. "Correlating STED and synchrotron XRF nano-imaging unveils cosegregation of metals and cytoskeleton proteins in dendrites" e-Life., **9**: art.n° e62334. (2020).

2020DG& J. Ding, Y. Guan, Y. Cong, Liang Chen, Yu-Feng Li, Lijuan Zhang, Lili Zhang, Jian Wang, Ru Bai, Yuliang Zhao, Chunying Chen, Liming Wang, *Single-Particle Analysis for Structure and Iron Chemistry of Atmospheric Particulate Matter*, Analytical Chemistry **92** 975-982 (2020).

2020DK& A. Dohnalkova, L. Kovarik, T. Varga, A.K. Battu, M.A. Marcus, O. Krivanek, T. Lovejoy, and R. Kukkadapu, "*Revealing Soil Organic Matter-Mineral Associations with Advanced Chemical Imaging Method*s," Microscopy and Microanalysis 26(S2), 814-815 (2020).

2020DM& Desjardins, K., Medjoubi, K., Sacchi, M., Popescu, H., Gaudemer, R., Belkhou, R., Stanescu, S., Swaraj, S., Besson, A., Vijayakumar, J., Pautard, S., Noureddine, A., Mercère, P., Da Silva, P., Orsini, F., Menneglier, C., Jaouen, N. "*Backside‐illuminated scientific CMOS detector for soft X‐ray resonant scattering and ptychography*" J. Synchrotron Radiation., **27**, 1577-1589. (2020).

2020DS&a E. Digernes, S.D. Slöetjes, A. Stromberg, A.D. Bang, F.K. Olsen, E. Arenholz, R.V. Chopdekar, J.K. Grepstad, and E. Folven, "*Direct imaging of long-range ferromagnetic and antiferromagnetic order in a dipolar metamaterial,"* Phys. Rev. Research **2**(1), 013222 (2020).

2020DS&b Dehlinger, A., Seim, C., Stiel, H., Twamley, S., Ludwig, A., Kördel, M., Grötzsch, D., Rehbein, S., Kanngießer, B., *Laboratory Soft X-Ray Microscopy with an Integrated Visible-Light Microscope—Correlative Workflow for Faster 3D Cell Imaging*. Microscopy and Microanalysis 26, 1124, (2020)

2020DW& Debarre, T., Watts, B., Rösner, B., Unser, M., 2020. *Hessian Splines for Scanning Transmission X-Ray Microscopy*, in: 2020 IEEE 17th International Symposium on Biomedical Imaging (ISBI). 2020 IEEE 17th Int.Symp. Biomedical Imaging (ISBI), 199–202 (2020). Doi: 10.1109/ISBI45749.2020.9098539

2020EB& Everett J, Brooks J, Lermyte F, O'Connor PB, Sadler PJ, Dobson J, *et al. Iron stored in ferritin is chemically reduced in the presence of aggregating Aβ(1-42),* Scientific Reports. **10**, 10332 (2020). **HI**

2020ER& Eichhorn, J., S.E. Reyes,ÄêLillo, S. Roychoudhury, S. Sallis, J. Weis, D.M. Larson, J.K. Cooper, I.D. Sharp, D. Prendergast, and F.M. Toma, "*Revealing Nanoscale Chemical Heterogeneities in Polycrystalline Mo-BiVO$_4$ Thin Films*," Small **16**, 2001600 (2020). (doi:10.1002/smll.202001600)

2020FB&a M. Fraund, D.J. Bonanno, Swarup China, Don Q. Pham, Daniel Veghte, Johannes Weis, Gourihar Kulkarni, Ken Teske, Mary K. Gilles, Alexander Laskin, and Ryan C. Moffet, *Optical properties and composition of viscous organic particles found in the Southern Great Plains*, Atmospheric Chemistry and Physics **20** , 11593-11606 (2020).

2020FB&b P.M. Fox, M. Bill, Katherine Heckman, Mark Conrad, Carolyn Anderson, Marco Keiluweit, and Peter S. Nico, *Shale as a Source of Organic Carbon in Floodplain Sediments of a Mountainous Watershed*, JGE Biogeosciences **125**, e2019JG005419:1:21 (2020).

2020FD& Matthew Fraund, Daniel J. Bonanno, Swarup China, Don Q. Pham, Daniel Veghte, Johannes Weis, Gourihar Kulkarni, Ken Teske, Mary K. Gilles, Alexander Laskin, and Ryan C. Moffet, *Optical properties and composition of viscous organic particles found in the Southern Great Plains*, Atmospheric Chemistry and Physics **20**, 11593-11606 (2020)

2020FG&a Jan-David Förster,Christian Gurk, Mark Lamneck, Haijie Tong, Florian Ditas, Sarah S. Steimer, Peter A. Alpert, Markus Ammann, Jörg Raabe, Markus Weigand, Benjamin Watts, Ulrich Pöschl, Meinrat O. Andreae, and Christopher Pöhlker, *MIMiX: A Multipurpose In-situ Microreactor system for X-ray microspectroscopy to mimic atmospheric aerosol processing,* Atmospheric Measurement Techniques **13**, 3717 (2020).

2020FG&b Ferron, T., Grabner, D., McAfee, T., & Collins, B. *Absolute intensity calibration for carbon-edge soft X-ray scattering.* Journal of Synchrotron Radiation, 27(6), 1601–1608 (2020).

2020FHG Federica Frati, Myrtille O. J. Y. Hunault and Frank M. F. de Groot, *Oxygen K-edge X-ray Absorption Spectra*, Chem Rev. **120** 4056-4110 (2020)

2020FMR Finizio S, Mayr S, Raabe J, *Time-of-arrival detection for time-resolved scanning transmission X-ray microscopy imaging* Journal of Synchrotron Radiation.; **27** 1320-1325 (2020)

2020FS& Farhan, A., M. Saccone, C.F. Petersen, S. Dhuey, K. Hofhuis, R. Mansell, R.V. Chopdekar, A. Scholl, T. Lippert, and S. van Dijken, "*Geometrical Frustration and Planar Triangular Antiferromagnetism in Quasi-Three-Dimensional Artificial Spin Architecture*," Phys. Rev. Lett. **125**, 267203 (2020). (doi:10.1103/PhysRevLett.125.267203

2020GD&a A. Gianoncelli, R. Delfino,, Sala S., Kourousias G., Giordani S., Romano F., Ricci G., Pascolo L., *Synchrotron soft X-ray microscopy and XRF to image Single-walled carbon nanotubes in epithelial cells*, NIM B **465** 79-84 (2020)

2020GD&b Ghidini, M., Dhesi, S.S., Mathur, N.D., *Nanoscale magnetoelectric effects revealed by imaging.* J. Magnetism and Magnetic Materials **520** 167016 (2020).

2020GM&a F. Genuzio, T.O. Menteş, K. Freindl, N. Spiridis, J. Korecki, and A. Locatelli, *Chemistry-dependent magnetic properties at the FeNi oxide–metal interface,* J. Mater. Chem. C, **8**, 5777-5785 (2020).

2020GM&b S. Günther, T.O. Menteş, R. Reichelt, E. Miniussi, B. Santos, A. Baraldi, A. Locatelli, *Au intercalation under epitaxial graphene on Ru(0001): The role of graphene edges*, Carbon **162**, 292-299 (2020).

2020GM&c Ghidini, M., Mansell, R., Pellicelli, R., Pesquera, D., Nair, B., Moya, X., Farokhipoor, S., Maccherozzi, F., Barnes, C.H.W., Cowburn, R.P., Dhesi, S.S., Mathur, N.D., *Voltage-driven annihilation and creation of magnetic vortices in Ni discs*. Nanoscale **12**, 5652–5657 (2020).

2020GO& G. Germer, T. Ohigashi, H. Yuzawa, K. Rajes, R. Haag, F. Rancan, A. Vogt and E. Rühl, *Penetration of Redox-Sensitive Nanocarriers in Human Skin Ex Vivo*, UVSOR Annual Report pXX (2020)

2020GS&a Gosse, C.; Stanescu, S.; Frederick, J.; Lefrançois, S.; Vecchiola, A.; Moskura, M.; Swaraj, S.; Belkhou, R.; Watts, B.; Haltebourg, P.; Blot, C.; Daillant, J.; Guenoun, P.; Chevallard, C. *A Pressure-Actuated Flow Cell for Soft X-Ray Spectromicroscopy in Liquid Media.* Lab Chip, **20**, 3213–3229 (2020)

2020GS&b Gräfe, J., Skripnik, M., Dieterle, G., Haering, F., Weigand, M., Bykova, I., Träger, N., Stoll, H., Tyliszczak, T., Vine, D., Ziemann, P., Wiedwald, U., Shapiro, D., Nowak, U., Schütz, G., & Goering, E. J,. *Ptychographic imaging and micromagnetic modeling of thermal melting of nanoscale magnetic domains in antidot lattices.* AIP Advances, **10**, 125122 (**2020**).

2020HA& Hantanasirisakul, K., B. Anasori, S. Nemsak, J.L. Hart, J. Wu, Y. Yang, R.V. Chopdekar, P. Shafer, A.F. May, E.J. Moon, J. Zhou, Q. Zhang, M.L. Taheri, S.J. May, and Y. Gogotsi, "*Evidence of a magnetic transition in atomically thin $Cr_2TiC_2T_x$ MXene,*" Nanoscale Horiz. **5**, 1557-1565 (2020). (doi:10.1039/d0nh00343c)

2020HB& Higgins, L. J. R., Brown, A. P., Harrington, J. P., Ross, A. B., Kaulich, B., & Mishra, B. *Evidence for a core-shell structure of hydrothermal carbon.* Carbon, **161,** 423–431 (2020).

2020HH& Hofhuis, K., A. Hrabec, H. Arava, N. Leo, Y.-L. Huang, R.V. Chopdekar, S. Parchenko, A. Kleibert, S. Koraltan, C. Abert, C. Vogler, D. Suess, P.M. Derlet, and L.J. Heyderman, "*Thermally superactive artificial kagome spin ice structures obtained with the interfacial Dzyaloshinskii-Moriya interaction,*" Physical Review B **102**(18), 180405 (2020). (doi:10.1103/PhysRevB.102.180405)

2020HK& S. Hageraats, K. Keune, Stankic, S., Stanescu, S., Tromp, M., Thoury, M. "*X-ray Nanospectroscopy Reveals Binary Defect Populations in Submicrometric ZnO Crystallites*" J. Physical Chemistry C., **124,** 12596–12605. (2020).

2020HN& Huang, Y.-L., D. Nikonov, C. Addiego, R.V. Chopdekar, B. Prasad, L. Zhang, J. Chatterjee, H.-J. Liu, A. Farhan, Y.-H. Chu, M. Yang, M. Ramesh, Z.Q. Qiu, B.D. Huey, C.-C. Lin, T. Gosavi, J. Íñiguez, J. Bokor, X. Pan, I. Young, L.W. Martin, and R. Ramesh, "*Manipulating magnetoelectric energy landscape in multiferroics*," Nature Communications **11**, 2836 (2020). (doi:10.1038/s41467-020-16727-2) **HI**

2020HO& A. Hömberg, M . Obst, Klaus-H□lger Kn□rr, Karsten Kalbitz, Jörg Schaller, *Increased silicon concentration in fen peat leads to a release of iron and phosphate and changes in the composition of dissolved organic matter*, Geoderma **374**, 114422:1-7 (2020).

2020HT& T. Harano, T. Y. Takeichi. T. Ohigashi, D. Shindo, E. Nemoto, D. Wakabayashi, S. Yamashita, R. Murao, and M. Kimura.. *Azimuthal-Rotation Sample Holder for Molecular Orientation Analysis*. J. Synchrotron Radiation **27**, 1167-1171 (2020).

2020HZ& E. Hosono, W. X. Zhang, D. Asakura, Y. Harada, H. Yuzawa and T. Ohigashi, *Analysis of One-dimensional Single-crystalline Cathode Materials for Secondary Batteries by Scanning Transmission X-ray Microscopy*, UVSOR Annual Report **47**, 69 (2020)

2020IS& A. Ito, K. Shinohara, A. Matsuura, S. Toné, M. Torigata, K. Tohya, H. Yuzawa and T. Ohigashi, Improvement of Molecular Mapping for Thin Sections of Isolated Mammalian Nuclei Embedded in Resin Using STXM UVSOR Annual Report **47**, 148 (2020)

2020IT& M. Ito, N. Tomioka, K. Uesugi, M. Uesugi, Y. Kodama, I. Sakurai, I. Okada, T. Ohigashi, H. Yuzawa, A. Yamaguchi, N. Imae, Y. Karouji, N. Shirai, T. Yada and M. Abe, "*The universal sample holders of microanalytical instruments of FIB, TEM, NanoSIMS, and STXM-NEXAFS for the coordinate analysis of extraterrestrial materials*", Earth Planets Space, **72,** 133, (2020).

2020JB& C. Jauvion, S. Bernard, P. Gueriau, C.D. Mocuta, S. Pont, K. Benzerara, and S. Charbonnier, "*Exceptional preservation requires fast biodegradation: thylacocephalan specimens from La Voulte-sur-Rhône (Callovian, Jurassic, France)*," Palaeontol., **63**, 394-413 (2020)

2020JG& M. Jugovac, F. Genuzio, T.O. Menteş, A. Locatelli, G. Zamborlini, V. Feyer, C.M. Schneider, *Tunable coupling by means of oxygen intercalation and removal at the strongly interacting graphene/cobalt interface*, Carbon **163**, 341-347 (2020)

2020JK& M.-S. Jung, T.-H. Kim, M.-Y. Im, and J.-I. Hong, "*Overcoming the limits of exchange bias effect in the magnetic thin films by introducing nanostructured internal interfaces*," J. Magn. Magn. Mater. **494**, 165814 (2020)

2020JS& W. Jiang, S.R. Spurgeon, B.E. Matthews, A.K. Battu, S. China, T. Varga, A. Devaraj, E.J. Kautz, M.A. Marcus, D.D. Reilly, and W.G. Luscher, "*Carbonaceous deposits on aluminide coatings in tritium-producing assemblies*," Nuclear Materials and Energy **25**, 100797 (2020).

2020JW& Y.Y. Jiang, Z.Q. Wang, Jia-Tang Chen, Jun Li, Ying-Jie Zhu, Li-Jia Liu, Xiao-Xuan Guo, Yong-Feng Hu, Shi-Sheng He, Jin Wu, Feng Chen and Tsun-Kong Sham, *Tracking the interaction of drug molecules with individual mesoporous amorphous calcium phosphate/ATP nanocomposites – an X-ray spectromicroscopy study*, Phys. Chem. Chem. Phys. **22**, 13108-13117 (2020).

2020KB& Kirk E, Bull C, Finizio S, Sepehri-Amin H, Wintz S, Suszka AK, *et al. Anisotropy-induced spin reorientation in chemically modulated amorphous ferrimagnetic films,* Physical Review Materials. **4** 074403 (2020)

2020KG& Kurdi, S., Ghidini, M., Divitini, G., Nair, B., Kursumovic, A., Tiberto, P., Dhesi, S.S., Barber, Z.H., 2020. *Exchange-bias via nanosegregation in novel Fe2−xMn1+xAl (x = −0.25, 0, 0.25) Heusler films*. Nanoscale Adv. **2**, 2602–2609 (2020).

2020KH&a K.H. Kim,He Hans, Rodner Marius, Yakimova Rositsa, Larsson Karin, Piantek Marten, Serrate David, Zakharov Alexei, Kubatkin Sergey, Eriksson Jens, Lara-Avila Samuel, *Chemical Sensing with Atomically Thin Platinum Templated by a 2D Insulator*, Adv.Mat.Interf. **7,** 1902104 (2020).

2020KH&b K.H. Kim, H. He, Struzzi Claudia, Zakharov Alexei, Giusca Cristina E., Tzalenchuk Alexander, Park Yung Woo, Yakimova Rositsa, Kubatkin Sergey, Lara-Avila Samuel, *Ambipolar charge transport in quasi-free-standing monolayer graphene on SiC obtained by gold intercalation,* Physical Review B **102**, 165403 (2020).

2020KM& P. Krüger, Y. Maekawa, A.P. Hitchcock and C. Bittencourt, *Polarization dependent X-ray absorption near-edge spectra of boron nitride nanotubes*, Radiation Physics and Chemistry **175**, 108129 (2020).

2020KN& H. Karakachian, Nguyen T. T. Nhung, Aprojanz Johannes, Zakharov Alexei A., Yakimova Rositsa, Rosenzweig Philipp, Polley Craig M., Balasubramanian Thiagarajan, Tegenkamp Christoph, Power Stephen R., Starke Ulrich, *One-dimensional confinement and width-dependent bandgap formation in epitaxial graphene nanoribbons*, Nature Communications **11,** 6380 (2020).

2020KS& X. Kong, L. F. E. D. Santos, J. Noda, T. Ohigashi, K. Salo and E. Thomson, Chemical Mapping of Particulate Matter from a Marine Test-bed Engine with Varying Sulfur Content Fuels and a Laboratory Wet- Scrubber, UVSOR Annual Report pXX (2020)

2020KWZ S. Kumar, R.S. Williams, and Z. Wang, "*Third-order nanocircuit elements for neuromorphic engineering*," Nature **585**(7826), 518-523 (2020). **HI**

2020KZ&a H. Kong, J. Zhang, Jiang Li, Jian Wang, Hyun-Joon Shin, Renzhong Tai, Qinglong Yan, Kai Xia, Jun Hu, Lihua Wang, Ying Zhu, Chunhai Fan, *Genetically encoded X-ray cellular imaging for nanoscale protein localization*, National Science Review, **7**1218–1227, (2020).

2020KZ&b Kebukawa, Y., M.E. Zolensky, M. Ito, N.O. Ogawa, Y. Takano, N. Ohkouchi, A. Nakato, H. Suga, Y. Takeichi, Y. Takahashi, and K. Kobayashi, "Primordial organic matter in the xenolithic clast in the Zag H chondrite: Possible relation to D/P asteroids," Geochimica et Cosmochimica Acta **271**, 61-77 (2020).

2020LB& R. Laipnik, V. Bissi, C.-Y. Sun, G. Falini, P.A. Gilbert, and T. Mass, "*Coral acid rich protein selects vaterite polymorph in vitro,*" J. Struct. Biol. **209**(2), 107431 (2020).

2020LC& Hélène Lotz, Charly Carrière, Christian Bataillon, Emmanuel Gardes, Isabelle Monnet, Eddy Foy, Michel L. Schlegel, James J. Dynes, Delphine Neff, Florence Mercier-Bion, Philippe Dillmann, *Investigation of steel corrosion in MX80 bentonite at 120°C*, Materials and Corrosion **72**, 120-130, (2020).

2020LG& S. Lettieri, V. Gargiulo, Alfè Michela, Amati Matteo, Zeller Patrick, Maraloiu Valentin-Adrian, Borbone Fabio, Pavone Michele, Muñoz-García Ana B., Maddalena Pasqualino, *Simple Ethanol Refluxing Method for Production of Blue-Colored Titanium Dioxide with Oxygen Vacancies and Visible Light-Driven Photocatalytic Properties,* J. Physical Chemistry C, **124** 3564-3576 (2020)

2020LG& Lettieri, S., Gargiulo, V., Alfè, M., Amati, M., Zeller, P., Maraloiu, V.-A., Borbone, F., Pavone, M., Muñoz-García, A. B., & Maddalena, P., *Simple Ethanol Refluxing Method for Production of Blue-Colored Titanium Dioxide with Oxygen Vacancies and Visible Light-Driven Photocatalytic Properties.* The Journal of Physical Chemistry C, **124(**6), 3564–3576 (2020). . https://doi.org/10.1021/acs.jpcc.9b08993

2020LH&a Z. Luo, A. Hrabec, Dao TP, Sala G, Finizio S, Feng J, et al., *Current-driven magnetic domain-wall logic,* Nature. **579**, 214-218 (2020) **HI**

2020LH&b Li, Y., Q. Hu, P. Wang, R. Chopdekar, A. Scholl, Z. Zhao, Y. Zou, M.I. Utama, F. Wang, M. Barnes, Y. Zhang, T.P. Russell, and F. Liu, "*Surface and grain boundary carbon heterogeneity in $CH_3NH_3PbI_3$perovskites and its impact on optoelectronic properties,*" Appl. Phys. Rev. **7**(4), 041412 (2020). (doi:10.1063/5.0023701)

2020LL&a J. Li, P. Liu, Jian Wang, Andrew P. Roberts, Yongxin Pan, *Magnetotaxis as an adaptation to enable bacterial shuttling of microbial sulfur and sulfur cycling across aquatic oxic-anoxic interfaces*, JGR - Biogeosciences **125** e2020JG006012 (2020)

2020LL&b P. Leão, L. Le Nagard, Yuan, H., Cypriano, J., Da Silva‐Neto, I., Bazylinski, D.A., Acosta‐Avalos, D., Lins de Barros, H., Hitchcock, A.P., Lins, U., Abreu, F. "*Magnetosome magnetite biomineralization in a flagellated protist: evidence for an early evolutionary origin for magnetoreception in eukaryotes*?" Environmental Microbiology., **22**,1495-1506. (2020).

2020LL&c Lee, M.S., P. Lyu, R.V. Chopdekar, A. Scholl, S.T. Retterer, and Y. Takamura, "*Controlling antiferromagnetic domains in patterned $La_{0.7}Sr_{0.3}FeO_3$ thin films,*" *J. Appl. Phys.* **127**(20), 203901 (2020). (doi:10.1063/5.0006228)

2020LP& J.R. Lawrence, A. Paule, G.D.W. Swerhone, Julie Roy, Alexander A. Grigoryan, James J. Dynes, Samuel M. Chekabab, Darren R. Korber, *Microscale and molecular analyses of river biofilm communities treated with microgram levels of cerium oxide nanoparticles indicate limited but significant effects*, Environmental Pollution **256** 113515 (2020)

2020LR& Louring S, Rechendorff K, Almtoft KP, Watts B, Jeppesen CS, Christensen BH, et al. *The effect of 130 keV N2+ ion implantation post-treatment on the micro- and nanostructure of sputtered chromium nitride thin films* Surface and Coatings Technology. **389**, 125635 (2020)

2020LS&a H. Li, Shi Yuchen, Shang Huan, Wang Weimin, Lu Jun, Zakharov Alexei A., Hultman Lars, Uhrberg Roger I. G., Syvaejaervi Mikael, Yakimova Rositsa, Zhang Lizhi, Sun Jianwu, *Atomic-Scale Tuning of Graphene/Cubic SiC Schottky Junction for Stable Low-Bias Photoelectrochemical Solar-to-Fuel Conversion*, ACS Nano **14,** 4905-4915 (2020).

2020LS&b Li, H., C.-Y. Sun, Y. Fang, C.M. Carlson, H. Xu, A. Ješovnik, J. Sosa-Calvo, R. Zarnowski, H.A. Bechtel, J.H. Fournelle, D.R. Andes, T.R. Schultz, P.A. Gilbert, and C.R. Currie, "*Biomineral armor in leaf-cutter ants*," Nature Communications **11**, 5792 (2020). (doi:10.1038/s41467-020-19566-3) **HI**

2020LW&a W. Li, Z. Wang, F. Zhao, M. Li, Xuejie Gao, Yang Zhao, Jian Wang, Jigang Zhou, Yongfeng Hu, Qunfeng Xiao, Xiaoyu Cui, Mohammad Javad Eslamibidgoli, Michael. H. Eikerling, Ruying Li, Frank Brandys, Ranjith Divigalpitiya, Tsun-Kong Sham, and Xueliang Sun, *Phosphorene Degradation: Visualization and Quantification of Nanoscale Phase Evolution by Scanning Transmission X-ray Microscopy*, Chemistry of Materials **32** 1272-1280 (2020).

2020LW&b M. Loxham, J. Woo, Singhania, A., Smithers, N.P., Yeomans, A., Packham, G., Crainic, A.M., Cook, R.B., Cassee, F.R., Woelk, C.H., Davies, D.E.,. *Upregulation of epithelial metallothioneins by metal-rich ultrafine particulate matter from an underground railway*. Metallomics **12** 1070-1082 (2020).

2020LW&c Y.R. Lu, Y.F. Wang, Y.C. Huang, J.L. Chen, C.L. Chen, Y.C. Lin, Y.G. Lin, W.F. Pong, T. Ohigashi, N. Kosugi, C.H. Kuo, W.C. Chou and C.L. Dong, *"Effect of Fe2Co3 coating on ZnO nanowires in photoelectrochemical water splitting: A synchrotron x-ray spectroscopic and spectromicroscopic investigation*", *Sol. Energy Mater. Sol. Cells*, **209**, 110469 (2020),

2020LY& M. Lu, F. Yu, Y. Hu, Karim Zaghib, Steen B. Schougaard, Zhenbo Wang, Jigang Zhou, Jian wang, John Goodenough and T. K. Sham, *Correlative imaging of ionic transport and electronic structure in nano Li0.5FePO4 electrodes*, Chem. Commun. **56** 984-987 (2020)

2020LZM Jiaqi Li, Wenxin Zhang, and Paulo J. M. Monteiro, *Structure and Intrinsic Mechanical Properties of Nanocrystalline Calcium Silicate Hydrate*, ACS Sustainable Chem. Eng. **8** 12453–12461 (2020)

2020LZ& Li, W., Zhu, B., He, Q., Borisevich, A.Y., Yun, C., Wu, R., Lu, P., Qi, Z., Wang, Q., Chen, A., Wang, H., Cavill, S.A., Zhang, K.H.L., MacManus-Driscoll, J.L., *Interface Engineered Room-Temperature Ferromagnetic Insulating State in Ultrathin Manganite Films.* Advanced Science **7**, 1901606 (2020).

2020LX& H. Liu, J. Xiu, Yunyan Liu, Bengyi Wang, Yanling Xue, Min Chen and Te Ji , *Quantitative toxicological study of dose-dependent arsenic-induced cells via synchrotron-based STXM and FTIR measurement*, Analyst **145**, 4560-4568 (2020).

2020MA& Mahrt F, Alpert PA, Dou J, Grönquist P, Arroyo PC, Ammann M, et al. *Aging induced changes in ice nucleation activity of combustion aerosol as determined by near edge X-ray absorption fine structure (NEXAFS) spectroscopy,* Environmental Science: Processes and Impacts. **22** 895-907 (2020).

2020MB&a A. Moya, M.Barawi, Alemán Belén, Zeller Patrick, Amati Matteo, Monreal-Bernal Alfonso, Gregoratti Luca, de la Peña O'Shea Víctor A., J.J Vilatela , *Interfacial studies in CNT fibre/TiO2 photoelectrodes for efficient H2 production*, Applied Catalysis B: Environmental, **268** 118613 (2020)

2020MB&b Maurel, C., J.J. Bryson, R.J. Lyons, M.R. Ball, R.V. Chopdekar, A. Scholl, F.J. Ciesla, W.F. Bottke, and B.P. Weiss, "*Meteorite evidence for partial differentiation and protracted accretion of planetesimals,*" Science Advances **6**(30), eaba1303 (2020). (doi:10.1126/sciadv.aba1303

2020MC& S.R. McKibbin, J. Colvin, Troian Andrea, Knutsson Johan V., Webb James Luke, Otnes Gaute, Dirscherl Kai, Sezen Hikmet, Amati Matteo, Gregoratti Luca, Borgström Magnus T, Mikkelsen Anders, Timm Rainer, *Operando surface characterization of InP nanowire p-n junctions*, NanoLetters **29** 887–895 (2020)

2020MD& Ma, J., M. Do, M.A. Le Gros, C.S. Peskin, C.A. Larabell, Y. Mori, and S.A. Isaacson, "*Strong intracellular signal inactivation produces sharper and more robust signaling from cell membrane to nucleu*s," PLoS Computational Biology **16**(11), e1008356 (2020).

2020MH&a L. M. Moreau, A. Herve, Mark D. Straub, Dominic R. Russo, Rebecca J. Abergel, Selim Alayoglu, John Arnold, Augustin Braun, Gauthier J.P. Deblonde, Yangdongling Liu, Trevor D. Lohrey, Daniel T. Olive, Yusen Qiao, Julian A. Rees, David K. Shuh, Simon J. Teat, Corwin H. Booth and Stefan G. Minasian, *Structural properties of ultra-small thorium and uranium dioxide nanoparticles embedded in a covalent organic framework*, Chemical Science **11** 4648-4668 (2020).

2020MH&b . Miseki , E. Hosono, D. Asakura, H. Yuzawa and T. Ohigashi, Analysis of High Active Photocatalytic Materials by Scanning Transmission X-ray Microscope, UVSOR Annual Report, pXX (2020)

020MK& M. V. Mroz, Martin E. Kordesch, Jerzy T. Sadowski, Samuel A. Tenney, Calley N. Eads, *Correlation of Auger electron spectroscopy and microsynchrotron radiation x-ray photoelectron spectroscopy investigations of Ba-Sc-O desorption on W(100)*. J. Vacuum Science & Technology B, 38(2), 024003 (2020).

2020MM&a I. Martens, L. G.A. Melo, M.M. West, D.P. Wilkinson, D. Bizzotto, A. P. Hitchcock, *Imaging Reactivity of the Pt–Ionomer Interface in Fuel Cell Catalyst Layers*, ACS Applied Energy Materials **10**, 8285-8292 (2020).

2020MM&b Matsuura, Y.; Maruyama, R.; Kato, R.; Tamura, R.; Ishigami, K.; Sumitani, K.; Kajiwara, K.; Nakamura, T. *Magnetization Reversal of (Sm, Ce)2(Co, Fe, Cu, Zr)17 Magnets as per Soft x-Ray Magnetic Circular Dichroism Microscopy*. Appl. Phys. Lett. **117**, 022409 (2020) https://doi.org/10.1063/5.0005635.

2020MP& T. Mansikkala, M. Patanen, A. Kärkönen, R. Korpinen, A. Pranovich, T. Ohigashi, S. Swaraj, J. Seitsonen, J. Ruokolainen, M. Huttula, P. Saranpää and R. Piispanen, "*Lignans in Knotwood of Norway Spruce: Localisation with Soft X-ray Microscopy and Scanning Transmission Electron Microscopy with Energy Dispersive X-ray Spectroscopy*", Molecules, **25**, 2997 (2020).

2020MW& Mellor, A., Wilson, A., Pang, C.L., Yim, C.M., Maccherozzi, F., Dhesi, S.S., Muryn, C.A., Idriss, H., Thornton, G., *Photoemission core level binding energies from multiple sized nanoparticles on the same support: TiO2(110)/Au*. J. Chem. Phys. **152**, 024709 (2020)

2020NQ& Nan, T., C.X. Quintela, J. Irwin, G. Gurung, D.F. Shao, J. Gibbons, N. Campbell, K. Song, S.-Y. Choi, L. Guo, R.D. Johnson, P. Manuel, R.V. Chopdekar, I. Hallsteinsen, T. Tybell, P.J. Ryan, J.-W. Kim, Y. Choi, P.G. Radaelli, D.C. Ralph, E.Y. Tsymbal, M.S. Rzchowski, and C.B. Eom, "*Controlling spin current polarization through non-collinear antiferromagnetism,*" Nature Communications **11**(1), 4671 (2020). (doi:10.1038/s41467-020-17999-4) **HI**

2020NS& P.L. Nguyen, Sarpi, B., Petronio, F., Mocuta, C., Ohresser, P., Stanescu, D., Moussy, J.B., Vlad, A., Resta, A., Otero, E., Belkhou, R., Leroy, J., Jedrecy, N., Magnan, H., Barbier, A. *"Mn0.7Fe2.3O4 Nanoplatelets Embedded in BaTiO3 Perovskite Thin Films for Multifunctional Composite Barrier*s" ACS Applied Nano Materials., **3** 327-341. (2020).

2020NW& Van At Nguyen, Jian Wang, Christian Kuss, *Conducting polymer composites as water-dispersible electrode matrices for Li-Ion batteries: Synthesis and characterization*, Journal of Power Sources Advances **,** 100033:1-9 (2020)

2020OIY Oura M, Ishihara T, Yamaguchi A *Application of microprobe soft x-ray fluorescence and absorption spectroscopic analyses to characterize the buried multi-layered micro structure.* Jpn. J. Appl. Phys. **59**, 060902 (2020).

2020OI&a N. Ortiz Peña, D. Ihiawakrim, Ball, V., Stanescu, S., Rastei, M., Sanchez, C., Portehault, D., Ersen, O. "*Correlative Microscopy Insight on Electrodeposited Ultrathin Graphite Oxide Films*" J. Physical Chemistry Letters., **11**, 9117–9122. (2020).

2020OI&b Oura M, Ishihara T, Osawa H, Yamane H, Hatsui T, Ishikawa T *Development of a scanning soft x-ray spectromicroscope to investigate local electronic structures on surfaces and interfaces of advanced materials under conditions ranging from low-vacuum to helium atmosphere.* J. Synchrotron Rad. **27**, 664-674 (2020).

2020OK& Ognev, A.V., A.G. Kolesnikov, Y.J. Kim, I.H. Cha, A.V. Sadovnikov, S.A. Nikitov, I.V. Soldatov, A. Talapatra, J. Mohanty, M. Mruczkiewicz, Y. Ge, N. Kerber, F. Dittrich, P. Virnau, M. Kläui, Y.K. Kim, and A.S. Samardak, "*Magnetic Direct-Write Skyrmion Nanolithography*," ACS Nano **14**, 14960-14970 (2020). (doi:10.1021/acsnano.0c04748)

2020OL& Ait Oukaci, K., Lacour, D., Stoeffler, D., Sarpi, B., Montaigne, F., Belkhou, R., Hehn, M. "*Weak Stripe Angle Determination by Quantitative x-ray Magnetic Microscopy*" Physical Review Applied., **14** 024083. (2020).

2020OP& R.C. Ogliore, R.L. Palma, J. Stodolna, K. Nagashima, R.O. Pepin, D.J. Schlutter, Z. Gainsforth, A.J. Westphal, and G.R. Huss, *"Q-gases in a late-forming refractory interplanetary dust particle: A link to comet Wild 2*," Geochim. Cosmochim. Acta **271**, 116-131 (2020).

2020OY T. Ohigashi and H. Yuzawa, Nano-Structural and Chemical Analysis of Structural Color on an Elytron of a Jewel Beetle, UVSOR Annual Report, yXX (2020)

2020OYK T. Ohigashi, H. Yuzawa and N. Kosugi, "*A low-pass filtering Fresnel zone plate for soft x-ray microscopic analysis down to the lithium K-edge region*", Rev. Sci. Instrum., **91**, 103110 (2020).

2020PC& G. Picone, C. Cappadone, A. Pasini, Lovecchio Joseph, Cortesi Marilisa, Farruggia Giovanna, Lombardo Marco, Gianoncelli Alessandra, Mancini Lucia, Ralf H. Menk, Donato Sandro, Giordano Emanuele, Malucelli Emil, Iotti Stefano, *Analysis of Intracellular Magnesium and Mineral Depositions during Osteogenic Commitment of 3D Cultured Saos2 Cells*, International Journal of Molecular Sciences, **21**, 2368 (2020)

2020PH& Prasad, B., Y. Huang, R.V. Chopdekar, Z. Chen, J. Steffes, S. Das, Q. Li, M. Yang, C. Lin, T. Gosavi, D.E. Nikonov, Z.Q. Qiu, L.W. Martin, B.D. Huey, I. Young, J. Íñiguez, S. Manipatruni, and R. Ramesh, "*Ultralow Voltage Manipulation of Ferromagnetism,*" Adv. Mater. **32**, 2001943 (2020). (doi:10.1002/adma.202001943)

2020PL& L. Pan,, T. Liu, J. Wang, L. Ye, Z. Luo, R. Ma, S. Pang, Y. Chen, H. Ade, H. Yan, C. Duan, F. Huang, and Y. Cao, "*Efficient Organic Ternary Solar Cells Employing Narrow Band Gap Diketopyrrolopyrrole Polymers and Nonfullerene Acceptors*," Chemistry of Materials **32**, 7309-7317 (2020).

2020PS& D.M. Pakdehi, P. Schaedlich,Thi Thuy Nhung Nguyen, Zakharov Alexei A., Wundrack Stefan, Najafidehaghani Emad, Speck Florian, Pierz Klaus, Seyller Thomas, Tegenkamp Christoph, Schumacher Hans Werner, *Silicon Carbide Stacking-Order-Induced Doping Variation in Epitaxial Graphen*e, Advanced Functional Materials 2004695 (2020).

2020PV& D. Pariari, RM. Varma, Nair Maya N., Zeller Patrick, Amati Matteo, Gregoratti Luca, Nanda Karuna Kar, Sarma D.D., *On the origin of metallicity and stability of the metastable phase in chemically exfoliated MoS2,* Applied Materials Today, **19,** 100544 (2020)

2020RC& M.Rasool, H.-C. Chiu, B. Zank, Yan Zeng, Jigang Zhou, Karim Zaghib, Dmitrii F. Perepichka, George P. Demopoulos, *PEDOT Encapsulated and Mechanochemically Engineered Silicate Nanocrystals for High Energy Density Cathodes*, Advanced Materials Interfaces **7,** 2000226 (2020)

2020RF&a Rösner, B.; Finizio, S.; Koch, F.; Döring, F.; Guzenko, V. A.; Langer, M.; Kirk, E.; Watts, B.; Meyer, M.; Loroña Ornelas, J.; Späth, A.; Stanescu, S.; Swaraj, S.; Belkhou, R.; Ishikawa, T.; Keller, T. F.; Gross, B.; Poggio, M.; Fink, R. H.; Raabe, J.; Kleibert, A.; David, C. *Soft X-Ray Microscopy with 7 nm Resolution*. Optica, **7**, 1602-08 (2020).

2020RF&b Rösner B, Fallica R, Johnson M, Späth A, Fink R, Ekinci Y, *et al. Nanolithographic top-down patterning of polyoxovanadate-based nanostructures with switchable electrical resistivity*, ChemNanoMat. **6** 1620-1624. (2020)

2020RP& H.-H. Ryu, N.-Y. Park, J.H. Seo, Y.-S. Yu, M. Sharma, R. Mücke, P. Kaghazchi, C.S. Yoon, and Y.-K. Sun, "*A highly stabilized Ni-rich NCA cathode for high-energy lithium-ion batteries,*" Materials Today, **36**, 73-82 (2020).

2020RV& Remesh, S.G., S.C. Verma, J.-H. Chen, A.A. Ekman, C.A. Larabell, S. Adhya, and M. Hammel, "*Nucleoid remodeling during environmental adaptation is regulated by HU-dependent DNA bundling*," Nature Communications **11**, 2905 (2020). **HI**

2020SA& D.A. Santos, J.L. Andrews, Yang Bai, Peter Stein, Yuting Luo, Yuwei Zhang, Matt Pharr, Bai-Xiang Xu, and Sarbajit Banerjee, *Bending good beats breaking bad: phase separation patterns in individual cathode particles upon lithiation and delithiation*, Materials Horizons **7,** 3275-3290 (2020)

2020SB&a A. L. Seyfferth, F.Bothfeld, Rodrigo Vargas, Jason W. Stuckey, Jian Wang, Kelli Kearns, Holly A. Michael, Julia Guimond, Xuan Yu, Donald L. Sparks, *Spatial and temporal heterogeneity of geochemical controls on carbon cycling in a tidal salt marsh*, Geochimica et Cosmochimica Acta **282** 1-18 (2020).

2020SB&b Shapiro, D. A.; Babin, S.; Celestre, R. S.; Chao, W.; Conley, R. P.; Denes, P.; Enders, B.; Enfedaque, P.; James, S.; Joseph, J. M.; Krishnan, H.; Marchesini, S.; Muriki, K.; Nowrouzi, K.; Oh, S. R.; Padmore, H.; Warwick, T.; Yang, L.; Yashchuk, V. V.; Yu, Y.-S.; Zhao, J. *An Ultrahigh-Resolution Soft x-Ray Microscope for Quantitative Analysis of Chemically Heterogeneous Nanomaterials.* Science Advances **6** eabc4904 (2020). **HI**

2020SB& Danil E. Smiles, Enrique R. Batista, Corwin H. Booth, David L. Clark, Jason M. Keith, Stosh A. Kozimor, Richard L. Martin, Stefan G. Minasian, David K. Shuh, S. Chantal E. Stieber and Tolek Tyliszczak, *The duality of electron localization and covalency in lanthanide and actinide metallocenes*, Chem. Sci. **11**, 2796-2809 (2020).

2020SDC A.M. Siemens, J. J. Dynes, W. Chang, *Sodium adsorption by reusable zeolite adsorbents: integrated adsorption cycles for salinised groundwater treatment*, Environmental Technology (2020) 1-12. doi.org/10.1080/09593330.2020.1721567

2020SG& Sushruth, M., Grassi, M., Ait Oukaci, K., Stoeffler, D., Henry, Y., Lacour, D., Hehn, M., Bhaskar, U., Bailleul, M., Devolder, T., Adam, J.P. "*Electrical spectroscopy of forward volume spin waves in perpendicularly magnetized materials*" Physical Review Research., **2**, 043203. (2020).

2020SJ& Song KM, Jeong J-S, Pan B, Zhang X, Xia J, Cha S, et al. *Skyrmion-based artificial synapses for neuromorphic computing,* Nature Electronics. **3** 148-155 (2020). **HI**

2020SN& Skoropata, E., J. Nichols, J.M. Ok, R.V. Chopdekar, E.S. Choi, A. Rastogi, C. Sohn, X. Gao, S. Yoon, T. Farmer, R.D. Desautels, Y. Choi, D. Haskel, J.W. Freeland, S. Okamoto, M. Brahlek, and H.N. Lee, "I*nterfacial tuning of chiral magnetic interactions for large topological Hall effects in $LaMnO_3/SrIrO_3$ heterostructures," Science Advances* **6**(27), eaaz3902 (2020). (doi:10.1126/sciadv.aaz3902) **HI**

2020SP& D. Stanescu, M. Piriyev, V. Villard, C. Mocuta, D. Ihiawakrim, O. Ersen, J. Leroy, S.G. Chiuzbaian, A.P. Hitchcock and S. Stanescu, *Characterizing surface states in hematite nanorod photoanodes, both beneficial and detrimental to solar water splitting efficiency*, J. Materials Chemistry A **8**, 20513-20530 (2020).

2020SS&a Forti Stiven, Link Stefan, Stoehr Alexander, Niu Yuran, Zakharov Alexei A., Coletti Camilla, Starke Ulrich, *Semiconductor to metal transition in two-dimensional gold and its van der Waals heterostack with graphene*, Nature Communications **11,** 2236 (2020) **HI**

2020SS&b Sun, C.-Y., C.A. Stifler, R.V. Chopdekar, C.A. Schmidt, G. Parida, V. Schoeppler, B.I. Fordyce, J.H. Brau, T. Mass, S. Tambutté, and P. Gilbert, "*From particle attachment to space-filling coral skeletons*," Proc Natl Acad Sci USA **117**(48), 30159-30170 (2020). (doi:10.1073/pnas.2012025117) **HI**

2020SWU S. Shokatian, J. Wang, S.G. Urquhart, *Effect of Chain Length on the Near Edge X-ray Absorption Fine Structure Spectra of Liquid n-Alkanes*, Chemical Physics Letters **752** 137564 (2020)

2020SW& T.D. Sowers, R. P. Wani, Elizabeth K. Coward, Matthew H.H. Fischel, Aaron R. Betts, Thomas A. Douglas, Owen W. Duckworth, Donald L. Sparks, *Spatially Resolved Organomineral Interactions across a Permafrost Chronosequence*, Environ. Sci. Technol. **54,** 2951-2960 (2020).

2020SY& H. W. Shiu, L. C. Yu, Y. L. Lai, T. Ohigashi, Y.-G. Lin and Y. J. Hsu, *Microscopic Electronic Structure of Vanadium Nitride/Oxide Supercapacitors* , UVSOR Annual Report **47**, 129 (2019)

2020SZ&b Y. Shi, Zakharov Alexei A., Ivanov Ivan G., Vinogradov Nikolay A., Yazdi G. Reza, Syvajarvi Mikael, Yakimova Rositsa, Sun Jianwu, *A patterning-free approach for growth of free-standing graphene nanoribbons using step-bunched facets of off-oriented 4H-SiC(0001) epilayers*, J. Physics D-Applied Physics **53,** 115102 (2020).

2020SZ&c Y. Shi, Zakharov Alexei A., Ivanov Ivan Gueorguiev, Yazdi Gholamreza, Syvajarvi Mikael, Yakimova Rositsa, Sun Jianwu, *Epitaxial Graphene Growth on the Step-Structured Surface of Off-Axis C-Face 3C-SiC(111)*, Physica Status Solidi B **257**, 1900718 (2020).

2020TJ& J.M. Tomlin, K.A. Jankowski, Felipe A. Rivera-Adorno, Matthew Fraund, Swarup China, Brian H. Stirm, Robert Kaeser, Gregory S. Eakins, Ryan C. Moffet, Paul B. Shepson, and Alexander Laskin, *Chemical Imaging of Fine Mode Atmospheric Particles Collected from a Research Aircraft over Agricultural Fields*, ACS Earth Space Chem. **4**, 2171-2184 (2020)

2020TK&a Trinh, T.X., Kwon, S.J., Gerelkhuu, Z., Choi, J.S., Song, J., Yoon, T.H., *Identification of Ca-rich dense granules in human platelets using scanning transmission X-ray microscopy.* J Synchrotron Radiat **27**, 720–724 (2020)

2020TK&b Takano, Y. Kebukawa, T. Ohigashi, M. Matsuoka, K. Kiryu, M. Uesugi, T. Nakamura, H. Yuzawa, K. Yamada, H. Naraoka, T. Yada, M. Abe, M. Hayakawa, T. Saiki, S. Tachibana and Hayabusa2 Project Team, Assessing the Debris Generated by the Small Carry-on Impactor Operated from the Hayabusa2 Mission, UVSOR Annual Report pXX (2020)

2020TS&a I.I. Tashlykova-Bushkevich, Shepelevich V. G., Amati M., Gregoratti L., Kiskinova M., *Influence of Chromium on the Chemical Composition and Surface Properties of Rapidly Solidified Al–Cr Alloys,* J.Surface Investigation: X-ray, Synchrotron and Neutron Techniques, **14**, 66-72 (2020)

2020UH& M. Uesugi, K. Hirahara, Kentaro Uesugi, Akihisa Takeuchi, Yuzuru Karouji, Naoki Shirai, Motoo Ito, Naotaka Tomioka, Takuji Ohigashi, Akira Yamaguchi, Naoya Imae, Toru Yada, and Masanao Abe.. *'Development of a Sample Holder for Synchrotron Radiation-Based Computed Tomography and Diffraction Analysis of Extraterrestrial Materials'*. Review of Scientific Instruments **91** 035107 (2020)

2020UI& M. Uesugi, M. Ito, K. Tomioka, Y. Kodama, T. Ohigashi and H. Yuzawa, Analysis of 3D Structure of Extraterrestrial Organic Materials Using Combination of STXM-NEXAFS and SR Nano-tomography, UVSOR Annual Report pXX (2020)

2020VB& J.C. Viennet, S. Bernard, Le Guillou, C., .Jacquemot, P., Delbes, L., Balan, E., Jaber, M. "*Influence of the nature of the gas phase on the degradation of RNA during fossilization processes*" Applied Clay Science., **191**, 105616. (2020).

2020VL& V. Vinogradoff, Le Guillou, C., Bernard, S., Viennet, J.C., Jaber, M., Remusat, L. "*Influence of phyllosilicates on the hydrothermal alteration of organic matter in asteroids: experimental perspectives"* Geochimica et Cosmochimica Acta., **269**: 150-166. (2020).

2020WA& Wang, M., Andrews, C., Reimers, S., Amin, O.J., Wadley, P., Campion, R.P., Poole, S.F., Felton, J., Edmonds, K.W., Gallagher, B.L., Rushforth, A.W., Makarovsky, O., Gas, K., Sawicki, M., Kriegner, D., Zubáč, J., Olejník, K., Novák, V., Jungwirth, T., Shahrokhvand, M., Zeitler, U., Dhesi, S.S., Maccherozzi, F.,. *Spin flop and crystalline anisotropic magnetoresistance in CuMnAs.* Phys. Rev. B **101**, 094429 (2020).

2020WB&a J.L. White, A.A. Baker, M.A. Marcus, J.L. Snider, T.C. Wang, J.I. Lee, D.L. Kilcoyne, M.D. Allendorf, V. Stavila, and F. El Gabaly, "*The Inside-Outs of Metal Hydride Dehydrogenation: Imaging the Phase Evolution of the Li-N-H Hydrogen Storage System*," Advanced Materials Interfaces, **7**, 1901905 (2020).

2020WB&b Wu L, Bespalov I, Witte K, Lugier O, Haitjema J, Vockenhuber M, *et al. Unravelling the effect of fluorinated ligands in hybrid EUV photoresists by X-ray spectroscopy,* Journal of Materials Chemistry C. **8** 14757-14765 (2020).

2020WCL J. Wang, J. Chung and J. Lim, Chemical State Mapping of a Heterostructured Oxygen Catalyst using STXM, UVSOR Annual Report, pXX (2020)

2020WC& Weinhardt, V., J.-H. Chen, A.A. Ekman, J. Guo, S.G. Remesh, M. Hammel, G. McDermott, W. Chao, S. Oh, M.A. Le Gros, and C.A. Larabell, "*Switchable resolution in soft x-ray tomography of single cells*," PLoS ONE **15**, e0227601 (2020).

2020WFR Watts, B., Finizio, S., Raabe, J.,. *Quantifying signal quality in scanning transmission X-ray microscopy.* J Synchrotron Rad 29, 1054–1064 (2022).

2020WG& Wang, Z., M. Guo, H.-A. Zhou, L. Zhao, T. Xu, R. Tomasello, H. Bai, Y. Dong, S.-G. Je, W. Chao, H.-S. Han, S. Lee, K.-S. Lee, Y. Yao, W. Han, C. Song, H. Wu, M. Carpentieri, G. Finocchio, M.-Y. Im, S.-Z. Lin, and W. Jiang, "*Thermal generation, manipulation and thermoelectric detection of skyrmions*," Nat. Electron. **3**, 672-679 (2020). (doi:10.1038/s41928-020-00489-2) **HI**

2020WS&a Witte K, Späth A, Finizio S, Donnelly C, Watts B, Sarafimov B, et al., *From 2D STXM to 3D imaging: soft X-ray laminography of thin specimens*, Nano Letters. **20** 1305-1314 (2020). **HI**

2020WS&b White, K. L.; Singla, J.; Loconte, V.; Chen, J.-H.; Ekman, A.; Sun, L.; Zhang, X.; Francis, J. P.; Li, A.; Lin, W.; Tseng, K.; McDermott, G.; Alber, F.; Sali, A.; Larabell, C.; Stevens, R. C. *Visualizing Subcellular Rearrangements in Intact β Cells Using Soft X-Ray Tomography*. *Science Advances* **6**, eabc8262 (2020).

2020WY& Wolfman, M., Y.-S. Yu, B.M. May, Z.W. Lebens-Higgins, S. Sallis, N.V. Faenza, N. Pereira, N. Shirato, V. Rose, D.A. Shapiro, G.G. Amatucci, L.J. Piper, and J. Cabana, "Mapping Competitive Reduction upon Charging in LiNi 0.8Co 0.15Al 0.05O 2 Primary Particles," Chemistry of Materials **32**, 6161-6175 (2020).

2020WZ& Mingjie Wu, Gaixia Zhang, Yongfeng Hu, Jian Wang, Tianxiao Sun, Tom Regier, Jinli Qiao, Shuhui Sun, *Graphitic-shell encapsulated NiFe alloy/nitride nanocrystals on biomass-derived N-doped carbon as efficient electrocatalyst for rechargeable Zn-air battery*, Carbon Energy **2020** 1-12, (2020)

2020XL&a Xiu, J., Liu, Y., Wang, B., Xue, Y., Chen, M., Ji, T., Liu, H.,. *Quantitative toxicological study of dose-dependent arsenic-induced cells via synchrotron-based STXM and FTIR measurement.* Analyst **145**, 4560–4568 (2020).

2020XL&b Xiao, Z., R. Lo Conte, M. Goiriena-Goikoetxea, R.V. Chopdekar, C.-H. Lambert, X. Li, A.T. N'Diaye, P. Shafer, S. Tiwari, A. Barra, A. Chavez, K.P. Mohanchandra, G.P. Carman, K. Wang, S. Salahuddin, E. Arenholz, J. Bokor, and R. Candler, "T*unable Magnetoelastic Effect in Voltage-controlled Exchange-coupled Composite Multiferroic Microstructure*s," ACS Applied Materials **12**(5), 6752-6760 (2020). (doi:10.1021/acsami.9b20876)

2020XY& Xing Xia, Jianjun Yang, Yubo Yan, Jian Wang, Yongfeng Hu, and Xibai Zeng, *Molecular sorption mechanisms of Cr(III) to organo-ferrihydrite coprecipitates using synchrotron-based EXAFS and STXM techniques*, Environ. Sci. Technol. 54) 12989-12997 (2020).

2020YG& T. Yilmaz, G. D. Gu, E. Vescovo, K. Kaznatcheev, B. Sinkovic, *Photon energy and polarization-dependent electronic structure of Cr-doped* Bi_2Se_3. Phys. Rev. Materials, **4**(2), 024201 (2020)

2020YL&a M. Yang, Q. Li, R.V. Chopdekar, C. Stan, S. Cabrini, J.W. Choi, S. Wang, T. Wang, N. Gao, A. Scholl, N. Tamura, C. Hwang, F. Wang, and Z. Qiu, *"Highly Enhanced Curie Temperature in Ga-Implanted* Fe_3GeTe_2 *van der Waals Material*," Adv. Quantum Technol. **3**(4), 2000017 (2020)

2020YL&b Yang, M., Q. Li, R.V. Chopdekar, R. Dhall, J. Turner, J.D. Carlström, C. Ophus, C. Klewe, P. Shafer, A.T. N,ÄôDiaye, J.W. Choi, G. Chen, Y.Z. Wu, C. Hwang, F. Wang, and Z.Q. Qiu, "*Creation of skyrmions in van der Waals ferromagnet* Fe_3GeTe_2 *on* $(Co/Pd)_n$ *superlattice,*" *S*cience Advances **6**(36), eabb5157 (2020). (doi:10.1126/sciadv.abb5157)

2020YOa H. Yuzawa and T. Ohigashi, Study of STXM with IR Laser Optics Part I. – In-Situ Removal of Organic Contamination from Carbon Nanotube, UVSOR Annual Report (2020).

2020YOb H. Yuzawa and T. Ohigashi, Study of STXM with IR Laser Optics Part II. – In-Situ Observation of Mn2O3 Calcination, UVSOR Annual Report (2020).

2020YY& M. Yoo,Y.-S. Yu, H. Ha, S. Lee, J.-S. Choi, S.-H. Oh, E. Kang, H. Choi, H. An, K.-S. Lee, J.Y. Park, R. Celestre, M.A. Marcus, K. Nowrouzi, D. Taube, D.A. Shapiro, W. Jung, C.-Y. Kim, and H.Y. Kim, "*A tailored oxide interface creates dense Pt single-atom catalysts with high catalytic activity,*" Energy Environ. Sci **13**, 1231-1239 (2020)

2020YX& J.Yang, X. Xia, J. Liu, Jian Wang, Yongfeng Hu, *Molecular mechanisms of chromium(III) immobilization by organo-ferrihydrite co-precipitates: The significant roles of ferrihydrite and carboxyl*, Environ. Sci. Technol. **54** 4820-4828 (2020).

2020XL& Z. Xiao, R. Lo Conte, M. Goiriena-Goikoetxea, R.V. Chopdekar, C.-H. Lambert, X. Li, A.T. N'Diaye, P. Shafer, S. Tiwari, A. Barra, A. Chavez, K.P. Mohanchandra, G.P. Carman, K. Wang, S. Salahuddin, E. Arenholz, J. Bokor, and R. Candler, "*Tunable Magnetoelastic Effect in Voltage-controlled Exchange-coupled Composite Multiferroic Microstructures,*" ACS Applied Materials **12**(5), 6752-6760 (2020)

2020ZA& W. Zaheer,, J.L. Andrews, A. Parija, F.P. Hyler, C. Jaye, C. Weiland, Y.-S. Yu, D.A. Shapiro, D.A. Fischer, J. Guo, J.M. Velazquez, and S. Banerjee, "Reversible Room-Temperature Fluoride-Ion Insertion in a Tunnel-Structured Transition Metal Oxide Host," *ACS Energy Letters* **5**, 2520-2526 (2020).

2020ZC& Zhang, H., R. Chen, K. Zhai, X. Chen, L. Caretta, X. Huang, R.V. Chopdekar, J. Cao, J. Sun, J. Yao, R. Birgeneau, and R. Ramesh, *"Itinerant ferromagnetism in van der Waals $Fe_{5-x}GeTe_2$ crystals above room temperature*," Physical Review B **102**(6), 064417 (2020). (doi:10.1103/PhysRevB.102.064417)

2020ZF& Zeissler K, Finizio S, Barton C, Huxtable AJ, Massey J, Raabe J, et al., *Diameter-independent skyrmion Hall angle observed in chiral magnetic multilayers,* Nature Communications. **11**, 428 (2020). **HI**

2020ZL& C. Zhao, J. Liang, Xiaona Li, Nathaniel Holmes, Changhong Wang, Jian Wang, Feipeng Zhao, Shaofeng Li, Qian Sun, Xiaofei Yang, Jianneng Liang, Xiaoting Lin, Weihan Li, Ruying Li, Shangqian Zhao, Huan Huang, Li Zhang, Shigang Lu, Xueliang Sun, *Halide-based solid-state electrolyte as an interfacial modifier for high performance solid-state Li-O2 batteries*, Nano Energy **75** 105036:1-6 (2020).

2020ZW& L. Zhou, X. Wang, Hyun-Joon Shin, Jian Wang, Renzhong Tai, Xuehua Zhang, Haiping Fang, Wei Xiao, Lei Wang, Chunlei Wang, Xingyu Gao, Jun Hu, and Lijuan Zhang, *Ultra-high Density of Gas Molecules Confined in Surface Nanobubbles in Ambient Water*, J. Am. Chem. Soc. **142** 5583-5593 (2020).

2020ZZ& Feipeng Zhao, Yang Zhao, Jian Wang, Qian Sun, Keegan Adair, Shumin Zhang, Jing Luo, Junjie Li, Weihan Li, Yipeng Sun, Xiaona Li, Jianwen Liang, Changhong Wang, Ruying Li, Huan Huang, Li Zhang, Shangqian Zhao, Shigang Lu, Xueliang Sun, *Tuning a Favorable Cathode Protection Layer via Atomic Layer Deposition for Advanced Sulfide-Based All-Solid-State Batteries*, Energy Storage Materials **33**, 139-146 (2020)

2021AB& Alleon, J., Bernard, S., Olivier, N., Thomazo, C., Marin-Carbonne, J. "*Inherited geochemical diversity of 3.4 Ga organic films from the Buck Reef Chert, South Africa*" Communications Earth & Environment., **2**, 1-7 (2021).

2021AC& Arul, K.T., Chang, H.-W., Shiu, H.-W., Dong, C.-L., Pong, W.-F., *A review of energy materials studied by in situ/operando synchrotron x-ray spectro-microscopy.* J. Phys. D: Appl. Phys. 54, 343001 (2021). https://doi.org/10.1088/1361-6463/ac017f

2021AD& Alpert, P.A., Dou, J., Corral Arroyo, P., Schneider, F., Xto, J., Luo, B., Peter, T., Huthwelker, T., Borca, C.N., Henzler, K.D., Schaefer, T., Herrmann, H., Raabe, J., Watts, B., Krieger, U.K., Ammann, M., *Photolytic radical persistence due to anoxia in viscous aerosol particles.* Nat Commun 12, 1769 (2021).**HI** https://doi.org/10.1038/s41467-021-21913-x

2021AH& Alqahtani, O., S.M. Hosseini, T. Ferron, V. Murcia, T. McAfee, K. Vixie, F. Huang, A. Armin, S. Shoaee, and B.A. Collins, *"Evidence That Sharp Interfaces Suppress Recombination in Thick Organic Solar Cells*," ACS Applied Materials & Interfaces 13, 56394-56403 (2021).

2021AK& N. Armakavicius, Kuhne ., Eriksson J., Bouhafs C., Stanishev V., Ivanov I.G., Yakimova Rositsa, Zakharov Alexei A., Al-Temimy Ameer, Coletti Camilla, Schubert Mathias, Darakchiev Vanya *Resolving mobility anisotropy in quasi-free-standing epitaxial graphene by terahertz optical Hall effect*, Carbon **172**, 248-259 (2021).

2021AS& Anil, A.G., Swaraj, S., Subramanian, S., Ramamurthy, P.C. "*Analysis of Cr(VI) Bioremediation by Citrobacter freundii Using Synchrotron Soft X-ray Scanning Transmission X-ray Microscopy*" Quantum Beam Science., **5**, 28, (2021).

2021BC&a M.G. Barr, S. Chambon, A. Fahy, T.W. Jones, M.A. Marcus, A.L. Kilcoyne, P.C. Dastoor, M.J. Griffith, and N.P. Holmes, "*Nanomorphology of eco-friendly colloidal inks, relating non-fullerene acceptor surface energy to structure formation,"* Materials Chemistry Frontiers 5(5), 2218-2233 (2021).

2021BC&b Brege, M.A., S. China, S. Schum, A. Zelenyuk, and L.R. Mazzoleni, "*Extreme Molecular Complexity Resulting in a Continuum of Carbonaceous Species in Biomass Burning Tar Balls from Wildfire Smoke,*" ACS Earth and Space Chemistry **5**, 2729-2739 (2021).

2021BD& Bourdelle F, Dubois M, Lloret E, Durand C, Addad A, Bounoua S, *et al. Kaolinite-to-chlorite conversion from Si,Al-rich fluid-origin veins/fe-rich carboniferous shale interaction,* Minerals. **11** 804 (2021).

2021BL&a Baeumer, C., J. Li, Q. Lu, A.-L. Liang, L. Jin, H.P. Martins, T. Duchoň, M. Glöß, S.M. Gericke, M.A. Wohlgemuth, M. Giesen, E.E. Penn, R. Dittmann, F. Gunkel, R. Waser, M. Bajdich, S. Nemšák, J.T. Mefford, and W.C. Chueh, "*Tuning electrochemically driven surface transformation in atomically flat $LaNiO_3$ thin films for enhanced water electrolysis,*" Nat. Mater. **20**, 674-682 (2021) doi:10.1038/s41563-020-00877-1**HI**

2021BL&b Bourdelle F, Lloret E, Durand C, Airaghi L, *Evaluation of scanning transmission X-ray microscopy at the Mn $L_{2,3}$-edges as a potential probe for manganese redox state in natural silicates*, Physics and Chemistry of Minerals. **48** 18 (2021)

2021BR& V. Berejnov, B. Rubinstein, L.G.A. Melo, and A.P. Hitchcock, *Calculating Absorption Dose When X-ray Irradiation Modifies Material Quantity and Chemistry*, J. Synchrotron Radiation **28**, 834-838 (2021)

2021BS& Yang Bai, David A. Santos, Shahed Rezaei, Peter Stein, Sarbajit Banerjee, Bai-Xiang Xu, *A chemo-mechanical damage model at large deformation: numerical and experimental studies on polycrystalline energy materials*, International Journal of Solids and Structures **228** 111099:1-16 (2021).

2021CD& C. Carriere, P. Dillmann, S. Gin, D. Neff, L. Gentaz, F. Bruguier, I. Monnet, E. Gardes, M. Saheb, E. Foy, N. Nuns, A. Delanoë, J.J. Dynes, N. Michau and C. Martin, *The fate of Si and Fe while nuclear glass alters with steel and clay*, npj Materials Degradation **5** 16 (2021)

2021CK& Csernica, P.M., S.S. Kalirai, W.E. Gent, K. Lim, Y.-S. Yu, Y. Liu, S.-J. Ahn, E. Kaeli, X. Xu K.H. Stone, A.F. Marshall, R. Sinclair, D.A. Shapiro, M.F. Toney, and W.C. Chueh, "Persistent and partially mobile oxygen vacancies in Li-rich layered oxides," Nature Energy 6(6), 642-652 (2021). **HI**

2021CL Rosemary R. Cranston, and Benoit H. Lessard, *Metal phthalocyanines: thin-film formation, microstructure, and physical properties*, RSC Adv. **1** 21716 (2021)

2021CL& Choi, E.; Lee, D.; Shin, H.-J.; Kim, N.; Valladares, L. D. L. S.; Seo, J. R*ole of Oxygen Vacancy Sites on the Temperature-Dependent Photo-luminescence of SnO2 Nanowires*. J. Phys. Chem. C *ib*, 14974–14978 (2021)

2021CMC Brandi Cron, Jennifer L. Macalady, Julie Cosmidis, *Organic stabilization of extracellular elemental sulfur in a Sulfurovum-rich biofilm: a new role for Extracellular Polymeric Substances?* Frontiers in Microbiology **12** 720101:1-14 (2021).

2021CS&a Z., Cheng, N. Sharma, K.-P. Tseng, L. Kovarik, and S. China, "*Direct observation and assessment of phase states of ambient and lab-generated sub-micron particles upon humidification,*" RSC Advances **11**(25), 15264-15272 (2021).

2021CS&b Chen, Y.-A., Shiu, H.-W., Hsu, Y.-J., Mundt, L. E., Hung, W.-T., Ohigashi, T., Li, M.-H., & Chen, P. *Effect of the Large-Size A-Site Cation on the Crystal Growth and Phase Distribution of 2D/3D Mixed Perovskite Films via a Low-Pressure Vapor-Assisted Solution Process*. J. Physical Chemistry C, 125, 26601–26612 (2021).

2021CS&c Cogulu, E., N.N. Statuto, Y. Cheng, F. Yang, R.V. Chopdekar, H. Ohldag, and A.D. Kent, "*Direct imaging of electrical switching of antiferromagnetic Néel order in α-Fe_2O_3 epitaxial films*," Physical Review B **103**(10), L100405 (2021). (doi:10.1103/PhysRevB.103.L100405)

2021DA& Dou J, Alpert PA, Corral Arroyo P, Luo B, Schneider F, Xto J, *et al. Photochemical degradation of iron(III) citrate/citric acid aerosol quantified with the combination of three complementary experimental techniques and a kinetic process model*, Atmospheric Chemistry and Physics. **21**, 315-338 (2021).

2021DB& Delarue, F., Bernard, S., Sugitani, K., Robert, F., Tartèse, R., Albers, S.V., Duhamel, R., Pont, S., Derenne, S. "*Microfossils with tail-like structures in the 3.4 Gyr old Strelley Pool Formation"* Precambrian Research., **358**: art.n° 106187. (2021).

2021DC& Domart, F., Cloetens, P., Roudeau, S., Carmona, A., Verdier, E., Choquet, D., Ortega, R. "*Correlating STED and synchrotron XRF nano-imaging unveils cosegregation of metals and cytoskeleton proteins in dendrites*" e-Life., **9**, e62334. (2020).

2021EB& J. Everett, J. Brooks, Joanna F. Collingwood and Neil D. Telling, Nanoscale chemical speciation of β-amyloid/iron aggregates using soft X-ray spectromicroscopy, Inorg. Chem. Frontiers. **8**, 1439-1448 (2021).

2021EJ& Eichhorn, J., C.-M. Jiang, J.K. Cooper, I.D. Sharp, and F.M. Toma, "*Nanoscale Heterogeneities and Composition-Reactivity Relationships in Copper Vanadate Photoanode*s," ACS Applied Materials **13**, 23575-23583 (2021).

2021EL& Everett, J., F. Lermyte, J. Brooks, V. Tjendana-Tjhin, G. Plascencia-Villa, I. Hands-Portman, J.M. Donnelly, K. Billimoria, G. Perry, X. Zhu, P.J. Sadler, P.B. O,Ä Connor, J.F. Collingwood, and N.D. Telling, "*Biogenic metallic elements in the human brain*?," Science Advances **7**(24), eabf6707 (2021). (doi:10.1126/sciadv.abf6707) **HI**

2021FF& Foetisch, A., Filella, M., Watts, B., Vinot, L.-H., Bigalke, M. *Identification and characterisation of individual nanoplastics by scanning transmission X-ray microscopy (STXM*). *J Hazard Mater* **426**, 127804. (2022)

2021GD& Grant, T.M., Dindault, C., Rice, N., Swaraj, S., Lessard, B.H. "*Synthetically Facile Organic Solar Cells with > 4% Efficiency using P3HT and a Silicon Phthalocyanine Non-Fullerene Acceptor"* Materials Advances., **2** 2594-2599. (2021).

2021GF& X.Guo, Q. Fan, J. Wu, G. Li, Z. Peng, W. Su, J. Lin, L. Hou, Y. Qin, H. Ade, L. Ye, M. Zhang, and Y. Li, "*Optimized Active Layer Morphologies via Ternary Copolymerization of Polymer Donors for 17.6 % Efficiency Organic Solar cells with Enhanced Fill Factor*," Angewandte Chemie International Edition **60**(5), 2322-2329 (2021).

2021GM& A.Gimat, A. Michelin, Oulfa Belhadj, Eleonora Pellizzi, Pascale Massiani, Veronique Rouchon, *Paper sizing with gelatine: from the macro- to the nano-scale*, Cellulose **28,** 2419-2432 (2021).

2021GO&a G. Germer, T. Ohigashi, H. Yuzawa, N. Kosugi, R. Flesch, F. Rancan, A. Vogt and E. Rühl, *"Improved Skin Permeability after Topical Treatment with Serine Protease: Probing the Penetration of Rapamycin by Scanning Transmission X-ray Microscopy*", ACS Omega, **6**, 12213-12222 (2021).

2021GO&b Z. Gao, M. Odstrcil, S. Böcklein, D. Palagin, M. Holler, D. F. Sanchez, F. Krumeich, A. Menzel, M. Stampanoni, G. Mestl, J. A. van Bokhoven, M. Guizar-Sicairos, and J. Ihli, "*Sparse ab initio x-ray transmission spectrotomography for nanoscopic compositional analysis of functional materials*," Sci. Adv. **7**, 1–12 (2021). **HI**

2021GR& Gránásy, L., L. Rátkai, G.I. Tóth, P. Gilbert, I. Zlotnikov, and T. Pusztai, "P*hase-Field Modeling of Biomineralization in Mollusks and Corals: Microstructure vs Formation Mechanism*," JACS Au **1**(7), 1014-1033 (2021). (doi:10.1021/jacsau.1c00026)

2021GW& S.J. Gonçalves, J. Weis, S. China, H. Evangelista, T.H. Harder, S. Müller, M. Sampaio, A. Laskin, M.K. Gilles, and R.M. Godoi, "*Photochemical reactions on aerosols at West Antarctica: A molecular case-study of nitrate formation among sea salt aerosols*," Science of the Total Environment **758**, 143586 (2021).

2021GZ& A.Guo, J. Zhang, Yufei Wang, Jiadong Fan, Bo He, Jian Wang, Renzhong Tai, Xing-Jie Liang, and Huaidong Jiang, *Nanoscale Detection of Subcellular Nanoparticles by X-Ray Diffraction Imaging for Precise Quantitative Analysis of Whole Cancer Cells*, Analytical Chemistry **93**, 5201-5210 (2021)

2021HH& Han, H.-S., S. Lee, M.-S. Jung, N. Kim, W. Chao, Y.-S. Yu, J.-I. Hong, K.-S. Lee, and M.-Y. Im, "*Topology-dependent stability of vortex-antivortex structures*," Appl. Phys. Lett. **118**, 212407 (2021). (doi:10.1063/5.0045593)

2021HK&a Y. Higaki, K. Kamitani, T. Ohigashi, T. Hayakawa and A. Takahara, "*Exploring the Mesoscopic Morphology in Mussel Adhesive Proteins by Soft X-ray Spectromicroscopy*", Macromolecules, **22,** 1256-1260 (2021).

2021HK&b Hageraats, S., Keune, K., Stanescu, S., Laurent, J.M., Fresquete, W., Thoury, M. "*Combining X-ray excited optical luminescence and X-ray absorption 2021HT& spectroscopy for correlative imaging on the nanoscale*" Journal of Synchrotron Radiation., **28**(6): 1858-1864. (2021).

2021HK&c . Higaki, K. Kamitani, T. Ohigashi, T.Hayakawa and A. Takahara, "Exploring the Mesoscopic Morphology in Mussel Adhesive Proteins by Soft X-ray Spectromicroscopy", Biomacromolecules **22** 1256 (2021).

2021HL&a Hubbard, W.A., J.J. Lodico, X.Y. Ling, B.T. Zutter, Y.-S. Yu, D.A. Shapiro, and B.C. Regan, "*Differential electron yield imaging with STXM*," Ultramicroscopy **222**, 113198 (2021).

2021HL&b Han, H.-S., S. Lee, S.-G. Je, M. Kang, H.-J. Ok, N. Kim, W. Chao, M.-Y. Im, and K.-S. Lee, "*Stochasticity in the Switching of Nanodisks for Probabilistic Computing*," ACS Appl. Nano Mater. **4**, 9912-9918 (2021). (doi:10.1021/acsanm.1c02470)

2021HT& Hageraats, S., Thoury, M., Stanescu, S., Keune, K. "*Soft X-ray nanospectroscopy for quantification of X-ray linear dichroism on powders*" J. Synchrotron Radiation., **28**, 1090-1099. (2021).

2021IT& M. Ito, Takano, Y., Kebukawa, Y., Ohigashi, T., Matsuoka, M., Kiryu, K., Uesugi, M., Nakamura, T., Yuzawa, H., Yamada, K., Naraoka, H., Yada, T., Abe, M., Hayakawa, M., Saiki, T., Tachibana, S., & Team, H. I. P. *Assessing the debris generated by the small carry-on impactor operated from the Hayabusa2 mission*. Geochemical Journal, **55**, 223–239 (2021).

2021JH& Jung, D.-H., H.-S. Han, N. Kim, G. Kim, S. Jeong, S. Lee, M. Kang, M.-Y. Im, and K.-S. Lee, "*Magnetic skyrmion diode: Unidirectional skyrmion motion via symmetry breaking of potential energy barriers*," Physical Review B **104**, L060408 (2021). (doi:10.1103/PhysRevB.104.L060408)

2021JM& Jongkind MK, Meirer F, Bossers KW, ten Have IC, Ohldag H, Watts B, *et al. Influence of metal-alkyls on early-stage ethylene polymerization over a Cr/SiO_2 Phillips catalyst: a bulk characterization and X-ray chemical imaging study*, Chemistry: A European Journal. **27** 1688-1699 (2021).

2021JT& Je, S.-G., D. Thian, X. Chen, L. Huang, D.-H. Jung, W. Chao, K.-S. Lee, J.-I. Hong, A. Soumyanarayanan, and M.-Y. Im, "*Targeted Writing and Deleting of Magnetic Skyrmions in Two-Terminal Nanowire Devices*," Nano Lett. **21**(3), 1253-1259 (2021). (doi:10.1021/acs.nanolett.0c03686)

2021KB& Knopf, D.A., K.R. Barry, T.A. Brubaker, L.G. Jahl, K.A. Jankowski, J. Li, Y. Lu, L.W. Monroe, K.A. Moore, F.A. Rivera-Adorno, K.A. Sauceda, Y. Shi, J.M. Tomlin, H.K. Vepuri, P. Wang, N.N. Lata, E.T. Levin, J.M. Creamean, T.J. Hill, S. China, P.A. Alpert, R.C. Moffet, N. Hiranuma, R.C. Sullivan, A.M. Fridlind, M. West, N. Riemer, A. Laskin, P.J. DeMott, and X. Liu, "*Aerosol-Ice Formation Closure: A Southern Great Plains Field Campaign*," Bulletin of the American Meteorological Society **102**, E1952-E1971 (2021).

2021KH& Kjærnes, K., I. Hallsteinsen, R.V. Chopdekar, M. Moreau, T. Bolstad, I.-H. Svenum, S.M. Selbach, and T. Tybell, "*Uniaxial Néel vector control in perovskite oxide thin films by anisotropic strain engineering,*" Physical Review B **103**, 224435 (2021). (doi:10.1103/PhysRevB.103.224435)

2021KJ& Kim, M., Jun, H., Lee, H., Nahdi, H., Tondlier, D., Bonnassieux, Y., Bourée, J.E., Geffroy, B. "*Halide ion migration and its role at the interfaces in perovskite solar cells" European Journal of Inorganic Chemistry.*, **2021**, 4781-4789. (2021)

2021KK& D.S. Kim, Kee, J. Y.; Lee, J.-E.; Liu, Y.; Kim, Y.; Kim, N.; Hwang, C.; Kim, W.; Petrovic, C.; Lee, D. R.; Jang, C.; Ryu, H.; Choi, J. W. *Surface Oxidation in a van Der Waals Ferromagnet Fe3-XGeTe2. Current Applied Physics* **30**, 40–45 (2021)

2021KM& B. King, O.A. Melville, Rice, N.A., Kashani, S., Tonnelé, C., Raboui, H., Swaraj, S., Grant, T.M., McAfee, T., Bender, T.P., Ade, H., Castet, F., Muccioli, L., Lessard, B.H. "*Silicon Phthalocyanines for n-Type Organic Thin-Film Transistors: Development of Structure–Property Relationships*" ACS Applied Electronic Materials., **3**, 325–336. (2021).

2021KR& Kent, N., N. Reynolds, D. Raftrey, I.G. Campbell, S. Virasawmy, S. Dhuey, R.V. Chopdekar, A. Hierro-Rodriguez, A. Sorrentino, E. Pereiro, S. Ferrer, F. Hellman, P. Sutcliffe, and P. Fischer, "*Creation and observation of Hopfions in magnetic multilayer systems*," Nature Communications **12**, 1562 (2021). (doi:10.1038/s41467-021-21846-5)

2021KX& Khojah, R., Z. Xiao, M.K. Panduranga, M. Bogumil, Y. Wang, M. Goiriena,ÄêGoikoetxea, R.V. Chopdekar, J. Bokor, G.P. Carman, R.N. Candler, and D. Di Carlo, "*Single-Domain Multiferroic Array-Addressable Terfenol-D (SMArT) Micromagnets for Programmable Single-Cell Capture and Release*," Adv. Mater. **33**, 2006651 (2021). (doi:10.1002/adma.202006651)

2021KZ&a Kebukawa, Y., Zolensky, Michael. E., Goodrich, C. A., Ito, M., Ogawa, N. O., Takano, Y., Ohkouchi, N., Kiryu, K., Igisu, M., Shibuya, T., Marcus, M. A., Ohigashi, T., Martinez, J., Kodama, Y., Shaddad, M. H., & Jenniskens, P. (2021). *Organic matter in carbonaceous chondrite lithologies of Almahata Sitta: Incorporation of previously unsampled carbonaceous chondrite lithologies into ureilitic regolith*. Meteoritics & Planetary Science, **56**, 1311–1327.

2021KZ& Körber L, Zimmermann M, Wintz S, Finizio S, Kronseder M, Bougeard D, *et al. Symmetry and curvature effects on spin waves in vortex-state hexagonal nanotubes*, Physical Review B.**104,** 184429 (2021).

2021LC&a H. Lotz, C. Carrière, Christian Bataillon, Emmanuel Gardes, Isabelle Monnet, Eddy Foy, Michel L. Schlegel, James J. Dynes, Delphine Neff, Florence Mercier-Bion, Philippe Dillmann, *Investigation of steel corrosion in MX80 bentonite at 120°C*, Materials and Corrosion **72,** 120-130 (2021).

2021LC&b V. Loconte, J.-H. Chen, M. Cortese, A. Ekman, M.A. Le Gros, C. Larabell, R. Bartenschlager, and V. Weinhardt, "*Using soft X-ray tomography for rapid whole-cell quantitative imaging of SARS-CoV-2-infected cells*," Cell Rep. Methods **1**, 100117 (2021).

2021LL& Jinhua Li, Peiyu Liu, Alima Tamaxia, Heng Zhang, Yan Liu, Jian Wang, Nicolas Menguy, Xiang Zhao, Andrew P. Roberts, Yongxin Pan, *Diverse intracellular inclusion types within magnetotactic bacteria: Implications for biogeochemical cycling in aquatic environments*, JGR Biogeosciences **126** e2021JG006310 (2021).

2021LZ&a Lo, Y. H., Zhou, J., Rana, A., Morrill, D., Gentry, C., Enders, B., Yu, Y.-S., Sun, C.-Y., Shapiro, D. A., Falcone, R. W., Kapteyn, H. C., Murnane, M. M., Gilbert, Pupa, & Miao, J.. *X-ray linear dichroic ptychography*. Proceedings of the National Academy of Sciences, **118** e2019068118 (2021) **HI**

2021LZ&b Lata, N.N., B. Zhang, S. Schum, L. Mazzoleni, R. Brimberry, M.A. Marcus, W.H. Cantrell, P. Fialho, C. Mazzoleni, and S. China, "Aerosol Composition, Mixing State, and Phase State of Free Tropospheric Particles and Their Role in Ice Cloud Formation," ACS Earth and Space Chemistry **5**, 3499-3510 (2021).

2021MA& Mefford, J. T., Akbashev, A. R., Kang, M., Bentley, C. L., Gent, W. E., Deng, H. D., Alsem, D. H., Yu, Y.-S., Salmon, N. J., Shapiro, D. A., Unwin, P. R., & Chueh, W. C.. *Correlative operando microscopy of oxygen evolution electrocatalysts*. Nature, **593**, 67–73 (2021). **HI**

2021MB&a C.L. Monteil, K. Benzerara, Menguy, N., Bidaud, C.C., Michot-Achdjian, E., Bolzoni, R., Mathon, F.P., Coutaud, M., Alonso, B., Garau, C., Jézéquel, D., Viollier, E., Ginet, N., Floriani, M., Swaraj,S., Sachse, M., Busigny, V., Duprat, E., Guyot, F., Lefevre, C.T. "*Intracellular amorphous Ca-carbonate and magnetite biomineralization by a magnetotactic bacterium affiliated to the Alphaproteobacteria"* ISME Journal., **15**, 1–18. (2021).

2021MB&b Maurel, C., J.J. Bryson, J. Shah, R.V. Chopdekar, L. T. Elkins,ÄêTanton, C. A. Raymond, and B.P. Weiss, "*A Long-Lived Planetesimal Dynamo Powered by Core Crystallization*," Geophys. Res. Lett. **48**, e2020GL091917 (2021). (doi:10.1029/2020GL091917)

2021MF& Mayr S, Finizio S, Reuteler J, Stutz S, Dubs C, Weigand M, *et al.Xenon plasma focused ion beam milling for obtaining soft X-ray transparent samples* Crystals. **11,** 546 (2021)

2021MG& Ma L, Xu Z, Guo Z, Watts B, Lin J, Zhang X, *et al., Three-dimensional fast elemental mapping by soft X-ray dual-energy focal stacks imaging,* Journal of Synchrotron Radiation. **28**, 924-929 (2021).

2021ML& F. Mangolini, Z. Li, M.A. Marcus, R. Schneider, and M. Dienwiebel, "*Quantification of the carbon bonding state in amorphous carbon materials: a comparison between EELS and NEXAFS measurements*," Carbon **173**, 557-564 (2021).

2021MSY M.A. Marcus, D.A. Shapiro and Y.-S.Yu, *Ptychography Reduces Spectral Distortions Intrinsic to Conventional Zone-Plate-Based X-Ray Spectromicroscopy* Microscopy & Microanalysis 27 (2021) 1448-1453.

2021MS& Makarova, K., V. Strongin, I. Titovets, A. Syrov, I. Zinchenko, V. Samoylov, K. Hofhuis, M. Saccone, A. Makarov, A. Farhan, and K. Nefedev, "Low-energy states, ground states, and variable frustrations of the finite-size dipolar Cairo lattices," Physical Review E **103** 042129 (2021). (doi:10.1103/PhysRevE.103.042129)

2021MX& Ma, L., Xu, Z., Guo, Z., Watts, B., Lin, J., Zhang, X., Tai, R.,. *Three-dimensional fast elemental mapping by soft X-ray dual-energy focal stacks imaging.* J Synchrotron Rad **28**, 924–929 (2021). https://doi.org/10.1107/S1600577521002903

2021NL& C. Nims, J. Lafond, Julien Alleon, Alexis S. Templeton, Julie Cosmidis, *Organic biomorphs may be better preserved than microorganisms in early Earth sediments*, Geology **49**, 629-634 (2021)

2021OB& Olsen, F.K., A.D. Bang, E. Digernes, S.D. Slöetjes, A. Scholl, R.V. Chopdekar, T. Tybell, J.K. Grepstad, and E. Folven, "*Enhanced magnetic signal along edges of embedded epitaxial $La_{0.7}Sr_{0.3}MnO_3$ nanostructures*," J. Magn. Magn. Mater. **521**(Part 1), 167324 (2021). (doi:10.1016/j.jmmm.2020.167324)

2021PB& Wut H. Phue, Mazen Bahadi, James J. Dynes, Jian Wang, Venkata S. C. Kuppili, Ashraf Ismail, Aneela Hameed and Saji George, *Protein–biomolecule interactions play a major role in shaping corona proteome: studies on milk interacted dietary particles*, Nanoscale 13 13353-13367 (2021).

2021PGG Aude Picard, Amy Gartman, and Peter R. Girguis, *Interactions Between Iron Sulfide Minerals and Organic Carbon: Implications for Biosignature Preservation and Detection*, Astrobiology **21** 587-604 (2021)

2021PL& A. Pattammattel, V.J. Leppert, Paul Aronstein, Matthew Robinson, Amirhosein Mousavi, Constantinos Sioutas, Henry Jay Forman, Peggy A. O'Day, *Iron speciation in particulate matter (PM2.5) from urban Los Angeles using spectro-microscopy methods*, Atmospheric Environment **245** 117988 (2021).

2021PP& Park T-E, Peng L, Liang J, Hallal A, Yasin FS, Zhang X, *et al., Néel-type skyrmions and their current-induced motion in van der Waals ferromagnet-based heterostructures*, Physical Review B. **103** 104410 (2021).

2021PX& Panduranga, M.K., Z. Xiao, J.D. Schneider, T. Lee, C. Klewe, R. Chopdekar, P. Shafer, A.T. N'Diaye, E. Arenholz, R.N. Candler, and G.P. Carman, "*Single magnetic domain Terfenol-D microstructures with passivating oxide layer*," J. Magn. Magn. Mater. **528**, 167798 (2021). (doi:10.1016/j.jmmm.2021.167798)

2021PZ& Park, J., H. Zhao, S.D. Kang, K. Lim, C.-C. Chen, Y.-S. Yu, R.D. Braatz, D.A. Shapiro, J. Hong, M.F. Toney, M.Z. Bazant, and W.C. Chueh, "*Fictitious phase separation in Li layered oxides driven by electro-autocatalysis*," Nature Materials **20**, 991-999 (2021) **HI**

2021QG& Yusen Qiao, Gaurab Ganguly, Corwin H. Booth, Jacob A. Branson, Alexander S. Ditter, Daniel J. Lussier, Liane M. Moreau, Dominic R. Russo, Dumitru-Claudiu Sergentu, David K. Shuh, Taoxiang un, Jochen Autschbach, and Stefan G. Minasian, *Enhanced 5f-δ bonding in [U(C7H7)2]−: C K-edge XAS, magnetism, and ab initio calculations*, Chemical Communications **57** 562-9565 (2021).

2021RO& Rodriguez, J. S. D., Ohigashi, T., Lee, C.-C., Tsai, M.-H., Yang, C.-C., Wang, C.-H., Chen, C., Pong, W.-F., Chiu, H.-C., & Chuang, C.-H. *Modulating chemical composition and work function of suspended reduced graphene oxide membranes through electrochemical reduction*. Carbon, **185**, 410–418 (2021).

2021SA&a C. Sanchez-Cano, R.A. Alvarez-Puebla, et al, *X-ray based Techniques to Study the Nano–Bio Interface* ACS Nano 15, 3, 3754–3807 (2021).

2021SA&b Stopfel, H., U.B. Arnalds, A. Stein, T.A. Hase, B. Hjörvarsson, and V. Kapaklis, "*Multiple energy scales in mesospin systems: The vertex-frustrated Saint George lattice*," Phys. Rev. Materials **5**(11), 114410 (2021). (doi:10.1103/PhysRevMaterials.5.114410)

2021SB& D.A. Shapiro, S. Babin, S.; Celestre, R. S.; Chao, W.; Conley, R. P.; Denes, P.; Enders, B.; Enfedaque, P.; James, S.; Joseph, J. M.; Krishnan, H.; Marchesini, S.; Muriki, K.; Nowrouzi, K.; Oh, S. R.; Padmore, H.; Warwick, T.; Yang, L.; Yashchuk, V. V.; Yu, Y.-S.; Zhao, J. *An Ultrahigh-Resolution Soft x-Ray Microscope for Quantitative Analysis of Chemically Heterogeneous Nanomaterials*. Science Advances **6**, eabc4904 (2020) **HI**

2021SD& Slöetjes, S.D., E.S. Digernes, A. Strømberg, F.K. Olsen, A.D. Bang, A.T. N,ÄôDiaye, R.V. Chopdekar, E. Folven, and J.K. Grepstad, "*Effects of array shape and disk ellipticity in dipolar-coupled magnetic metamaterials,*" *Physical Review B* **104**(13), 134421 (2021).

2021SF& Schöbitz M, Finizio S, De Riz A, Hurst J, Thirion C, Gusakova D, *et al.Time-resolved imaging of Œrsted field induced magnetization dynamics in cylindrical magnetic nanowires*, Applied Physics Letters. **118** 172411 (2021).

2021SG& Sun, C.-Y., L. Gránásy, C.A. Stifler, T. Zaquin, R.V. Chopdekar, N. Tamura, J.C. Weaver, J.Y. Zhang, S. Goffredo, G. Falini, M.A. Marcus, T. Pusztai, V. Schoeppler, T. Mass, and P.A. Gilbert, "*Crystal nucleation and growth of spherulites demonstrated by coral skeletons and phase-field simulations*," Acta Biomaterialia **120**, 277-292 (2021). (doi:10.1016/j.actbio.2020.06.027)

2021SJ& Stifler, C.A., J.E. Jakes, J.D. North, D.R. Green, J.C. Weaver, and P.A. Gilbert, "Crystal misorientation correlates with hardness in tooth enamels," *Acta Biomaterialia* **120**, 124-134 (2021). (doi:10.1016/j.actbio.2020.07.037)

2021SKG Stifler, C.A., C.E. Killian, and P. Gilbert, "*Evidence for a Liquid Precursor to Biomineral Formation,*" Cryst. Growth Des. **21**, 6635-6641 (2021). (doi:10.1021/acs.cgd.1c00865)

2021SK&a H.J.Shin, Kim, M.; Kim, N.; Jung, C.; Chung, J.; Kim, K.; Jeon, W. S. *Local Oxidation States of Ni, Co, and Mn Atoms within Pristine and Charged LixNi0.88Co0.08Mn0.04O2 Primary Particles*. J. Physics and Chemistry of Solids, **148**, 109732 (2021).

2021SK&b Shin, H.-J.; Kim, M.; Kim, N.; Kim, H. S.; Kim, H.-D.; Jung, C.; Chung, J. G.; Kim, K. H.; Jeon, W. *Spectro-Nanoscopic Investigation of Oxidation-State Changes of Ni, Co, and Mn Ions in LixNi0.88Co0.08Mn0.04O2 Primary Particles by Annealing*. J.Physics and Chemistry of Solids, *153*, 109961 (2021)

2021SL& Spence, S., Lee, W.-K., Lin, F., Xiao, X., *Transmission x-ray microscopy and its applications in battery material research—a short review.* Nanotechnology 32, 442003 (2021).

2021SM&a Schoeppler, V.J., M.A. Marcus, Y.-S. Yu, R.S. Celestre, K.C. Bustillo, R.W. Falcone, and D.A. Shapiro, "*Soft x-ray linear dichroic ptychography: the study of crystal orientation in biominerals*," Proceedings of SPIE **11839**, 118390D (2021).

2021SM&b Späth A, Meyer M, Huthwelker T, Borca CN, Meßlinger K, Bieber M, *et al.*, *X-ray microscopy reveals the outstanding craftsmanship of Siberian Iron Age textile dyers, Scientific Reports.* **11**, 5141 (2021) **HI**

2021SO& M.D. Straub, E.T. Ouellette, M.A. Boreen, J.A. Branson, A. Ditter, A.L. Kilcoyne, T.D. Lohrey, M.A. Marcus, M. Paley, J. Ramirez, D.K. Shuh, S.G. Minasian, and J. Arnold, "*Thorium amidates function as single-source molecular precursors for thorium dioxide*," Chemical Communications 57(40), 4954-4957 (2021).

2021SS&a Tianxiao Sun, Gang Sun, Fuda Yu, Yongzhi Mao, Renzhong Tai, Xiangzhi Zhang, Guangjie Shao, Zhenbo Wang, Jian Wang, Jigang Zhou, *Soft X-Ray Ptychography Chemical Imaging of Degradation in a Composite Surface-Reconstructed Li-Rich Cathode*, ACS Nano **15**, 1475–1485 (2021)

2021SS&b H. Suga, K. Suzuki, T. Usui, A. Yamaguchi, O. Sekizawa, K. Nitta, Y. Takeichi, T. Ohigashi and Y. Takahashi, "*A New Constraint on the Physicochemical Condition of Mars Surface during the Amazonian Epoch Based on Chemical Speciation for Secondary Minerals in Martian Nakhlites*", *Minerals*, **11**, 514 (2021).

2021SS&c G. Saliba, K.J. Sanchez, L.M. Russell, C.H. Twohy, G.C. Roberts, S. Lewis, J. Dedrick, C.S. McCluskey, K. Moore, P.J. DeMott, and D.W. Toohey, "*Organic composition of three different size ranges of aerosol particles over the Southern Ocean*," Aerosol Science and Technology **55**, 268-288 (2021).

2021SS&d B.D. Stewart, J.V. Sorensen, K. Wendt, J.B. Sylvan, C.R. German, K. Anantharaman, G.J. Dick, J.A. Breier, and B.M. Toner, "*A multi-modal approach to measuring particulate iron speciation in buoyant hydrothermal plumes,*" Chemical Geology **560**, 120018 (2021).

2021SS&e Skovdal, B.E., Strandqvist, N., Stopfel, H., Pohlit, M., Warnatz, T., Slöetjes, S.D., Kapaklis, V., Hjörvarsson, B. "*Temperature-induced collapse of spin dimensionality in magnetic metamaterials*" Physical Review B., **104**, 014434. (2021).

2021SS&f Sood, A., X. Shen, Y. Shi, S. Kumar, S.J. Park, M. Zajac, Y. Sun, L.-Q. Chen, S. Ramanathan, X. Wang, W.C. Chueh, and A.M. Lindenberg, "Universal phase dynamics in VO_2 switches revealed by ultrafast operando diffraction," Science 373(6552), 352-355 (2021). **HI**

2021SZ&a Gang Sun, Changtai Zhao, Fu-Da Yu, Ruizhi Yu, Jian Wang, Jigang Zhou, Guangjie Shao, Xueliang Sun, Zhen-Bo Wang, *In-situ surface chemical and structural self-reconstruction strategy enables high performance of Li-rich cathode*, Nano Energy **79** 105459 (2021)

2021SZ&b T. Sun, X. Zhang, Zijian Xu, Yong Wang, Zhi Guo, Jian Wang, and Renzhong Tai, *A bidirectional scanning method of scanning transmission X-ray Microscopy*, Journal of Synchrotron Radiation **28**, 512-517 (2021).

2021TB& Truche, L., Bourdelle, F., Salvi, S., Lefeuvre, N., Zug, A., Lloret, E. *"Hydrogen generation during hydrothermal alteration of peralkaline granite*" Geochimica et Cosmochimica Acta., **308**: 42-59. (2021).

2021TD& C.H. Twohy, P.J. DeMott, L.M. Russell, D.W. Toohey, B. Rainwater, R. Geiss, K.J. Sanchez, S. Lewis, G.C. Roberts, R.S. Humphries, C.S. McCluskey, K.A. Moore, P.W. Selleck, M.D. Keywood, J.P. Ward, and I.M. McRobert, "*Cloud-Nucleating Particles Over the Southern Ocean in a Changing Climate*," Earth's Future **9** e2020EF001673 (2021).

2021TG& Träger, N., Gruszecki, P., Lisiecki, F., Groß, F., Förster, J., Weigand, M., Głowiński, H., Kuświk, P., Dubowik, J., Schütz, G., Krawczyk, M., Gräfe, J., *Real-Space Observation of Magnon Interaction with Driven Space-Time Crystals*. Phys. Rev. Lett. 126, 057201 (2021) **HI**

2021TJ&a Tomlin, J.M., K.A. Jankowski, D.P. Veghte, S. China, P. Wang, M. Fraund, J. Weis, G. Zheng, Y. Wang, F. Rivera-Adorno, S. Raveh-Rubin, D.A. Knopf, J. Wang, M.K. Gilles, R.C. Moffet, and A. Laskin, "*Impact of dry intrusion events on the composition and mixing state of particles during the winter Aerosol and Cloud Experiment in the Eastern North Atlantic (ACE-ENA)*," Atmospheric Chemistry and Physics **21**, 18123-18146 (2021).

2021TJ&b Xuehai Tan, Keren Jiang, Shengli Zhai, Jigang Zhou, Jian Wang, Ken Cadien, Zhi Li, *X-Ray Spectromicroscopy Investigation of Heterogeneous Sodiation in Hard Carbon Nanosheets with Vertically Oriented (002) Planes*, Small **21** 2102109:1-11. (2021)

2021TW& Tang L, Watts B, Thomsen L, McNeill CR*Morphology and charge transport properties of P(NDI2OD-T2)/polystyrene blends,* Macromolecules. **54,** 11134-11146 (2021).

2021WC&a Wang, H.-T., Chiou, J.-W., Chen, K.-H., Shelke, A. R., Dong, C.-L., Lai, C.-H., Yeh, P.-H., Du, C.-H., Lai, C.-Y., Asokan, K., Hsieh, S.-H., Shiu, H.-W., Pao, C.-W., Tsai, H.-M., Yang, J.-S., Wu, J.-J., Ohigashi, T., & Pong, W.-F.. *Role of Interfacial Defects in Photoelectrochemical Properties of BiVO4 Coated on ZnO Nanodendrites: X-ray Spectroscopic and Microscopic Investigation*. ACS Applied Materials & Interfaces, **13**, 41524–41536 (2021)

2021WC&b Woods, J.S., X.M. Chen, R.V. Chopdekar, B. Farmer, C. Mazzoli, R. Koch, A.S. Tremsin, W. Hu, A. Scholl, S. Kevan, S. Wilkins, W.-K. Kwok, L.E. De Long, S. Roy, and J.T. Hastings, "*Switchable X-Ray Orbital Angular Momentum from an Artificial Spin Ice*," Phys. Rev. Lett. **126**(11), 117201 (2021). (doi:10.1103/PhysRevLett.126.117201

2021WRC Dongmei Wang, Robert A. Root, Jon Chorover, *Biochar-templated surface precipitation and inner-sphere complexation effectively removes arsenic from acid mine drainage*, Environmental Science and Pollution Research **28** 45519-45533 (2021)).

2021WY& Yihao Wang, Jianjun Yang, Hui Han, Yongfeng Hu, Jian Wang, Ya Feng, Baoshan Yu, Xing Xia, Aminu Darma, *Differential transformation mechanisms of exotic Cr(VI) in agricultural soils with contrasting physio-chemical and biological properties*, Chemosphere **279** 130546 (2021).

2021WZ& Mingjie Wu, Gaixia Zhang, Hui Tong, Xianhu Liu, Lei Du, Ning Chen, Jian Wang, Tianxiao Sun, Tom Regier, Shuhui Sun, *Cobalt (II) oxide nanosheets with rich oxygen vacancies as highly efficient bifunctional catalysts for ultra-stable rechargeable Zn-air flow battery*, Nano Energy **79** 105409:1-8 (2021). Inorg. Chem. Front. **8** 1439-1448 (2021).

2021XC& Xu, T., Z. Chen, H.-A. Zhou, Z. Wang, Y. Dong, L. Aballe, M. Foerster, P. Gargiani, M. Valvidares, D.M. Bracher, T. Savchenko, A. Kleibert, R. Tomasello, G. Finocchio, S.-G. Je, M.-Y. Im, D.A. Muller, and W. Jiang, "*Imaging the spin chirality of ferrimagnetic Néel skyrmions stabilized on topological antiferromagnetic Mn_3Sn*," Phys. Rev. Materials **5**, 084406 (2021). (doi:10.1103/PhysRevMaterials.5.084406)

2021XX& Zhenjiang Xing, Zijian Xu, Xiangzhi Zhang, Bo Chen, Zhi Guo, Jian Wang, Yong Wang, Renzhong Tai, *Virtual depth-scan multi-slice ptychography for improved three-dimensional imaging*, Optics Express **29** 16214 (2021).

2021XZ& Shuai Xu, Jigang Zhou, Jian Wang, Sameera Pathiranage, Nuri Oncel, Pushparaj Robert Ilango, Xin Zhang, Michael Mann, and Xiaodong Hou, *In Situ Synthesis of Graphene-Coated Silicon Monoxide Anodes from Coal-Derived Humic Acid for High-Performance Lithium-Ion Batteries*, Adv. Funct. Mater. **31** 2101645:1-10 (2021)

2021YLN Yang T, Luo J, Nowack B, *Characterization of nanoplastics, fibrils, and microplastics released during washing and abrasion of polyester textiles,* Environmental Science and Technology. **55** 15873-15881 (2021).

2021YM& Yoshida, M., Miyahara, M., Suga, H., Yamaguchi, A., Tomioka, N., Sakai, T., Ohfuji, H., Maeda, F., Ohira, I., Ohtani, E., Kamada, S., Ohigashi, T., Inagaki, Y., Kodama, Y., & Hirao, N. . *Elucidation of impact event recorded in the lherzolitic shergottite NWA 7397.* Meteoritics & Planetary Science, **56**, 1729–1743 (2021).

2021YO& Yamane, H., Oura, M., Takahashi, O., Ishihara, T., Yamazaki, N., Hasegawa, K., Ishikawa, T., Takagi, K., & Hatsui, T. *Physical and chemical imaging of adhesive interfaces with soft X-rays*. Communications Materials, **2**, 1–7 (2021). **HI**

2021YWL Bei Yan, Jian Wang, Jinxia Liu, *STXM-XANES and computational investigations of adsorption of per- and polyfluoroalkyl substances on modified clay,* Water Research **201** 117371 (2021).

2021YY& Hao Yuan, Hui Yuan, Travis Casagrande, David Shapiro, Young-Sang Yu, Björn Enders, Jonathan R. I. Lee, Tony Van Buuren, Monika M. Biener, Stuart A. Gammon, Tian T. Li, Theodore F. Baumann and Adam P. Hitchcock, *4D Imaging of ZnO-Coated Nanoporous Al_2O_3 Aerogels by Chemically-Sensitive Ptychographic Tomography: Implications for Designer Catalysts*, ACS Applied Nanomaterials **4**, 621-63 (2021).

2021ZA& Zaheer, W., G. Agbeworvi, S. Perez-Beltran, J.L. Andrews, Y. Aierken, C. Weiland, C. Jaye, Y.-S. Yu, D.A. Shapiro, S.C. Fakra, D.A. Fischer, J. Guo, D. Prendergast, and S. Banerjee, "Lessons learned from FeSb2O4 on stereoactive lone pairs as a design principle for anion insertion," Cell Reports Physical Science **2**, 100592 (2021).

2021ZD& Zhang, X., A. Duzgun, Y. Lao, S. Subzwari, N.S. Bingham, J. Sklenar, H. Saglam, J. Ramberger, J.T. Batley, J.D. Watts, D. Bromley, R.V. Chopdekar, L. O,ÄôBrien, C. Leighton, C. Nisoli, and P. Schiffer, "*String Phase in an Artificial Spin Ice*," Nature Communications **12**, 6514 (2021). **HI**

2021ZL& Zhou, H., J. Liu, Z. Wang, Q. Zhang, T. Xu, Y. Dong, L. Zhao, S. Je, M. Im, K. Xu, J. Zhu, and W. Jiang, "*Rare-Earth Permanent Magnet $SmCo_5$ for Chiral Interfacial Spin-Orbitronics,"* Advanced Functional Materials **31**, 2104426 (2021). (doi:10.1002/adfm.202104426)

2021ZU& Amara Zuhaib and Stephen G. Urquharta, *Internal molecular conformation of organic glasses: A NEXAFS study*, J. Chem. Phys. **155** 034503 (2021).

2021ZZ& Shumin Zhang, Feipeng Zhao, Shuo Wang, Jianwen Liang, Jian Wang, Changhong Wang, Hao Zhang, Keegan Adair, Weihan Li, Minsi Li, Hui Duan, Yang Zhao, Ruizhi Yu, Ruying Li, Huan Huang, Li Zhang, Shangqian Zhao, Shigang Lu, Tsun-Kong Sham, Yifei Mo, and Xueliang Sun, *Advanced High-Voltage All-Solid-State Li-Ion Batteries Enabled by a Dual-Halogen Solid Electrolyte*, Advanced Energy Materials **11** 2100836 (2021).

2022AB&a Alpert PA, Boucly A, Yang S, Yang H, Kilchhofer K, Luo Z, *et al. Ice nucleation imaged with X-ray spectro-microscopy,* Environmental Science: Atmospheres. **2** 335-351 (2022).

20202AB& M. Amati, V. Bonanni, L. Braglia, F. Genuzio, L. Gregoratti, M. Kiskinova, A. Kolmakov, A. Locatelli, E. Magnano, A.A. Matruglio, T.O. Menteş, S. Nappini, P. Torelli, P. Zeller; *Operando photoelectron emission spectroscopy and microscopy at Elettra soft X-ray beamlines: from model to real functional systems*, Journal of Electron Spectroscopy and Related Phenomena, **257,** 146902 (2022) doi: 10.1016/j.elspec.2019.146902; (NB originally reported as a 2020 publication)

2022AC& Anduix,Ä, Canto, C., D. Peral, V. Pérez,ÄêPadilla, A.M. Diaz,ÄêRovira, A. Belmez Lledó, C.A. Orme, S. Petrash, T. Engels, and K.W. Chou, "*Unraveling the Mechanism of Electrically Induced Adhesive Debonding: A Spectro-Microscopic Study*," Advanced Materials Interfaces **9**, 2101447 (2022).

2022AD& Corral Arroyo P, David G, Alpert PA, Parmentier EA, Ammann M, Signorell R, *Amplification of light within aerosol particles accelerates in-particle photochemistry,* Science. **376**, 293-296 (2022) **HI**

2022BB& Yanping Bao, Nanthi S. Bolan, Jinhao Lai, Yishun Wang, Xiaohu Jin, M. B. Kirkham, Xiaolian Wu, Zheng Fang, Yan Zhang & Hailong Wang, *Interactions between organic matter and Fe (hydr)oxides and their influences on immobilization and remobilization of metal(loid)s: A review*, Critical Reviews in Environmental Science and Technology **52** 4016-4037 (2022).

2022BO& Brazil O, Özer HÖ, Watts B, Pethica JB, Cross GLW, *Densification of a polymer glass under high-pressure shear flow,* Physical Review B. 106 L060103 (2022)

2022CK& Cranston, R.R., King, B., Dindault, C., Grant, T.M., Rice, N.A., Tonnelé, C., Muccioli, L., Castet, F., Swaraj, S., Lessard, B.H. *"Highlighting the processing versatility of a silicon phthalocyanine derivative for organic thin-film transistors"* J. Materials Chemistry C., **10**, 485-495. (2022).

2022CL& Chen, X., M. Lin, J.F. Kong, H.R. Tan, A.C. Tan, S. Je, H.K. Tan, K.H. Khoo, M. Im, and A. Soumyanarayanan, "*Unveiling the Emergent Traits of Chiral Spin Textures in Magnetic Multilayers,*" Advanced Science, VOL 2103978 (2022). (doi:10.1002/advs.202103978)

2022CM& Cheng, Z., Morgenstern, M., Zhang, B., Fraund, M., Lata, N.N., Brimberry, R., Marcus, M.A., Mazzoleni, L., Fialho, P., Henning, S., Wehner, B., Mazzoleni, C., China, S., . *Particle phase-state variability in the North Atlantic free troposphere during summertime is determined by atmospheric transport patterns and sources*. Atmos. Chem. Phys. **22**, 9033–9057 (2022).

2022CY& Zhi-Lai Chi, Guang-Hui Yu, H. Henry Teng, Hai-Gang Liu, Jian Wang, Cong-Qiang Liu, Qi-Rong Shen, and Geoffrey Michael Gadd, *Molecular Trade-Offs between Lattice Oxygen and Oxygen Vacancy Drive Organic Pollutant Degradation in Fungal Biomineralized Exoskeletons*, Environ. Sci. Technol. **56** 8132–8141 (2022) .

2022DH& Donnelly C, Hierro-Rodríguez A, Abert C, Witte K, Skoric L, Sanz-Hernández D, *et al. Complex free-space magnetic field textures induced by three-dimensional magnetic nanostructures* Nature Nanotechnology. 17, 136-142 (2022). **HI**

2022DL& Deng, Z., H.-C. Loh, Z. Jia, C.A. Stifler, A. Masic, P. Gilbert, R. Shahar, and L. Li, "*Black Drum Fish Teeth: Built for Crushing Mollusk Shells*," Acta Biomaterialia **137**, 147-161 (2022). (doi:10.1016/j.actbio.2021.10.023)

2022DZ& Deng, H.D., H. Zhao, N. Jin, L. Hughes, B.H. Savitzky, C. Ophus, D. Fraggedakis, A. Borbély, Y.-S. Yu, E.G. Lomeli, R. Yan, J. Liu, D.A. Shapiro, W. Cai, M.Z. Bazant, A.M. Minor, and W.C. Chueh, "*Correlative image learning of chemo-mechanics in phase-transforming solids,*" Nature Materials, 1191 (2022). **HI**

2022FD& Finizio S, Donnelly C, Mayr S, Hrabec A, Raabe J, *Three-dimensional vortex gyration dynamics unraveled by time-resolved soft X-ray laminography with freely selectable excitation frequencies,* Nano Letters. 22, 1971-1977 (2022).

2022FF& A. Foetisch, Filella, M.; Watts, B.; Vinot, L.-H.; Bigalke, M. *Identification and Characterisation of Individual Nanoplastics by Scanning Transmission X-Ray Microscopy (STXM).* J. Hazardous Materials **426,** 127804 (2022).

2022GZ& Amin Guo, Jianhua Zhang, Bo He, Angdi Li, Tianxiao Sun, Weimin Li, Jian Wang, Renzhong Tai, Yan Liu, Zhen Qian, Jiadong Fan, Andrej Sali, Raymond C. Stevens, and Huaidong Jiang, *Quantitative, in situ visualization of intracellular insulinvesicles in pancreatic beta cells*, Proceedings of the National Academy of Sciences 119) e2202695119 10. **HI**

2022H A.P. Hitchcock, *Polymer surface characterization by near edge X-ray absorption fine structure spectroscopy*, Chapter 3, in Polymer Surface Characterization, L. Sabbatini (Ed.) 2nd edition (De Gruyter, Berlin, Germany, 2022)

2022HJ& Hawly T, Johnson M, Späth A, Nickles Jäkel H, Wu M, Spiecker E, *et al.*, *Exploring the preparation dependence of crystalline 2D-extended ultrathin C8-BTBT-C8 films,* ACS Applied Materials and Interfaces. **14** 16830-16838 (2022).

2022HP& Han, L., Peng, X., Wang, H.-T., Ou, P., Mi, Y., Pao, C.-W., Zhou, J., Wang, J., Liu, X., Pong, W.-F., Song, J., Lin, Z., Luo, J., & Xin, H. L. *Chemically coupling SnO2 quantum dots and MXene for efficient CO2 electroreduction to formate and Zn–CO2 battery.* Proceedings of the National Academy of Sciences, 119(42), e2207326119 (2022).. https://doi.org/10.1073/pnas.2207326119 **HI**

2022HR& Holler, K.R., Rasmussen, M.A., Baio, J.E., Jaye, C., Fischer, D.A., Gorb, S.N., Weidner, T., *Structure of Keratins in Adhesive Gecko Setae Determined by Near-Edge X-ray Absorption Fine Structure Spectromicroscopy.* J Phys Chem Lett. **13**, 2193-2196 (2022)

2022HS& Hughes, L.A., B.H. Savitzky, H.D. Deng, N.L. Jin, E.G. Lomeli, Y.-S. Yu, D.A. Shapiro, P. Herring, A. Anapolsky, W.C. Chueh, C. Ophus, and A.M. Minor, "*Correlative analysis of structure and chemistry of LixFePO4 platelets using 4D-STEM and X-ray ptychography*," Materials Today **102**, 111 (2022).2022JS& Juge R, Sisodia N, Larrañaga JU, Zhang Q, Pham VT, Rana KG, *et al. Skyrmions in synthetic antiferromagnets and their nucleation via electrical current and ultra-fast laser illumination,* Nature Communications. **13** 4807 (2022). **HI**

2022KL& Rachel M. Kirpes, Ziying Lei, Matthew Fraund, Matthew J. Gunsch, Nathaniel W. May, Tate E. Barrett, Claire E. Moffett, Andrew J. Schauer, Becky Alexander, Lucia M. Upchurch, Swarup China, Patricia K. Quinn, Ryan C. Moffet, Alexander Laskin, Rebecca J. Sheesley, Kerri A. Pratt, and Andrew P. Ault, *Solid organic-coated ammonium sulfate particles at high relative humidity in the summertime Arctic atmosphere*, Proceedings of the National Academy of Sciences **119** e2104496119:1-6 (2022).

2022LA& Lepró, X., C. Aracne-Ruddle, D. Malone, H. Hamza, E. Schaible, S.F. Buchsbaum, A. Calonico-Soto, J. Bigelow, E. Meshot, S. Baxamusa, and M. Stadermann, "Liquid-free covalent reinforcement of carbon nanotube dry-spun yarns and free-standing sheets," Carbon **187**, 415-424 (2022).

2022LE& Binbin Lin, Nima Emami, David A. Santos, Yuting Luo, Sarbajit Banerjee and Bai-Xiang Xu, *A deep learned nanowire segmentation model using synthetic data augmentation*, npj Computational Materials **8** 88: 1–12 (2022)

2022LL& Jinhua Li, Peiyu Liu, Nicolas Menguy, Xingliang Zhang, Jian Wang, Karim Benzerara, Lianjun Feng, Lei Sun, Yue Zheng, Fanqi Meng, Lin Gu, Eric Leroy, Jialong Hao, Xuelei Chu, Yongxin Pan, *Intracellular silicification by early-branching magnetotactic bacteria*, Science Advances **8** eabn6045:1-12 (2022).

2022LR& Yuting Luo, Shahed Rezaei, David A. Santos, Yuwei Zhang, Joseph V. Handy, Luis Carrillo, Brian J. Schultz, Leonardo Gobbato, Max Pupucevski, Kamila Wiaderek, Harry Charalambous, Andrey Yakovenko, Matt Pharr, Bai-Xiang Xu, and Sarbajit Banerjee, *Cation reordering instead of phase transitions: Origins and implications of contrasting lithiation mechanisms in 1D ζ- and 2D α-V2O5*, PNAS **119** e2115072119 (2022). **HI**

2022LT& Graham E. Lau, Christopher B. Trivedi, Stephen E. Grasby, John R. Spear, Julie Cosmidis, and Alexis S. Templeton, *Sulfur- and Iron-Rich Mineralogical Features Preserved in Permafrost in the Canadian High Arctic: Analogs for the Astrobiological Exploration of Mars*, Frontiers in Astronomy and Space Sciences **9** 825019:1-21 (2022).

2022MY& N. Mille, H.Yuan, J.Vijayakumar, S. Stanescu, S.Swaraj, K. Desjardins, V. Favre-Nicolin, A.P. Hitchcock, R, Belkhou, *Ptychography at the carbon K-edge*, Communication Materials **3**, 8 (2022). **HI**

2022MZ& MacKinnon CR, Zeissler K, Finizio S, Raabe J, Marrows CH, Mercer T, *et al.*, *Collective skyrmion motion under the influence of an additional interfacial spin-transfer torque* Scientific Reports. **12** 10786 (2022) . **HI**

2022NY& Svetlana Niketic, Chae-Ho Yim, Jigang Zhou, Jian Wang and Yaser Abu-Lebdeh, *Influence of Ti Substitution on Electrochemical Performance and Evolution of LiMn1.5-xNi0.5TixO4 (x = 0.05, 0.1, 0.3) as a High Voltage Cathode Material with a Very Long Cycle Life*, Inorganics **10** 10:1-13 (2022) .

2022PH& Milda Pucetaite, Adam P. Hitchcock, Martin Obst, Per Persson and Edith C. Hammer, *Nanoscale chemical mapping of exometabolites at fungal-mineral interface*s, Geobiology **20** 12504 (2022)

2022PK& Park, J.; Kim, S.-J.; Kim, K.; Jeoun, Y.; Yu, S.-H.; Kim, C.; Sung, Y.-E.; Cairns, E. J. *Understandings about Functionalized Porous Carbon via Scanning Transmission X-Ray Microscopy (STXM) for High Sulfur Utilization in Lithium-Sulfur Batteries.* Nano Energy **100**, 107446 (2022)

2022PS& Pile, S., Stienen, S., Lenz, K., Narkowicz, R., Wintz, S., Förster, J., Mayr, S., Buchner, M., Weigand, M., Ney, V., Lindner, J., Ney, A., *Nonstationary spin waves in a single rectangular permalloy microstrip under uniform magnetic excitatio*n. Phys. Rev. B **105,** 094415 (2022).

2022PT& Pip P, Treves S, Massey JR, Finizio S, Luo Z, Hrabec A, *et al X-ray imaging of the magnetic configuration of a three-dimensional artificial spin ice building block,* APL Materials. **10** 101101 (2022).

2022QX& Quessab Y, Xu JW, Cogulu E, Finizio S, Raabe J, Kent AD, *Zero-field nucleation and fast motion of skyrmions induced by nanosecond current pulses in a ferrimagnetic thin film,* Nano Letters. ***22*** 6091-6097 (2022).

2022SL&a Sala G, Lambert C-H, Finizio S, Raposo V, Krizakova V, Krishnaswamy G, *et al. Asynchronous current-induced switching of rare-earth and transition-metal sublattices in ferrimagnetic alloys,* Nature Materials. **21** 640-646 (2022). **HI**

2022SL&b Chia-Liang Sun, Shun-Yi Lai, Kun-Ju Tsai, Jian Wang, Jigang Zhou, Han-Yi Chen, *Application of nanoporous core–shell structured multi-walled carbon nanotube–graphene oxide nanoribbons in electrochemical biosensors*, Microchemical Journal **179** 107586:1-9 (2022)

2022SL&c A.K. Sanchez-Hernandez, R. Lozano-Rosas, J.J. Gervacio-Arciniega, Jian Wang, M.J. Robles-Aguila, *Piezoelectric and mechanical properties of hydroxyapatite/titanium oxide composites*, Ceramics International **48** 23096-23103 (2022)

2022SP& Jeonghee Shin, Sehee Park, Tung X. Trinh, Sook Jin Kwon, Jiwon Bae, Eugenia Valsami-Jones, Jian Wang, Jaewoo Song, & Tae Hyun Yoon, *Scanning transmission X-ray microscopy study of subcellular granules in human platelets at the carbon K- and calcium L2,3-edges*, Platelets **33** 632-639 (2022) .

2022SS&a Nan Sun, Yajie Song, Qingsong Liu, Wei Zhao, Fang Zhang, Liping Ren, Ming Chen, Zinan Zhou, Zihan Xu, Shuaifeng Lou, Fanpeng Kong, Jian Wang, Yujin Tong, Jiajun Wang, *Surface-to-Bulk Synergistic Modification of Single Crystal Cathode Enables Stable Cycling of Sulfide-Based All-Solid-State Batteries at 4.4 V*, Advanced Energy Materials **12** 2200682:1-9 (2022).

2022SS&b Schmidt, C.A., Stifler, C.A., Luffey, E.L., Fordyce, B.I., Ahmed, A., Barreiro Pujol, G., Breit, C.P., Davison, S.S., Klaus, C.N., Koehler, I.J., LeCloux, I.M., Matute Diaz, C., Nguyen, C.M., Quach, V., Sengkhammee, J.S., Walch, E.J., Xiong, M.M., Tambutté, E., Tambutté, S., Mass, T., Gilbert, P.U.P.A.,. *Faster Crystallization during Coral Skeleton Formation Correlates with Resilience to Ocean Acidification.* J. Am. Chem. Soc. **144**, 1332–1341 (2022).

2022SW& Schaller, J., Wu, B., Amelung, W., Hu, Z., Stein, M., Lehndorff, E., & Obst, M. *Silicon as a potential limiting factor for phosphorus availability in paddy soils.* Scientific Reports, **12**(1), 16329 (2022).. https://doi.org/10.1038/s41598-022-20805-4 HI

2022SY& Sun, G., Yu, F.-D., Lu, M., Zhu, Q., Jiang, Y., Mao, Y., McLeod, J. A., Maley, J., Wang, J., Zhou, J., & Wang, Z. *Surface chemical heterogeneous distribution in over-lithiated Li1+xCoO2 electrodes.* Nature Communications, **13**, 6464 (2022).. **HI**

2022TV& Thakur N, Vockenhuber M, Ekinci Y, Watts B, Giglia A, Mahne N, *et al., Fluorine-rich zinc oxoclusters as extreme ultraviolet photoresists: chemical reactions and lithography performance,* ACS Materials Au. **2** 343-355 (2022).

2022U S.G. Urquhart, *X-ray Spectroptychography*, ACS Omega **7**, 11521−11529 (2022)

2022VC& J. Velasco Vélez, Chin, Y.-Y., Tsai, M.-H., Burton, O., Wang, R., Hofmann, S., Hsu, W.-H., Ohigashi, T., Martinez, W.-F., & Chuang, C. *Evidence of synergistic electrocatalysis at a cobalt oxide–graphene interface through nanochemical mapping of scanning transmission X-ray microscopy.* Chinese Journal of Physics- Taipei-, **76** (2022) 135-144.

2022VL& Viennet, J.C., Le Guillou, C., Remusat, L., Baron, F., Delbes, L., Blanchenet, A.M., Laurent, B., Criouet, I., Bernard, S. *"Experimental investigation of Fe-clay/organic interactions under asteroidal conditions*" Geochimica et Cosmochimica Acta., **318**, 352-365. (2022)

2022WFR Watts B, Finizio S, Raabe J, *Quantifying signal quality in scanning transmission X-ray microscopy,* J. Synchrotron Radiation. 29 1054-1064 (2022)

2022WH& Wang, T.Y., H.-S. Han, C. Su, Q. Li, M. Yang, W. Chao, X. Zhang, C. Hwang, A. Zettl, M.Y. Im, and Z.Q. Qiu, "*Magnetic anisotropy in permalloy antidot square lattice*," J. Magn. Magn. Mater. **544**, 168680 (2022). (doi:10.1016/j.jmmm.2021.168680

2022WL J. Wang and J.H. Li, *Scanning Transmission X-ray Microscopy at the Canadian Light Source: Progress and Selected Applications in Geosciences*, At. Spectrosc. **43**(1), 84-98 (2022),

2022WS Jian Wang, Jinhua Li, *Scanning Transmission X-ray Microscopy at the Canadian Light Source: Progress and Selected Applications in Geosciences*, Atomic Spectroscopy **43** 84-98 (2022)

2022WS& Xufeng Wang, Yajie Song, Xin Jiang, Qingsong Liu, Jidong Dong, Jian Wang, Xin Zhou, Bing Li, Geping Yin, Zaixing Jiang, Jiajun Wang, *Constructing Interfacial Nanolayer Stabilizes 4.3 V High-Voltage All-Solid-State Lithium Batteries with PEO-Based Solid-State Electrolyte*, Advanced Functional Materials 2113068:1-10 (2022).

2022XW& Xing Xia, Jian Wang, Yongfeng Hu, Jin Liu, Aminu Inuwa Darma, Lin Jin, Hui Han, Chao He, Jianjun Yang, *Molecular insights into roles of dissolved organic matter in Cr(III) immobilization by coprecipitation with Fe(III) probed by STXM-ptychography and XANES spectroscopy*, Environ. Sci. Technol. **56** 2432-2442 (2022) .

2022YA& Shuo Yan, Sara Abouali, Chae-Ho Yim, Jigang Zhou, Jian Wang, Elena A. Baranova, Arnaud Weck, Venkataraman Thangadurai, Ali Merati, and Yaser Abu-Lebdeh, *Revealing the Role of Liquid Electrolytes in Cycling of Garnet-Based Solid-State Lithium-Metal Batteries*, J. Physical Chemistry C **126** 14027-14035 (2022).

2022YE& Wenjuan Yang, Haytham Eraky, Chunyang Zhang, Adam P. Hitchcock and Igor Zhitomirsky, *Scanning transmission X-ray microscopy studies of electrochemical activation and capacitive behavior of Mn_3O_4 supercapacitor electrode*s, J. Mat. Chem A **10** 18267-18277 (2022) . DOI: 10.1039/d2ta04702k.

2022ZS& Chunyang Zhang, Ladan Shahcheraghi, Fatma Ismail, Haytham Eraky, Hao Yuan, Adam P. Hitchcock and Drew Higgins, *Chemical Structure and Distribution in Nickel–Nitrogen–Carbon Catalysts for CO_2 Electroreduction Identified by Scanning Transmission X-ray Microscopy*, ACS Catalysis **12** 8746–8760 (2022)

2023H A.P. Hitchcock, *PEM-FC analysis using soft X-ray spectromicroscopy: methods and applications.* Chapter XX in PEMFC characterization and modelling - current trends and challenges. J. Stumper and J. Jankovic (eds) (de Gruyter, Berlin, Germany 2022) in press

Resonant Scattering

1988DH& Y.S. Ding, S.R. Hubbard. K.O. Hodgson, R.A. Register and S.L. Cooper, *Anomalous Small-Angle X-ray Scattering from a Sulfonated Polystyrene Ionomer*, Macromolecules **21,**1698 (1988).

1990RCa R.A. Register and S.L. Cooper, *Anomalous small-angle x-ray scattering from nickel-neutralized ionomers. 1. Amorphous polymer matrixes,* Macromolecules **23**, 310 (1990).

1990RCb R.A. Register and S.L. Cooper, *Anomalous small-angle x-ray scattering from nickel-neutralized ionomers. 2. Semicrystalline polymer matrixes*, Macromolecules **23**, 318 (1990).

1991JR& W. Jark, T.P. Russell, G. Comelli amd J. Stöhr, *Soft x-ray diffraction studies on polymeric Langmuir-Blodgett films* Thin Solid Films **199**, 161 (1991).

2005WAA C. Wang, T. Araki, H. Ade, *Soft x-ray resonant reflectivity of low-Z material thin films*, Appl. Phys. Lett. **87** 214109 (2005)

2006AA& T. Araki, H. Ade, J. M. Stubbs, D. C. Sundberg, G. Mitchell, J.B. Kortright and A. L. D. Kilcoyne, "*Soft X-ray Resonant Scattering of Structured Polymer Nanoparticles*", Appl. Phys. Lett. **89**, 124106 (2006)

2006ML& G.E. Mitchell, B.G. Landes, J. Lyons, B.J. Kern , M.J. Devon, I. Koprinarov, E.M. Gullikson and J.B. Kortright, *Molecular bond selective x-ray scattering for nanoscale analysis of soft matter*, Applied Physics Letters **89**, 044101 (2006)

2007VT& JM Virgili, Y. Tao, J.B. Kortright. NP Balsara and RA Segalman, *Analysis of order formation in block copolymer thin films using resonant soft x-ray scattering* Macromolecules **40** 2092 (2007)

2007WA& C. Wang, T. Araki, B. Watts, S. Harton, T. Koga, S. Basu, and H. Ade, *Resonant soft x-ray reflectivity of organic thin films*, Journal of Vacuum Science and Technology A: Vacuum, Surfaces, and Films **25**, 575-586 (2007).

2009AW& H. Ade, C. Wang, A. Garcia, H. Yan, K.E. Sohn, A. Hexemer, G.C. Bazan, T.-Q. Niguyen, and E.J. Kramer, "Characterization of Multicomponent Polymer Trilayers with Resonant Soft X-Ray Reflectivity," *Journal of Polymer Science Part B: Polymer Physics* **47**, 1291-1299 (2009).

2009SW& S. Swaraj, C. Wang, T. Araki, G. Mitchell, L. Liu, S. Gaynor, B. Deshmukh, H. Yan, C.R. McNeill, and H. Ade, *The utility of resonant soft x-ray scattering and reflectivity for the nanoscale characterization of polymers*, European Physical Journal-Special Topics **167**, 121-126 (2009)

2009WG& C. Wang, A. Garcia, H. Yan, K. Sohn, A. Hexemer, T.-Q. Nguyen, G.C. Bazan, E.J. Kramer, and H. Ade, *Interfacial Widths of Conjugated Polymer Bilayers*, J. American Chemical Society **131**, 12538-12539 (2009).

2010ET& H. Ehrke, R. Tobey, S. Wall, S. Cavill, D. Prabhakaran, A. Boothroyd, M. Gensch, P. Reutler, A. Revcolevschi, S. Dhesi, and A. Cavalleri, *"Ultrafast Resonant Soft X-ray Scattering in Manganites: Direct Measurement of Time-dependent Orbital Orde*r," in International Conference on Ultrafast Phenomena, OSA Technical Digest (CD) (Optical Society of America, 2010), paper ME48.

2010SW& S. Swaraj, W. Cheng, Yan H, Watts B, Lüning J, McNeill CR, et al., *Nanomorphology of Bulk Heterojunction Photovoltaic Thin Films Probed with Resonant Soft X-ray Scattering,* Nano Letters **10** 2863-2869 (2010).

2010YS& H. Yan, S. Swaraj, C. Wang, I. Hwang, N. C. Greenham, C. Groves, H. Ade, and C. R. McNeill, *Influence of annealing and interfacial roughness on the performance of bilayer donor/acceptor polymer photovoltaic devices*,Advanced Functional Materials **20**, 4209 (2010).

2010W& C. Wang et al *Resonant soft x-ray scattering of polymers with a 2D detector: initial results and system developments at the Advanced Light Source* IOP Conf. Ser.: Mater. Sci. Eng. **14** 012016 (2010)

2011CTA B. A. Collins, J. Tumbleston, and H. Ade, *Miscibility, crystallinity, and phase development in organic solar cells: Towards an enlightened understanding of device morphology and stability*, J. Phys. Chem. Lett. **2**, 3135 (2011)

2011ET& Ehrke, H., Tobey, R.I., Wall, S., Cavill, S.A., Först, M., Khanna, V., Garl, Th., Stojanovic, N., Prabhakaran, D., Boothroyd, A.T., Gensch, M., Mirone, A., Reutler, P., Revcolevschi, A., Dhesi, S.S., Cavalleri, A.,. *Photoinduced Melting of Antiferromagnetic Order in La0.5Sr1.5MnO4 Measured Using Ultrafast Resonant Soft X-Ray Diffraction.* Phys. Rev. Lett. **106,** 217401 (2011). **HI**

2011MJ& M Mezger B Jerome JB Kortright, M Valvidares EM Gullikson, A Giglia, N Mahne and S. Nannarone, *Molecular orientation in soft matter thin films studied by resonant soft x-ray reflectivity* Phys. Rev. B **83** 155406 (2011)

2011WL&a C. Wang, D. H. Lee, A. Hexemer, M. I. Kim, W. Zhao, H. Hasegawa, H. Ade, and T. P. Russell, *Defining the Nanostructured Morphology of Triblock Copolymers Using Resonant Soft X-ray Scattering*, Nano Letters **11**, 3906 (2011).

2012BW&b Beale, T.A.W., Wilkins, S.B., Johnson, R.D., Prabhakaran, D., Boothroyd, A.T., Steadman, P., Dhesi, S.S., Hatton, P.D., *Advances in the understanding of multiferroics through soft X-ray diffraction.* Eur. Phys. J. Spec. Top. **208**, 99–106 (2012).

2012CC& B.A. Collins, J.E. Cochran, H. Yan, E. Gann, C. Hub, R. Fink, C. Wang, T. Schuettfort, C.R. Neill, M.L. Chabinyc, and H. Ade, *Polarized X-ray scattering reveals non-crystalline orientational ordering in organic films*," Nature Materials **11**, 536-543 (2012). **HI**

2012YC& H. Yan, B. A. Collins, E. Gann, C. Wang, H. Ade, and C. R. McNeill, *Correlating the Efficiency and Nanomorphology of Polymer Blend Solar Cells Utilizing Resonant Soft X-ray Scattering*, ACS Nano **6**, 677 (2012).

2013CF& Caviglia, A.D., Först, M., Scherwitzl, R., Khanna, V., Bromberger, H., Mankowsky, R., Singla, R., Chuang, Y.-D., Lee, W.S., Krupin, O., Schlotter, W.F., Turner, J.J., Dakovski, G.L., Minitti, M.P., Robinson, J., Scagnoli, V., Wilkins, S.B., Cavill, S.A., Gibert, M., Gariglio, S., Zubko, P., Triscone, J.-M., Hill, J.P., Dhesi, S.S., Cavalleri, A.,. *Photoinduced melting of magnetic order in the correlated electron insulator NdNiO3*. Phys. Rev. B 88, 220401 (2013).

2013CL& B. A. Collins, Z. Li, J. R. Tumbleston, E. Gann, C. R. McNeill, and H. Ade, *Absolute measurement of domain composition and nanoscale size distribution explains performance in PTB7:PC71BM solar cells*, Adv. Energy Mater. **3**, 65 (2013)

2013GL& C. Guo, Y.H. Lin, M.D. Witma, K.A. Smith, C.Wang, A. Hexemer, J.Strzalka, E.D. Gomez and R. Verduzco *Conjugated Block Copolymer Photovoltaics with near 3% Efficiency through Microphase Separation*, Nano Lett. **9** , 2957- 2963 (2013).

2013GK& C. Guo, D. R. Kozu, S.V. Kesava, C. Wang, A. Hexemer and E. D. Gomez, *Signatures of multiphase formation in the active layer of organic solar cells from resonant soft X-ray scattering*, ACS Macro Lett. **2** , 185-189 (2013).

2013HJ& Hearmon, A.J., Johnson, R.D., Beale, T.A.W., Dhesi, S.S., Luo, X., Cheong, S.-W., Steadman, P., Radaelli, P.G., *Magnetic fan structures in Ba0.5Sr1.5Zn2Fe12O22 hexaferrite revealed by resonant soft x-ray diffraction.* Phys. Rev. B 88, 174413 (2013).

2013YW& H. Yan, C. Wang, A.R. McCarn, and H. Ade, *Accurate and Facile Determination of the Index of Refraction of Organic Thin Films Near the Carbon 1s Absorption Edge*, Phys. Rev. Lett. 110, 177401 (2013) **HI**

2013FS& J Fink, E Schierle, E Weschke and J Geck, *Resonant elastic soft x-ray scattering* Rep. Prog. Phys. **76** 056502 (2013)

2013TS& J.R. Tumbleston, A. C. Stuart, E. Gann, H. Yan, B. A. Collins, W. You, and H. Ade, *Fluorinated polymer yields high organic solar cell performance for wide range of morphologies*, Adv. Funct. Mater. **23**, 27 (2013).

2014FF& Först, M., Frano, A., Kaiser, S., Mankowsky, R., Hunt, C.R., Turner, J.J., Dakovski, G.L., Minitti, M.P., Robinson, J., Loew, T., Le Tacon, M., Keimer, B., Hill, J.P., Cavalleri, A., Dhesi, S.S., *Femtosecond x rays link melting of charge-density wave correlations and light-enhanced coherent transport in* $YBa_2Cu_3O_{6.6}$ Phys. Rev. B 90, 184514 (2014)

2014FT& Först, M., Tobey, R.I., Bromberger, H., Wilkins, S.B., Khanna, V., Caviglia, A.D., Chuang, Y.-D., Lee, W.S., Schlotter, W.F., Turner, J.J., Minitti, M.P., Krupin, O., Xu, Z.J., Wen, J.S., Gu, G.D., Dhesi, S.S., Cavalleri, A., Hill, J.P., *Melting of Charge Stripes in Vibrationally Driven La1.875Ba0.125CuO4 Assessing the Respective Roles of Electronic and Lattice Order in Frustrated Superconductors*. Phys. Rev. Lett. 112, 157002 (2014)

2014KF& Sameer Vajjala Kesava, Zhuping Fei, Adam D. Rimshaw, Cheng Wang, Alexander Hexemer, John B. Asbury, Martin Heeney, Enrique D. Gomez, *Solar Cells: Domain Compositions and Fullerene Aggregation Govern Charge Photogeneration in Polymer/Fullerene Solar Cells*, Adv. Energ. Mat. **4** 1400116 (2014)

2014TC& J.R. Tumbleston, B.A. Collins, L. Yang, A.C. Stuart, E. Gann, W. Mai, W. You, and H. Ade, *The influence of molecular orientation on organic bulk heterojunction solar cells*, Nature Photonics **8**, 385-381 2014). **HI**

2015YJ&a L. Ye, X. Jiao, M. Zhou, S. Zhang, H. Yao, W. Zhao, Andong Xia, H.W. Ade, and Jianhui Hou, *"Manipulating Aggregation and Molecular Orientation in All-Polymer Photovoltaic Cells,"* *Advanced Materials* **27**, 6046–6054 (2015)

2017FP&c T.J. Ferron, M. Pope, and B.A. Collins, "*Spectral Analysis for Resonant Soft X-Ray Scattering Enables Measurement of Interfacial Width in 3D Organic Nanostructures,"* Physical Review Letters 119, 167801 (2017). **HI**

2018YK& Ye, D., S.N. Kiemle, S. Rongpipi, X. Wang, C. Wang, D.J. Cosgrove, E.W. Gomez, and E.D. Gomez, "*Resonant soft X-ray scattering reveals cellulose microfibril spacing in plant primary cell walls*," Scientific Reports **8**, 12449 (2018) **HI**

2020AN& Angunawela, I., M.M. Nahid, M. Ghasemi, A. Amassian, H. Ade, and A. Gadisa, "T*he Critical Role of Materials' Interaction in Realizing Organic Field-Effect Transistors Via High-Dilution Blending with Insulating Polymers*," ACS Applied Materials **12**(23), 26239-26249 (2020).

2020AP&a Alaasar, M., S. Poppe, Y. Cao, C. Chen, F. Liu, C. Zhu, and C. Tschierske, "*Y-shaped tricatenar azobenzenes - functional liquid crystals with synclinic-anticlinic transitions and spontaneous helix formation*," J. Mater. Chem. C **8**(37), 12902-12916 (2020).

2020AP&b Arunagiri, L., Z. Peng, X. Zou, H. Yu, G. Zhang, Z. Wang, J.Y. Lin Lai, J. Zhang, Y. Zheng, C. Cui, F. Huang, Y. Zou, K.S. Wong, P.Y. Chow, H. Ade, and H. Yan, *"Selective Hole and Electron Transport in Efficient Quaternary Blend Organic Solar Cells,"* Joule **4**(8), 1790-1805 (2020).

2020AZ& An, K., W. Zhong, L. Ying, P. Zhu, B. Fan, Z. Li, N. Li, F. Huang, and Y. Cao, "*Optimization of processing solvent and film morphology to achieve efficient non-fullerene polymer solar cells processed in air*," J. Mater. Chem. C **8**(1), 270-275 (2020).

2020BA&a Bin, H., I. Angunawela, B. Qiu, F.M. Colberts, M. Li, M.J. Dyson, M.M. Wienk, H. Ade, Y. Li, and R.J. Janssen, *"Precise Control of Phase Separation Enables 12% Efficiency in All Small Molecule Solar Cells,"* Advanced Energy Materials **10**(34), 2001589 (2020).

2020BA&b Bin, H., I. Angunawela, R. Ma, A. Nallapaneni, C. Zhu, P.J. Leenaers, B.H. Saes, M.M. Wienk, H. Yan, H. Ade, and R.J. Janssen, "*Effect of main and side chain chlorination on the photovoltaic properties of benzodithiophene-alt-benzotriazole polymers*," J. Mater. Chem. C **8**(43), 15426-15435 (2020).

2020CA& Cao, Y., M. Alaasar, A. Nallapaneni, M. Salamończyk, P. Marinko, E. Gorecka, C. Tschierske, F. Liu, N. Vaupotič, and C. Zhu, "Molecular Packing in Double Gyroid Cubic Phases Revealed via Resonant Soft X-Ray Scattering," *Phys. Rev. Lett.* **125**(2), 027801 (2020). **HI**

2020CC& Chai, G., Y. Chang, Z. Peng, Y. Jia, X. Zou, D. Yu, H. Yu, Y. Chen, P.Y. Chow, K.S. Wong, J. Zhang, H. Ade, L. Yang, and C. Zhan, "Enhanced hindrance from phenyl outer side chains on nonfullerene acceptor enables unprecedented simultaneous enhancement in organic solar cell performances with 16.7% efficiency," *Nano Energy* **76**, 105087 (2020).

2020CF& Cao, Y., C. Feng, A. Jakli, C. Zhu, and F. Liu, "*Deciphering chiral structures in soft materials via resonant soft and tender X-ray scattering,*" *Giant* **2**, 100018 (2020).

2020CK& Chen, X., B. Kan, Y. Kan, M. Zhang, S.B. Jo, K. Gao, F. Lin, F. Liu, X. Peng, Y. Cao, and A.Y. Jen, "As-Cast Ternary Organic Solar Cells Based on an Asymmetric Side-Chains Featured Acceptor with Reduced Voltage Loss and 14.0% Efficiency," *Advanced Functional Materials* **30**(11), 1909535 (2020).

2020CL& Chen, Y., M. Li, Y. Wang, J. Wang, M. Zhang, Y. Zhou, J. Yang, Y. Liu, F. Liu, Z. Tang, Q. Bao, and Z. Bo, "A Fully Non-fused Ring Acceptor with Planar Backbone and Near-IR Absorption for High Performance Polymer Solar Cells," *Angew. Chem. Int. Ed.* **59**(50), 22714-22720 (2020). **HI**

2020CT& Chen, Z., Y. Tang, B. Lin, H. Zhao, T. Li, T. Min, H. Yan, and W. Ma, "Probe and Control of the Tiny Amounts of Dopants in BHJ Film Enable Higher Performance of Polymer Solar Cells," *ACS Applied Materials* **12**(22), 25115-25124 (2020).

2020CY& Cheung, A.M., H. Yu, S. Luo, Z. Wang, Z. Qi, W. Zhou, L. Arunagiri, Y. Chang, H. Yao, H. Ade, and H. Yan, "Incorporation of alkylthio side chains on benzothiadiazole-based non-fullerene acceptors enables high-performance organic solar cells with over 16% efficiency," *J. Mater. Chem. A* **8**(44), 23239-23247 (2020).

2020CZ& Cai, Y., H. Zhang, L. Ye, R. Zhang, J. Xu, K. Zhang, P. Bi, T. Li, K. Weng, K. Xu, J. Xia, Q. Bao, F. Liu, X. Hao, S. Tan, F. Gao, X. Zhan, and Y. Sun, "Effect of the Energy Offset on the Charge Dynamics in Nonfullerene Organic Solar Cells," *ACS Applied Materials* **12**(39), 43984-43991 (2020)

2020JL& Hyeong Min Jin , Xiao Li, James A. Dolan, R. Joseph Kline, José A. Martínez-González, Jiaxing Ren, Chun Zhou, Juan J. de Pablo, Paul F. Nealey, *Soft crystal martensites: An in situ resonant soft x-ray scattering study of a liquid crystal martensitic transformation,* Sci. Adv. **6,** eaay5986 (2020). **HI**

2021AH& Alqahtani, O., S.M. Hosseini, T. Ferron, V. Murcia, T. McAfee, K. Vixie, F. Huang, A. Armin, S. Shoaee, and B.A. Collins, "*Evidence That Sharp Interfaces Suppress Recombination in Thick Organic Solar Cells,"* ACS Applied Materials **13**(47), 56394-56403 (2021).

2021AQ& An, C., Y. Qin, T. Zhang, Q. Lv, J. Qin, S. Zhang, C. He, H. Ade, and J. Hou, "*Optimization of active layer morphology by small-molecule donor design enables over 15% efficiency in small-molecule organic solar cells,"* J. Mater. Chem. A **9**(23), 13653-13660 (2021).

2021BC& Bi, Z., K. Chen, L. Gou, *Y. Guo, X. Zhou, H.B. Naveed, J. Wang, Q. Zhu, J. Yuan, C. Zhao, K. Zhou, S. Chandrabose, Z. Tang, Y. Yi, J.M. Hodgkiss, L. Zhang, and W. Ma, "Observing long-range non-fullerene backbone ordering in real-space to improve the charge transport properties of organic solar cells,"* J. Mater. Chem. A **9**(31), 16733-16742 (2021).

2021CB& Chen, Y., F. Bai, Z. Peng, L. Zhu, J. Zhang, X. Zou, Y. Qin, H.K. Kim, J. Yuan, L. Ma, J. Zhang, H. Yu, P.Y. Chow, F. Huang, Y. Zou, H. Ade, F. Liu, and H. Yan, "Asymmetric Alkoxy and Alkyl Substitution on Nonfullerene Acceptors Enabling High-Performance Organic Solar Cells," *Advanced Energy Materials* **11**(3), 2003141 (2021).

2021CM& Chen, S., D. Meng, J. Huang, N. Liang, Y. Li, F. Liu, H. Yan, and Z. Wang, "Symmetry-Induced Orderly Assembly Achieving High-Performance Perylene Diimide-Based Nonfullerene Organic Solar Cells," *CCS Chem.* **3**(8), 78-84 (2021).

2022DL& Dai, S., M. Li, J. Xin, G. Lu, P. Xue, Y. Zhao, Y. Liu, M. Sun, L. Yu, Z. Tang, G. Lu, W. Ma, and X. Zhan, “Enhancing organic photovoltaic performance with 3D-transport dual nonfullerene acceptors,” *J. Mater. Chem. A* **10**(4), 1948-1955 (2022).