

Bibliography of Soft X-ray Microscopy - REFERENCES

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CONFERENCE PROCEEDINGS

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|--|-----------------------|------|---|
| 1 st Int. Conf. X-ray Microscopy | Göttingen, Germany | 1983 | G. Schmahl, and D. Rudolph (Eds)
X-ray microscopy (Springer, 1984) |
| 2 nd Int. Conf. X-ray Microscopy | Stony Brook, USA | 1987 | D. Sayre, M. Howells, J. Kirz, H. Rarback (Eds.)
X-Ray Microscopy II (Springer, 1988) |
| 3 rd Int. Conf. X-ray Microscopy | London, UK | 1990 | A. Michette, G. R. Morrison, and C. J. Buckley (Eds.)
X-Ray Microscopy III (Springer, 1992) |
| 4 th Int. Conf. X-ray Microscopy | Chernogolovka, Russia | 1993 | V. V. Aristov, and A. I. Erko (Eds.)
X-Ray Microscopy IV (Chernogolovka, Russia, 1994). |
| 5 th Int. Conf. X-ray Microscopy | Würzburg, Germany | 1996 | J. Thieme, G. Schmahl, D. Rudolf, E. Umbach (Eds)
X-ray microscopy and spectromicroscopy (Springer, 1998) |
| 6 th Int. Conf. X-ray Microscopy | Berkeley, USA | 1999 | W. Meyer-Ilse, T. Warwick, and D. Attwood (Eds.)
Am. Inst. Phys. Conf. Proc 507 (2000) |
| 7 th Int. Conf. X-ray Microscopy | Grenoble, France | 2002 | J. Susini, D. Joteux, F. Polack (Eds)
J. de Physique IV Proceedings 104 (2003) |
| 8 th 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 |
| 9 th 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) |
| 10 th Int. Conf. X-ray Microscopy | Chigaco, USA | 2010 | Ian McNulty, Catherine Eyberger, Barry Lai (eds)
Am. Inst. Phys. Conf. Proc. 1365 (2011) |
| 11 th Int. Conf. X-ray Microscopy | Shanghai, China | 2012 | Ziyu Wu, Renzhong Tai (eds) |

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. **80** (1996)
- 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)
- 2000A** D. Attwood, *Soft X-rays And Extreme Ultraviolet Radiation, Principles and Applications* (Cambridge University Press, 2000).
- 2001H A.P. Hitchcock, *Soft X-ray spectromicroscopy of polymers and biopolymer interfaces*, J.Synchrotron Radiation **8**, 66 (2001)
- 2002AS 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 *Encyclopedia 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*. Spinrnger 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)
- 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 spectronanoscropy at synchrotrons: Growing impact on life sciences and materials science*, J. Electron Spectrosc. Rel. Phen. **178-179** 273-291 (2010)
- 2012H** A.P. Hitchcock, *Soft X-ray Imaging and Spectromicroscopy* Chapter 22 in Volume II (Methods) of the Handbook on Nanoscropy, eds. Gustaaf Van Tendeloo, Dirk Van Dyck and Stephen J. Pennycook (Wiley, **2012**) pp 745-791 invited [BOOK CHAPTER](#)

ARTICLES

- 1969SR G. Schmahl and D. Rudolph, *Lichstarke Zoneplatten als abbildende Sytee für weiche Röntgenstrahlung* (High power zone plates a 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. Rudolph and G. Schmahl, *X-ray microscopy with uynchrotron 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. Houzago, 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. Vladimirovsky, 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. Vladimirovsky, 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)
- 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. Vladimirovsky, 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. Vladimirovsky, 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 microscope*, *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 XI-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*, JOURNAL **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. **A9**, 1320-22 (1991).
- 1991T B.P. Tonner, *Photoemission spectromicroscopy of surfaces in materials science*, Synchrotron Radiation 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 XI-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 $\sim 4 \text{ \AA}$ 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* **XX, PP** (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. Willeumier, 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 **4** **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 Biochemical Acta **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).
- 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. Instr. **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 electron 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. Zhang, A. Föhlisch, C. Kunz, A. Moewes, M. Pretorius, 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. Instr **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**, 1640-1664 (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)
- 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. Murali, 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. Charlabous, "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. Capozzi, 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)

- 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)
- 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)
- 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. Stammer, 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 electron 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. Capozzi, 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. Capozzi, 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).
- 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)
- 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.Phén.* **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. Uggerhøj, "Description of an x-ray microscope with 30 nm resolution", *Rev. Sci. Instr.* **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)
- 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)
- 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 **TITLE** *Rev. Sci. Instr.* **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)
- 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)
- 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).
- 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. Tyliczszak, 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. Tyliczszak, 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)
- 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).
- 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)
- 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. Capozzi, 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.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)
- 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. Tyliczszak, J. A. Katine, M. J. Carey, M. R. Scheinfein, H. C. Siegmann, and J. Stöhr, **TITLE** Phys. Rev. Lett. **100**, 247201 (2008). (HI)
- 20008SS& E.de Smit, I. Swart, J.F. Creemer, G.H. Hoveling, M.K. Gilles, T. Tyliczszak, 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. Series (2000) 712-714.
- 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. Capozzi, 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. Kaznachejev, 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. Kaznachejev 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)
- 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 Microscope: 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. Kaznachejev, 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. Neelson 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)
- 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)
- 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. Koch 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)
- 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)
- 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. Kaznachejev, 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. Guttman, 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. Guttman, 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, **TITLE** *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 alignment 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).
- 2001DG& G. De Stasio, B. Gilbert, B.H. Frazer, K. H. Neelson, 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).
- 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)
- 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. Neelson, 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. Tylliszczak, 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)
- 2001HS **REVIEW (polymer, bio)**
- 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 Spectromicroscopy, *Macromolecules* **34**, 4424 (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)
- 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. Tylliszczak, 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 interfactants 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)
- 2001VC& S. Vogt, H.N. Chapman, C. Jacobsen and R. Medenwaldt, "Dark field x-ray microscopy: the effects of condenser/detector aperture", *Ultramicroscopy* **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& 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).
- 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 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)
- 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).

- 2002CUA T. Coffey, S.G. Urquhart, H. Ade, "Characterization of the Effects of Soft X-ray Irradiation on Polymers" *J. Electron Spectrosc. Relat. Phenom.* **122**, 65 (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)
- 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)
- 2002KD& I. Koprinarov, M. Demirors, T. Tyliczszak, 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. Kaznachev, 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, *Diffraction aperture based differential phase contrast for scanning X-ray microscopy* *Optics Express* **10** 1111-1118 (2002)
- 2002LG& R. Larciprete, L. Gregoratti, M. Danailov, R. M. Montoreali, 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)
- 2002MG&a H Marbach, S Guenther, B Luerssen, 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)
- 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)
- 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: Physicochemical 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).
- 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)
- 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).
- 2003AK& H. Ade, A.L.D. Kilcoyne, T. Tylliszczak, 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)
- 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 segregation 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)
- 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)
- 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)
- 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).
- 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 microscopy*, (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).
- 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)
- 2003Jxx Juenger, M.C.G., et al., *Direct observation of cement hydration by soft X-ray transmission microscopy*. *Journal of Materials Science Letters*,**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)
- 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. Tyliczszak, 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).
- 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 LaFeO₃ films by soft x-ray magnetic linear dichroism spectroscopy, Phys. Rev. B **67**, 214433 (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).
- 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)
- 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).
- 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)
- 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)
- 2003ST& C. Schmidt, J. Thieme, U. Neuhäusler, C. Jacobsen, B. Kaulich, M. Salomé, 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).
- 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)
- 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).
- 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 WS₂ Nanotubes to Produce New Polystyrene/Polymethylmethacrylate Nanocomposites", Polymer **44**, 2109 (2003).
- 2004A H. Ade, "NEXAFS Microscopy" in Encyclopedia 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 Gangodhadhyay 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. Tylliszczak, B. Constantz, A. M. Spormann and G. E. Brown, *Scanning 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 TiO_x-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& Drake, I.J., T.C.N. Liu, M.K. Gilles, T. Tylliszczak, 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).
- 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](#)
- 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)
- 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)
- 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 MoO₃ on Al₂O₃ support surfaces: Photoelectron spectromicroscopic study, *J Phys Chem B*, **108**, 14223-14231 (2004)
- 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)
- 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)
- 2004KB& K. Kaznacheyev, I. Blomqvist, E. Hallin, S. Urquhart, D. Loken, T. Tylicszak, T. Warwick and A.P. Hitchcock, *Principles of optical design of the SM beamline at the CLS*, in *Synchrotron Radiation Instrumentation 2003: Eighth International Conference on Synchrotron Radiation Instrumentation*, T. Warwick, J. Arthur, H.A. Padmore, J. Stohr, *AIP Conf. Proc.* **705**, 1303-1307 (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)
- 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 data*, *Ultramicroscopy* **100**, 35 (2004)
- 2004LL 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
- 2004M C. Morin, *Soft X-Ray Spectromicroscopy of Proteins on Patterned Polymer Films*, McMaster, Chemistry PhD thesis (Dec 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).
- 2004OK& A. Oeslsner, A. Krasnyuk, 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)
- 2004PR& M. Plaschke, J. Rothe, M. Denecke and T. Fanghänel, "Soft x-ray spectromicroscopy of humic acid europium(III) complexation by comparison 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)
- 2004SL& A. Scholl, M. Liberati, E. Arenholz, H. Ohldag, and J. Stöhr, Creation of an antiferromagnetic exchange spring, Phys. Rev. Lett. **92**, 247201 (2004) (HI)
- 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/LaFeO₃, Appl. Phys. Lett. **85**, 4085 (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& 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)
- 2004TW& T. Tylliszczak, 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).
- 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)
- 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)
- 2004YJ& Yoon, T.H., S.B. Johnson, K. Benzerara, C.S. Doyle, T. Tylliszczak, 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).
- 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)

- 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)
- 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", *Carbon* **43**, 117 (2005)
- 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).
- 2005CH& 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](#))
- 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)
- 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. Tylliszczak, 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).
- 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)
- 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 microscopy", *Analytical Chemistry* **77**, 3479 (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)
- 2005Jxx Juenger, M.C.G., et al., *A soft X-ray microscope investigation into the effects of calcium chloride on tricalcium silicate hydration*. *Cement and Concrete Research*, **35** 19-25 (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)
- 2005ML& 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).
- 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& HJ Nilsson, T. Tyliszczak, RE Wilson, L Werme and DK Shuh, *Soft X-ray scanning transmission X-ray microscopy (STXM) of actinide particles*. *Anal Bioanal Chem*; **383**, 41-7 (2005).
- 2005OK& A. Oelsner, A. Krasnyuk, S. Nepijko, C.M. Schneider and G. Schönhense, Spatially 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)

- 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, *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)
- 2005SK& C.M. Schneider, A. Kuksov, A. Krasnyuk, A. Oelsner, S.A. Nepijko and G. Schönhense, Time-resolved X-ray photoemission electron microscopy: imaging magnetodynamics on the 100 ps scale and below, . *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).
- 2005SM 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).
- 2005SR& 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)
- 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)
- 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)
- 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).
- 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 Transmission X-ray Microscopic Analysis of Purified Melanosomes of the Mouse Iris," *Micron* **37**, 689 (2006)
- 2006AS& Y. Acremann, J. P. Strachan, V. Chembrolu, S. D. Andrews, T. Tyliczszak, 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. Tyliczszak, 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)
- 2006BM& 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)
- 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& 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)
- 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).
- 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. Meulenlamp, 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)
- 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. Tyliczszak, 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. Tyliczszak, 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⁺- Exchanged USY and ZSM-5 Zeolites*," *J. Phys. Chem. B* **110**, 11665-11676 (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)
- 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 microscopy", *NIM Phys. Res. A* **565**, 841-854 (2006)
- 2006FK& 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)
- 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. Guttman, 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&a P. Haberstroh, J. Brandes, Y. Gelinas, A. Dickens, S. Wirick and 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).
- 2006HB&b 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)
- 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).
- 2006HLH A. Holmberg, M. Lindblom and H. M. Hertz, "Controlled electroplating for high-aspect-ratio zone plate fabrication", *JVST B* **24**, 2592 (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. Tyliczszak 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 Tyliczszak, 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)
- 2006KF& 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)
- 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. Menten, M. Kiskinova and E. Bauer, "Photoemission electron microscopy with chemical sensitivity: SPELEEM methods and applications", *Surf Interface Anal.* **38**, 1554-1558 (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 Capacity in Soils. *Soil Sci. Soc. Am. J.* **70**, 1719 (2006)
- 2006LM& A. Locatelli, T.O. Menten, 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)
- 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)
- 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).
- 2006OL& D.L.Olynick, J.A. Liddle, A.V. Tivanski, M.K. Gilles, T. Tylyszczak, 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, Parallel versus antiparallel interfacial coupling in exchange biased Co/FeF₂, *Phys. Rev. Lett.* **96**, 027203 (2006) (HI)
- 2006PL& G. Pereira, A. Lachenwitzer, D. Munoz-Paniagua, M. Kasrai, P.R. Norton, M. Abrecht, P.U.P.A Gilbert. *The role of the cation in antiwear films formed from ZDDP on 52100 Steel*. *Tribology Letters* **23**, 109-119 (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)
- 2006SW J. Stöhr and H.C. Siegmann, *Magnetism. From Fundamentals to Nanoscale Dynamics*. Spinrnger Series in Solid State Science, Vol 152 (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)
- 2006WP& B. Van Waeyenberge, A. Puzic, H. Stoll, K.W. Chou, T. Tylliszczak, R. Hertel, M. Fähnle, H. Brühl, 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)
- 2006YB& T. H. Yoon, K. Benzerara, S. Ahn, R.G. Luthy, T. Tylliszczak, 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)
- 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, T.O. Mentès, 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 B* 301-316 (2007)
- 2007AB&b L Aballe, A Barinov, A Locatelli, T.O. Mentès, 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. Tylliszczak, and J. Stöhr. *Software defined photon counting system for time resolved x-ray experiments*. Rev. Scientific Instruments, **78** 014702 (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)
- 2007CK I. Christl and R. Kretzschmar, *CIs NEXAFS Spectroscopy reveals chemical fractionation of humic acid by cation-induced coagulation*, Env. Sci. Tech. **41**, 1915-1920, (2007)
- 2007CP& Chou, K.W. A. Puzic, H. Stoll, D. Dolgos, B. Van Waeyenberge, A. Vansteenkiste, T. Tylliszczak, G. Woltersdorf, and C.H Back, *Direct observation of the vortex core magnetization and its dynamics*. Appl. Phys. Lett., **90** 202505 (2007).
- 2007DK& C. Déjugnat, K. Köhler, M. Dubois, G.B. Sukhorukov, H. Möhwald, T. Zemb and P. Guttman, *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 (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. 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)

- 2007FK& 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)
- 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).
- 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)
- 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*, **JOURNAL** **39**, 209-2 (2007) Proceedings of Geological Society of America Annual Meeting, (Denver, CO, 10/28/2007
- 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)
- 2007HGG 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. Tyliczszak, 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) 10.1007/978-0-387-49762-4
- 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).
- 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 aerosols", *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 particles*, *Proc. 23rd Int. Conf on Digital Printing Technologies*, (2007)
- 2007JT& G.A. Johansson, T. Tyliczszak, 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. Tyliczszak, 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. Guttman, 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)
- 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).
- 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 implications for its formation mechanism*, Phys Rev Lett. **98**, 268102 (2007) [HI](#)
- 2007MB&a R.M. Monteleali, 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](#)
- 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)
- 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)
- 2007SC& 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)

- 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. Guttman, 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 Hernández-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.* **B111**, 7691-7699, (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)
- 2007TG& G. Tzvetkov, B. Graf, R. Wiegner, J. Raabe, C. Quittmann and R. Fink R. *Soft X-ray spectromicroscopy of phase-change microcapsules*, *Micron* 2007 **in press**
- 2007TH& A.V. Tivanski, R.J. Hopkins, T. Tyliczszak, 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. Tuohimaa, 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).
- 2007WB& Westphal, A.J., S. Bajt, A.L. Butterworth, S. Fakra, Z. Gainsforth, M.A. Marcus, M.C. Martin, C.J. Snead, and T. Tyliczszak, *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. Tyliczszak. *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. Tyliczszak 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)
- 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 Nuclear Science Symposium Conference Record **N14** 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& J.A. Brandes, G.D. Cody, D. Rumble, P. Haberstroh, S. Wirick and Y. Gelinias, *Carbon K-edge XANES spectromicroscopy of natural graphite*, *Carbon* **46**, 1424–1434 (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)
- 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](#)
- 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)
- 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)
- 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).
- 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)
- 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)
- 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)
- 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& C. Graf, M. Meinke, Q. Cao, S. Hadam, J. Raabe, W. Sherry, U. Blume-Peytavi J. Leadmann, E. Rühl and A. Vogt, *High Resolution detection of single nanoparticles in human skin by STXM*, *J. Biomedical Optics* **14**, 021015 (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).

- 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)
- 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)
- 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 Hopkins, R.J., Y. Desyaterik, A.V. Tivanski, R.A. Zaveri, C.M. Berkowitz, T. Tylliszczak, 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).
- 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. Tylliszczak, *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)
- 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)
- 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. Kobayashi, H. Kohno and 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)
- 2008KW& 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)
- 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& C. Lepiller, V. Gauthier, J. Gaudet, A. Pereira, M. Lefebvre, D. Guay and A.P. Hitchcock, *Ionic conductivity of Nafion® - RuO₂xH₂O composite membranes* *J. Electrochemical Society* **155**, B70-B78 (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)
- 2008LM& Leaitch, W.R., A.M. Macdonald, K.G. Nlauf, P.SK. Liu, D. Toom-Saunty, 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. Pailhary, 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 nanometer scales*, *Nature Geoscience* **1**, 238-242 (2008)
- 2008MD& Moffet, R.C., 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).
- 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).
- 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)
- 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. Tyliczszak, 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).
- 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 nanotubes*, *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)
- 2008PM& 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).
- 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. Bögel A. Jaggi, B. Sarafimov, M. G. C. Vernooij, T. Huthwelker, H. Ade, D. Kilcoyne, T. Tyliczszak, 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)
- 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& E. de Smit, I. Swart, J. F. Creemer, G.H. Hovelings, M.K. Gilles, T. Tyliczszak, 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**
- 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).
- 2008ULF S. G. Urquhart, U.D. Lanke and J. Fu, *Characterization of Molecular Orientation in Organic Nanomaterials by X-ray Linear Dichroism Microscopy*, International Journal of Nanotechnology **5**, 1138-1170 (2008)
- 2008VB& A. Vansteenkiste, J. De Baerdemaeker, K.W. Chou, H. Stoll, M. Curcic, T. Tylliszczak, 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).
- 2008VI& 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)
- 2008W J. Wang, *Radiation chemistry studied by Soft X-ray microscopy*, McMaster, Chemistry, PhD thesis (Feb, 2008)
- 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)
- 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. Tylliszczak, 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)
- 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)
- 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)
- 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. Düringer, *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)

- 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 **170** 42-48 (2009)
- 2009BN& 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).
- 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).
- 2009CH& D. Covelli, D. Hernandez-Cruz, B.M. Haines, V. Munoz, O. Omotoso, R. Mikula and S.G. Urquhart, *NEXAFS microscopy of the association of hydrocarbon thin films with fine clay particles*, J. Electron Spectrosc. Rel. Phen, **173**, 1-6 (2009)
- 2009CK& W. Chao, J. Kim, S. Rekawa, P. Fischer and .H. Anderson, *Demonstration of 12 nm Resolution Fresnel Zone Plate Lens based Soft X-ray Microscopy*, Optics Express 17 17669-17677 (2009)
- 2009CP A.P. Chandra, A.R. Gerson, *The mechanisms of pyrite oxidation and leaching: A fundamental perspective*, Surface Science Reports **65** 293-315 (2010)
- 2009DL& 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)
- 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& 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**(52), 14A (2009)
- 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).
- 2009GM& P. Gilbert, R.A. Metzler, D. Zhou, A. Scholl, A. Doran, A. Young, M. Kunz, N. Tamura, and S.N. Coppersmith, *Gradual Ordering in Red Abalone Nacre*, J.Am. Chem. Soc. **130** 17519 (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).
- 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)
- 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)
- 2009KG& B Kaulich, A Gianocelli, 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& 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
- 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 Cosmochimica Acta **73** 6579-6599 (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-poly(lactide) blends*, *Macromolecules* **42** 1679–1684 (2009)
- 2009LM& M A Le Gros, McDermott M. Uchida, C G Knoechel a Larabell C A.. *High numerical-aperture cryogenic light microscopy*. *J. Microscopy-Oxford*. **235** 1-8 (2009)
- 2009LM& W.R. Leitch, A.M. Macdonald, K.G. Anlauf, P.S.K. 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& Liu, S., 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*, *Atmospheric Chemistry and Physics Discussions* **9**, 4567-4607 (2009)
- 2009LW& 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-poly(lactide) blend*, *Biomacromolecules* **10** 1838–1845 (2009)
- 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-poly(lactide) 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)
- 2009LW&c 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-poly(lactide) blend*, *Biomacromolecules* **10** 1838–1845 (2009)
- 2009MA& Y. Ma, B. Aichmayer, O. Paris, P. Fratzl, A. Meibom, R.A. Metzler, Y.I. 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](#)
- 2009MB&a J. Miot, K. Benzerara, G. Morin, A. Kappler, S. Bernard, M. Obst, C. Féraud, F. Skouri-Panet, J.-M.I 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** (2009) 696–711.
- 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)
- 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. Tylliszczak, 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& Z.I. Martin, Jimenez, M.A. Gomez, H.W. Ade, D.A. Kilcoyne, and D. Hernandez-Cruz, *Spectromicroscopy Study of Intercalation and Exfoliation in Polypropylene/Montmorillonite Nanocomposite*, *J. Phys. Chem* **113**, 11160-11165 (2009).
- 2009MK& SG Minasian, JL Krinsky, JD Rinehart, R Copping, T Tyliczszak, M Janousch, DK Shuh and J Arnold *A comparison of 4f vs 5f metal-metal bonds in (CpSiMe₃)₃M-ECp* (M = Nd, U; E = Al, Ga; Cp* = C₅Me₅): synthesis, thermodynamics, magnetism, and electronic structure*. *J Am Chem Soc*; **131** 13767-13783 (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)
- 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& McNeill, C.R., 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& Nittler, L.R., 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. Tyliczszak, 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. Tyliczszak and A.P. Hitchcock, *Precipitation of amorphous CaCO₃ (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)
- 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 (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)
- 2009RR& S. Rehbein, S. Heim, P. Guttman, 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. Vartanians, 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)
- 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.Phys. 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)
- 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& 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)
- 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, *Soft X-ray tomography of phenotypic switching and the cellular response to antifungal peptoids in Candida albicans* , PNAS **106** 19375-19380 (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**(21), 8392-8397 (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)
- 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. Tyliczszak, F. Hellman, and H. Ade, *Soft X-ray beam induced current technique" Japanese Journal of Applied 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. Tylliszczak, 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**
- 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. Aibel, D. Friedrich, P. Guttman, 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)
- 2010AE& E. Almadass, T. Eimueller, B. Ludescher, T. Tylliszczak, 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)
- 2010AL& E. Amaladass, B. Ludescher, G. Schuetz, T. Tylliszczak, 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& D.A. Bugaris, R. Copping, T. Tylliszczak, D.K. Shuh, and J.A. Ibers, "*La₂U₂Se₉: An Ordered Lanthanide/Actinide Chalcogenide with a Novel Structure Type*," Inorganic Chemistry **49**, 2568-2575 (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).
- 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**, 1-12 (2010).
- 2010BV&a B. Braeuer, A. Virkar, S.C.B. Mannsfeld, D. P. Bernstein, R. Kukreja, K. W. Chou, T. Tylliszczak, 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& JA Bradley, P Yang, ER Batista, KS Boland, CJ Burns, DL Clark, SD Conradson, SA Kozimor, RL Martin, GT Seidler, BL Scott, DK Shuh, T Tylliszczak, MP Wilkerson and Wolfsberg, *Experimental and theoretical comparison of the O K-edge nonresonant inelastic X-ray scattering and X-ray absorption spectra of NaReO₄*. *J Am Chem Soc*; **132** 13914-13921 (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*, *Journal of Physical Chemistry Letters* **1**, 3160-3166 (2010).
- 2010CH& 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)
- 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)
- 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)
- 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)
- 2010F P. Fischer, *Viewing spin structures with soft X-ray microscopy*, *Materials Today* **13**, 14-22 (2010)
- 2010FG& 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)
- 2010G J. Guo, in *X-Rays in Nanoscience: Spectroscopy, Spectromicroscopy, and Scattering Techniques*, Jinghua Guo, (Wiley-VCH Verlag GmbH & Co. Weinheim, Germany, 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).
- 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.
- 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),
- 2010HC& 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)
- 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," *Journal of Geophysical Research – Atmospheres* **115**(16), D13201 (2010).
- 2010HT& A.P. Hitchcock, T. Tyliczszak, M. Obst, G.D.W. Swerhone and J.R. Lawrence, *Improving sensitivity in soft X-ray STXM using low energy X-ray fluorescence*, *Microscopy and Microanalysis* **16** S-2 924-925 (2010).
- 2010HWO A.P. Hitchcock, J. Wang and M. Obst, *3-d chemical imaging with STXM spectro-tomography*, *Microscopy and Microanalysis* **16** S-2 850-851 (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)
- 2010KA& A.L.D. Kilcoyne, H. Ade, D. Attwood, A.P. Hitchcock, P. McKean, G.E. Mitchell, P. Monteiro, T. Tyliczszak 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& S. Kowarik, K. Broch, A. Hinderhofer, A. Schwartzberg, 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)
- 2010KM& T. Kamionka, M. Martens, K.W. Chou, M. Curcic, A. Drews, G. Schuetz, T. Tyliczszak, 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 Jian (Jeffrey) Li, *Synthesis, Characterization and Modification of Microcapsules*, McMaster Chemistry PhD thesis (Dec 2010)
- 2010LBH B.O. Leung, J.L. Brash and A.P. Hitchcock, *Characterization of biomaterials by soft X-ray spectromicroscopy*, *Materials* **3** 3911-3938 (2010)
- 2010LH&a K.P. Lam, A.P. Hitchcock, M. Obst, J.R. Lawrence, G.D.W. Swerhone, G.G. Leppard, T. Tyliczszak, 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)
- 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)
- 2010Ma G. Margaritondo, *Photoelectron spectromicroscopy and spectronanoscopies 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, C.R., K. Asadi, B. Watts, P.W.M. Blom, and D.M. de Leeuw, *Structure of Phase-Separated Ferroelectric/Semiconducting Polymer Blends for Organic Non-volatile Memories*, Small **6**(4), 508-512 (2010)
- 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& 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)2010MJ&
- 2010MJ& Z. Martín, 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 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)
- 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).
- 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. Tyliczszak, 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).
- 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)
- 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)
- 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)
- 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.
- 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)
- 2010SG& G. Schneider, P. Guttman, 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](#)
- 2010SK& 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)
- 2010SM& 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).
- 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 arrangement of 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. Guttman, S. Heim, G. Schneide, *Towards high diffraction efficiency zone plates for X-ray microscopy*, *Microelectron. Eng.* **87**, 1557-1560 (2010)
- 20120SS& 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).
- 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)
- 2010TC T. Tyliczszak 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 Heidelberg),103-115 (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& 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)
- 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)
- 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)
- 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).
- 2010WR& S. Werner, S. Rehbein, P. Guttman, S. Heim, G. Schneider, *Towards high diffraction efficiency zone plates for X-ray microscopy*, *Microelectron. Eng.* **87** 1557-1560 (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)

- 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 RuO₂ coated carbon nanotubes*, Chem. Commun. **46** 2778–2780 (2010)
- 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)
- 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 (2011), DOI: [10.1016/j.marpetgeo.2011.05.010](https://doi.org/10.1016/j.marpetgeo.2011.05.010)
- 2011BH&b S. Behyan, B. Haines, C. Karanukaran, J. Wang, M. Obst, T. Tyliczszak, 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. Tyliczszak, 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)
- 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).
- 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](#)
- 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& G.D. Cody, N.S. Gupta, D.E.G. Briggs, A.L.D. 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).

- 2011CS& P.J. Cook, T.H. Shen, P.J. Grundy, M.-Y. Im, P. Fischer, S.A. Morton, and A.L.D. 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).
- 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, *Scanning Photoemission Spectromicroscopic Study of 4-nm Ultrathin SiO_{3,4} Protrusions Probe-Induced on the Native SiO₂ Layer*, *Microsc. Microanal.* **17m** 944-949 (2011)
- 2011DQ& T. Ducic, S. Quintes, K.-A. Nave, J. Susini, M. Rak, R. Tucoulou, M. Alevra, P. Guttman, 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. Tyliczszak, E. Wieland, and D.K. Shuh, "Soft X-ray Spectromicroscopy of Cobalt Uptake by Cement," *Environmental Science and Technology* **45**, 2021-2027 (2011).
- 2011GB P. Guttman, 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.
- 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 Ghorai, S., 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).
- 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 (CaCO₃) nanocrystals using X-ray absorption spectroscopy*, *Procs. Natl. Acad. Sci. USA* **108**, 11350-11355 (2011). [HI](#)
- 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. Hiltz, 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](#)
- 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)
- 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)
- 2011KD& 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.
- 2011KM& C.E. Killian , R.A. Metzler , Y. Gong , T.H. Churchill , I.C. Olson , V. Trubetskoy , M.B. Christensen , J.H. Fournelle , F. De Carlo , S. Cohen , J. Mahamid , A.s Scholl , A. Young , .w 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)
- 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).
- 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).
- 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) invited [BOOK CHAPTER](#)
- 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.
- 2011LH& 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)
- 2011LM&s 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&b 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 (2011) doi 10.1021/cb200260d
- 2011LR& S. Ladak, D.E. Read, T. Tylliszczak, W.R. Branford, and C.F. Cohen, "Monopole defects and magnetic Coulomb blockade," *New Journal Physics* **13**, 023023 (2011).
- 2011LTH A.F.G. Leontowich, T. Tylliszczak 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)
- 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).
- 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)
- 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 Gregorio, 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)
- 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. Pauzuskie, 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. Zaugg and J.H. Satcher, Jr. *Synthesis and characterization of a nanocrystalline diamond aerogel*, *Proc. Nat. Acad. Sci.* **108** (2011) 8550-8553
- 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)
- 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. Tyliczszak, 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 **50****14**, 6656-6666 (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& M.M. van Schooneveld, J. Hilhorst, A.V. Petukhov, T. Tyliczszak, 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)
- 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).
- 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)
- 2011TS& S. Takahama, R.E. Schwartz, L.M. Russell, A.M. Macdonald, S. Sharma, and W.R. Leitch, "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)
- 2011VK& A. Vogel, T. Kamionka, M. Martens, A. Drews, K.W Chou, T.. Tyliczszak, 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](#)
- 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)
- 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)
- 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)

- 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 ad 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& 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, *Appl. Phys. Lett.* **98** 232511 (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 SnO₂ 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)
- 2011YK& L Yang, CE Killian, M Kunz, N Tamura, and PUPA Gilbert. *Biomaterial nanoparticles are space-filling*. *R. Soc. Chem. - Nanoscale* **3**, 603-609 (2011).
- 2011YP& X.W. Yu, V.S. Pribiag, Y. Acremann, A.A. Tulapurkar, T. Tyliczszak, 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. Ammanna, A. Křepelová, M. Birrera, G.e Tzvetkovc, M.G.C. Vernooijb, 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)
- 2011ZW&a J. Zhou, J. Wang, H. Fang, T.-K. Sham, *Structural variation and water adsorption of a SnO₂ 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)
- 2011ZW&c Zhang, W., M. Lin, A. Winesett, O. Dhez, A.L. Kilcoyne, H. Ade, M. Rubinstein, K. Shafi, A. Ulman, D. Gersappe, R. Tenne, M. Rafailovich, J. Sokolo, and H. L. Frisch, "The use of functionalized nanoparticles as non-specific compatibilizers for polymer blends," *Polymers for Advanced Technologies* **22**, 65-71 (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)
- 2012AS& L.R. Aramburo, E. de Smit, M.M. van Schooneveld, A. Juhin, T. Yokosawa, A.M.J. van der Eerden, T. Tyliczszak, J. Wang, H.W. Zandbergen, F.M.F. de Groot and B.M. Weckhuysen, *Nanoscale Chemical Imaging of the Coordination and Distribution of Aluminum in Zeolites by Scanning Transmission X-ray Microscopy*, *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).
- 2012BB& 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 egions of Polymer–Fullerene Bulk Heterojunction Solar Cells*, *Advanced Energy Materials* **2**, **XXXX**, (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. **13**, 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. Guttman, *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)
- 2012BL& K.B. Burke, E.J. Lubner, 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 glass*, J. Electron Spectrosc. Rel. Phenom, **185**, 453-457 (2012)
- 2012BM& 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)
- 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 Spectromicroscopy*, ECS Transactions, **XX**, yyyy (2012)
- 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& 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. Patrick, *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)
- 2012CF& W. Chao, P. Fischer, T. Tyliczszak, 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. Kretschmar, *Aerobic reduction of chromium(VI) by Pseudomonas corrugata 28: Influence of metabolism and fate of reduced chromium*, Geomicrobiology Journal **29**, 173 (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)
- 2012FT& E. Folven, Y. Takamura and J.K. Grepstad, *X-PEEM study of antiferromagnetic domain patterns in LaFeO₃ thin films and embedded nanostructures*, J. Electron Spectrosc. Rel. Phenom, **185**, 381-388 (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. Guttman, 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**

- 2012GK& 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](#)
- 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. invited [BOOK CHAPTER](#)
- 2012HC& 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)
- 2012HK& 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).
- 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. Tyliczszak, *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)
- 2012HS& J. Hilhorst, M. M. van Schooneveld, J. Wang, E.de Smit, T. Tyliczszak, 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)
- 2012I R. Imbihl, *Chemical selforganization of composite catalysts during catalytic reactions*, *J. Electron Spectrosc. Rel. Phenom.* **185**, 347-355 (2012)
- 2012K Samanbir Kalarai, *Scanning Transmission X-ray Microscopy of Magnetotactic Bacteria* McMaster Chemistry & Chemical Biology, M.Sc. thesis (Sep 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).
- 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)
- 2012L Adam F.G. Leontowich, *Tunable soft X-rays for patterning and lithography*, McMaster Chemistry & Chemical Biology PhD thesis (Aug 2012)
- 2012LD&a 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)
- 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).
- 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. Tyliczszak, 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)
- 2012LK& L. Le Guyader, A. Kleibert, A. Fraile Rodríguez, S. El Moussaoui, 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)
- 2012LM& 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).
- 2012ML T. Mentis and A. Locatelli, *Angle resolved XPEEM*, J. Electron Spectrosc. Rel. Phenom, **185**, 323-329 (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).
- 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)
- 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& 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)
- 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).
- 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)
- 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)
- 2012SB& D. Susac, V. Berejnov, A.P. Hitchcock and J. Stumper, *STXM Characterization of PEM Fuel Cell Catalyst Layers*, ECS Transactions **XX yyy**, (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).
- 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).
- 2012SW&a T Schuettfort, B Watts, L Thomsen, M. Lee, H. Siringhaus 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)
- 2012WA B. Watts and A. Ade, NEXAFS imaging of synthetic organic materials, *Materials Today* **15**, 148 (2012)
- 2012WCH D.H. Wei, Yuet-Loy Chan, Yao-Jane Hsu, *Exploring the magnetic and organic microstructures with photoemission electron microscope*, *J. Electron Spectrosc. Rel. Phenom*, **185**, 429-435 (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).
- 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)
- 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).
- 2012WT& 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)
- 2012ZM& 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)
- 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 inPTB7:PC 71 BM Solar Cells*, *Advanced Energy Materials* **3** 65-74, (2013)
- 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) (013)

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 and 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)
- 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. Nguyen, 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).
- 2010SW&b S. Swaraj, C. Wang, HP. Yan, and H. Ade, *Nanomorphology of Bulk Heterojunction Photovoltaic Thin Films Probed with Resonant Soft X-ray Scattering*, *Nano Letters* **10** 2863-2869 (2010).
- 2012CC& B.A. Collins, J.E. Cochran, H. Yan, E. Gann, C. Hub, R. Fink, C. Wang, T. Schuettfort, C.R. Neill, M.L. Chabiny, and H. Ade, *Polarized X-ray scattering reveals non-crystalline orientational ordering in organic films*," *Nature Materials* **11**, 536-543 (2012). [HI](#)