Bibliography of Soft X-ray Microscopy (supplemental material for Polymer invited review)

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Materials
P – polymer; M – material (non-polymer); E – environmental; B - biological

Types
R – review; I – instrumentation; T – technique; A - application

Techniques
PEEM – photoemission electron microscopy
SFXM – scanning focused X-ray microscope
SPAM – scanning photo-excited Auger microscope
SPEM – scanning photoemission X-ray microscopy
STXM – scanning transmission X-ray microscopy
TXM – full field transmission X-ray microscopy
CXRM – contact microscopy
ESCA Microscopy = SPEM (Elettra pub list)
Nanospectroscopy = XPEEM (Elettra pub list)

Polymer abbreviations

Alb, HSA	human serum albumin
ABS	polybutadiene-acrylonitrile blend
DVB55	divinylbenzene (45% monovinylbenzene)
EGDMA	ethylene glycoldimenthylacrylate
EVA	poly (ethylene-co-vinyl alcohol
Fg	fibrinogen
F8BT	poly(9,9'-dioctylfluorene-co-benzothiadiazole)
LDPE	low density polyethylene
Kraton	type of rubber
MDI	merhlyene di(isocyanate)
Nylon-6	poly(ε-caprolacatam)
PAR	polyacrylate
PBMA	poly-n-butyl-methacrylate
PPrS	poly-bromo-styrene

PC	polycarbonate
PET	poly(ethyleneterephthalate)
PMMA	polymethylmethacrylate
PAA	polyacrylic acid
PE	polyethylene
PEP	poly(ethylene-*alt*-propylene)
PI	polyisoprene
PP	polypropylene
PPTA	poly(p-phenylene terphthalamide) = Kevlar^{TM}
PS	polystyrene
PTMO-ED	polytetramethylene oxide + ethylenediamine + MDI)
RBC	poly[(styrene-*r*-isoprene)′-*b*-(styrene-*r*-isoprene)′′], (S/I)′-*b*-(S/I)′′, copolymer; ′ = 75/25; ′′ = 50/50 (wt %) S/I block compositions
TDI	toluene di(isocyanate)
TFB	poly(9,9-dioctylfluorene-co-N-(4-butylphenyl)diphenylamine)
Vectra	poly(butylenes terephthalate)

code	**materials**	**type**	**tech**	**species**	**Comments**
1969SR	M	I	TXM		First zone plates designed for XRM
1972HH	M	I	pinhole		2 um resolution (at NSLS)
1974K	M	I	STXM		zone plate theory
1976NRS	M	I	TXM	*Eremosphaera viridis*,, cotton fibre	First synchrotron TXM (at DESY)
1977SK&a	B	T	STXM		radiation dose (electron vs. X-ray)
1977SK&b	B	T	STXM		water window theory
1980Ka	B	A	STXM		elemental mapping
1980Kb	B	I	STXM		radiation damage
1980KS	B	R	STXM		early review of soft X-ray microscopy
1980RK&	B	I	STXM		UV ring STXM – first results
1980SR&	B	R	TXM		
1984RK&	B	A	STXM		UV ring STXM
1985HK&	B	R	STXM, TXM		popular review
1985KR	B	I, R	STXM		first NSLS microscope
1986JK&	B	I	STXM		U15 BM STXM
1986RS&	B	I	STXM		plans for X1A STXM
1987JK	B	R	STXM		
1987YH	M	I	STXM		zone plate theory
1988DH&	P	A, T	RSoXS	sulphonated PS	resonant scattering

code	materials	type	tech	species	Comments
1988RS&a	B	I	STXM		first X1A result (?)
1988RS&b	B	I	STXM		UV ring STXM
1988SS&	M	I	STXM		interferometer encoder for STXM
1988YH	M	I	STXM		ZP fabrication
1989BR&	B	I	STXM		
1989RI&	B	A	STXM	zymogen granules	
1990AK&	P	I	STXM		
1990KA&	B	R	STXM		
1990RA&	B	R	STXM		
1990RB&	M	I	STXM		NSLS X1a STXM
1990RB&b	M	I	STXM		X1a beamline and undulator
1990RCa	P	A, T	RSoXS	sulphonated PS	resonant scattering
1990RCb	P	A, T	RSoXS	sulphonated PS	resonant scattering
1991AK&	M	I	SPEM	circuits	
1991DC&	B	A	SPEM	neurons	
1991HKS	B	R	STXM, SPEM		popular review
1991JR&	P	A, T	RSoXS	Langmuir-Blodgett films	soft X-ray non-resonant scattering
1991JW&	B	I	STXM		
1991M	M	R	PEEM	Hg lamp Cu/Mo(100)	
1991MD&	B	A	SPEM	neurons	
1991T	M	R	PEEM, SPEM		
1991TG&	M	I	STXM		zone plate fabrication
1992A	R,I	T	SPEM		
1992AK&a	M	I	SPEM		astigmatism correction
1992AK&b	M	I	SPEM		
1992AK&c	M	A,I	SPEM		
1992AZ&	P	A	STXM	PAN, PS, PP	
1992B	B	A	STXM	Ca in bone	
1992BA&	B	A	STXM	Ca mapping in cartilage	
1992BB&	B	A	STXM	collagen fibrils	
1992BB&a	B	A	STXM	Ca mapping in cartilage	
1992BB&b	B	A	STXM	Ca mapping in cartilage	
1992BF&	B	A	STXM	Ca mapping in cartilage	
1992CKW	P	I	STXM		resolution evaluation

code	materials	type	tech	species	Comments
1992DK&	B	A	PEEM	neurons	
1992FP&	B	T	TXM/TEM	radiation damage to cells	
1992GM&	B	A	STXM	organelles in cells	
1992GP	B	A	STXM	whole cell imaging	
1992GP&	B	A	STXM	whole, wet tissue imaging	
1992GR	B	A	STXM	protein secretion from zymogen granules	
1992J	B	I	STXM		
1992JKW	I	T,R	TXM, STXM		resolution
1992JL&a	B	I	STXM		luminescence detection
1992JL&b	M	I	STXM		ZP replication (litho)
1992KA&a	B	R	STXM		coherence effects
1992KA&b	M	I	SPEM		
1992LK&	B	T	STXM		3d imaging by stereo microscopy
1992LR&	I	I	STXM		NSLS X1A undulator and beamline
1992LTJ	B	T	STXM/TXM	radiation damage	
1992LW&	B	T	STXM		steromicroscopy
1992M	I	T	STXM, TXM		phase, dark field
1992PG	B	T	STXM	live cells	
1992RGL	B	T	STXM		protein transport
1992WJ&a	B	T	STXM	chromosomes	radiation damage
1992WJ&b	B	T	STXM	chromosomes	
1992WJ&c	B	T	STXM	chromosomes	
1992WS&	B	A	TXM		
1992ZJW	B	T	STXM		deconvolution image enhancement
1993AH	P	A	STXM	polyimide	Dichroism mapping
1993AH	P	A,T	STXM	Kevlar	dichroism
1993AJ&	B, P	R	STXM		
1993BF&	B	A	STXM	myofibrils	radiation damage
1993CM&	I	I	SPEM		Maximum
1993DD&	B	A	PEEM	Al in neurons	
1993DH&	B	A	PEEM	neurons	
1993DM	B	R	PEEM	neurons	
1993DP&a	B	A	SPEM	neurons	

code	materials	type	tech	species	Comments
1993DP&b	B	A	SPEM	neurons	
1993JL&	B	T	STXM		luminescence microscopy
1993SW&	M	T	PEEM	first XMCD imaging	
1993WZ&	B	A	STXM	wet chromosome imaging	
1994AH&	P	A, R	STXM		dichoism
1994BC&	E	A	STXM	coal	
1994BD&	B	A	STXM	Ca in bone	
1994D	B	A	PEEM	neurons	
1994DC&	B	R	PEEM		
1994DD&	B	A	PEEM	Al in metals	
1994DM&a	B	A	PEEM	Al in neurons	
1994DM&b	B	A	PEEM	Al in neurons	
1994HM&a	B	T	STXM		microtomography
1994HM&b	B	T	STXM		microtomography
1994KA&	B	R, I	STXM	Na salicylate	luminescence
1994RC	M	A, R	SPEM, PEEM	GaAs, Al-Cu-S, XMCD	
1994T	I,M	A	PEEM	first XMCD PEEM	
1994ZA&	P	I, A	STXM		micro-XANES demonstrated
1995AH&	P	A	STXM	various polymers	
1995AS&	P	R	STXM	PS-PAN-polypropylene, PC-PET, Kevlar, PUR	
1995B	B	A	STXM	mapping Ca in tissue	
1995BB&	B	A	STXM	biological Calcium phosphates	
1995CB&a	E	A	STXM	coal	
1995CB&b	E	A	STXM	C, Ca, Cl in coal	
1995CB&c	E	A	STXM	coal	
1995CJW	B	I	STXM		CCD detector
1995DD&	B	A	PEEM	neurons	UV-ashed samples
1995GBR	B	A	STXM	zymogen granules	
1995GR	B	A	STXM	zymogen granules	
1995HT&a	B	T	STXM		microtomography
1995HT&b	B	I	SPEM		
1995KJH	B	R			
1995KK&a	M	I	SPEM		NSLS SPEM

code	materials	type	tech	species	Comments
1995KK&b	M	A	SPEM		
1995KK&c	M	A	SPEM		
1995MC&	B	R	STXM		
1995MDC	B	R	PEEM		
1995MH&	B	T	STXM		microtomography
1995SC	B,P	R	STXM		
1995TD&	M	R	PEEM, SPEM	PAN, magnetic samples	
1995WJ&	B, P	R,B, P	STXM		NSLS STXM review
1995ZF&	I, M	A	scan-SXM	Gd2O2S:Pr phosphor	
1995ZJ&	B	I	STXM		
1996AC&	M	A	PEEM	Pt/GaP(001) interface	
1996AS&	P	A	STXM	LC polyester, LDPE/PET/Kraton. PC/ ABS	
1996CB&	B, P	A	STXM	sporinite in coal	
1996CF&	B	T	STXM		dark field, immuno-gold labels
1996CJW	M	I	STXM		zone plate fabrication
1996DL&	B	I	PEEM	Transmission by PEEM	
1996DM&	B	A	PEEM	Co in granule cells	
1996J	B	R	STXM		
1996JC&	B, P	R	STXM		X1A STXM review
1996K	R	A	TXM, SM		
1996KY&	B	A	TXM	COS cells; Mn enhanced	
1996MAS	B	R	PEEM		
1996MKV	M	I	SFXM	mirror focused system	instrument , luminescence detection
1996OJ&	B	I	STXM		cryo sample preparation
1996SA	P	A	STXM	polyimide	Dichroism mapping
1996UH&	P	A	STXM	polyurethane characterization	
1996VF&	M	R, I	SFXM	ceramics, porous Si	luminescence, PE, transmission detection
1996WA&	B, P	R, I	STXM		NSLS X1A revised beamline
1996WH&	B, P	R, I	STXM		NSLS X1ASTXM IV design
1996ZB&	B	A	STXM	Sperm (DNA, protein)	
1997A	P	R	STXM		
1997AD&	B	A	PEEM	Boron Neutron Capture Therapy	
1997AS&	P	I, R	STXM, SPEM	PS, PC, PE, PP, PET, PAR, Kevlar	NSLS polymer & tribology review (Ade)

code	materials	type	tech	species	Comments
				(PPTA), PS, PU, polyester, Nylon-6, MDI. SAN, TDI, (LDPE, PET, Kraton)-blend; PC-ABS blend PUR, polyurea. BM, B2, B0, LC-polyester, ,ZDDP	
1997BK&	M	I, A	(L) PEEM	Ag/Si	
1997BK&a	B	A	STXM	tissue	
1997BO&	B	A	STXM		amino acid spectroscopy
1997BY&	M	I	STXM+	collimator after ZP	design
1997CD&	P	R	PEEM		
1997CM	M	I	SPEM	various	
1997D	B	R	PEEM		
1997DC&	B	T	PEEM		Effect of ashing
1997DG&	B	A	PEEM	Boron NCT	
1997DM	B	A	PEEM	neurobiology	
1997DMT	E	A	PEEM	ilmenite	
1997FW&	M	I	PEEM	SMART	
1997H	M	A	PEEM	high-Tc superconductors	
1997HS&	M	A	PEEM	XMCD, FeNi alloys	
1997JZN	M	I	SPEM	Si oxides	
1997MB&	M	A	PEEM	various	
1997MC&	M	I,R	SPEM	Au/Si, MoO3/sapphire,	
1997MD	B	A,T	PEEM	neurobiology	
1997MG	M	I	PEEM	Ag/Cu	angle-resolved PEEM (lab)
1997MGS	M	I	PEEM	Wien filter	
1997MR&	M	I	XPEEM	various	
1997RH&	P	A, T	STXM	polyethylene terephthalate	damage rate relative to EM
1997SF&	M	A	PEEM	XMCD, FePt alloy	
1997SJT	M	I	STXM		Lucent zone plate fabrication
1997SL&	P	A	STXM		
1997SS&	M	A	PEEM	TiSi test (PRISM)	
1997TD&	M	I	PEEM	PRISM	
1997V	M	I	SFXM	luminescence	Hasylab mirrors
1997WA&	P, M	I	STXM, PEEM	Kevlar, PU	

code	materials	type	tech	species	Comments
1997WW&	M	I	SPAM	scanning Auger, undulator	
1998A	P	R	STXM, PEEM	PC, PET, PPTA, PAR, PS, SAN, Nylon-6, PP, PE; LDPE, PET, Kraton; Liq. crystal polyester; Kevlar, magnetic domains; wood; coke	
1998Ab	P	R	STXM, PEEM		dichroism
1998Ac	P	A	STXM	PET, Vectra™ blend	
1998AW&	P	A	PEEM		dewetting
1998AY&	I	R	PEEM	FEL based PEEM metals	
1998BB&	B	A	STXM	sperm	
1998BK&	B	A	STXM	bone	
1998BO&	B	A	STXM	amino acids	
1998CA&	M	A	STXM	vitrinite	luminescence alteration
1998CD&	P	A	PEEM	polyimdes	orientation, dichroism
1998DC&	B	I	PEEM		Mephisto
1998DG&	B	T	PEEM	Transmission by PEEM	
1998FC&	B, P	R, I	STXM		NSLS X1ASTXM IV design
1998FK&	E	A	STXM	interplanetary dust	
1998FR&	B	A	STXM	Axon	
1998GR&	B	A	PEEM	Boron NCT	
1998JK	B,P	R	STXM, TXM		review
1998JMW	B	R	STXM		comp. to electron microscopy
1998KK&	M	I	SPEM		SRRC SPEM project
1998KW&	P	A	STXM	PAN heat treatment	
1998MJ&	B	I	STXM	cell tomography	cryo STXM instrumentation
1998MU	B	I	TXM	wet cell	instrument
1998SA&a	P	A	PEEM		dewetting
1998SA&b	M	A, R	PEEM	various	
1998SB&	P	A	STXM	PET-Vectra™	Mechanical blends
1998SH&	I	R	PEEM	leem, leed, peem metals	
1998SJT	M	I	STXM		zone plate fabrication
1998SS&	M	A	PEEM	tribology – hard disk wear	
1998WF&a	P	I, R	STXM		ALS BL 7.0 first instrument
1998WF&b	M	I	PEEM	SMART design description	

code	materials	type	tech	species	Comments
1998WJ	B	I	CXRM		contact; contrast versus resolution
1998ZM&	M	A	PEEM	Boron carbide	
1998ZZ&	M	I	SPEM		
1999AP&	I	T	PEEM	PEEM2 (ALS) instrument	
1999AS&a	M	A	PEEM	hard disk wear	
1999AS&b	M	A	PEEM	hard disk wear	
1999AW&	P	A	STXM	PS/PMMA	Phase segregation
1999CS&a	M	A	PEEM	ZDDP tribology	
1999CS&b	M	A	PEEM	ZDDP tribology	
1999DG&	B	T	PEEM		Ashing by UV/ozone
1999GS&	P	A	STXM	2,5-diphenyl-1,3,4-oxadiazole films	
1999HS&	I	R	SPELEEM	FET junctions	
1999HT&a	P	A	STXM	polyurea capsules, PS-PI layers	
1999J	B	R	STXM	cell biology	
1999JN	E	A	STXM		
1999M	M	I	STXM	luminescent probes	
1999MH&	P	A	PEEM	polypyrrole, defects	
1999MZ&	M	A	PEEM	Boron carbide nanowires	
1999NA&	E	A	STXM	colloid emulsions. milk	
1999PJP	M	I	STXM		phase contrast
1999RK&	E, B	A	STXM, TXM	Mn, Fe biomineralization	
1999SG&	P	A	PEEM	PS/PBMA	
1999SP&	M	I	PEEM		20 nm resolution
1999SS&	P	A	STXM	PMMA / PI blend	Mechanical blends
1999TD&	E, B	A	STXM, TXM	Mn, Fe biomineralization	
1999UH&	P	A	STXM	polyurethanes	
1999ZL&	P	A	STXM	PS/PMMA	confinement induced miscibility
199HT&b	P,B	A	PEEM	Protein - polyurethane studies	
2000A	B	R		many	
2000AO&	M	I	STXM		CXRO zone plate fabrication
2000BR&a	B	T	TXM		Compact water window TXM
2000BR&b	B	T	TXM		Compact water window TXM
2000C	B	A	STXM	lignin, cellulose	modern wood (oak, cedar)
2000DG&	B	I	PEEM		wet samples by inverted PEEM

code	materials	type	tech	species	Comments
2000EH&	M	A	SPEM	Cu(In, Ga)Se_2 films	
2000FB&	M	I	STXM		STXMIV, segmented detector
2000GA&	B	T	PEEM		Charging & effects on imaging
2000GP&a	B	T	PEEM		Ashing effects on cells
2000GP&b	B	A	PEEM	BSH effect on glioblastomas	
2000JA&	B,E	R	STXM		review of NSLS program
2000JW&	P	I	STXM		Stack method
2000Ka	M	I, R	SPEM	surface & interfaces	
2000Kb	M	I, R	SPEM	surface & interfaces	
2000KG&	M	A	SPEM	(Ni,Ag)/Si(111)	
2000KJ&	B	I	STXM		sealed wet cell
2000KW&	B	I	STXM		cryo tomography
2000LD&	B,E	A	PEEM	Sulfate reducing bacteria	
2000LG&	M	A	SPEM	O at Pt/YSZ interface	
2000MO&	B	I	STXM		Cryo microscopy
2000NA&	E	A	STXM		
2000ND&	M	A	SPEM	laser annealed CdTe	
2000NJ&	B	I	STXM		wet cell
2000NS&	M	A	PEEM	AFM, FM coupling - pinning	
2000OJ	E	T	STXM		principle component analysis
2000PJ&	B	T	STXM		phase contrast: expt-simulation comparison
2000PK&	E	A	STXM	Mn, Fe particles ox st.	
2000RDD	E	A	STXM	colloids	
2000SA	M	A, R	PEEM	XMCD, tribology	
2000SA&	P	A	STXM		Cryo-mechanical blends
2000SA&a	P	A	STXM	PMMA, PI, poly(ethylene-*alt*-propylene)	Cryo-mechanical blends
2000SA&b	P	A	STXM	PMMA, PI, poly(ethylene-*alt*-propylene)	Cryo-mechanical blends
2000SA&c	P	A	STXM	PMMA, PI, poly(ethylene-*alt*-propylene)	bilayer polymer contact angles
2000SS&a	P	A	STXM	PMMA, PEP	rubber modified PMMA
2000SS&b	P	A	STXM	PMMA, Polyisoprene , Poly(ethylene-*alt*-propylene)	Mechanical blends

code	materials	type	tech	species	Comments
2000ST&	E	A	STXM	soils	
2000TS&	M	I	STXM		zone plate fabrication
2000WA&a	P	A	STXM	PS, PMMA	
2000WA&b	B	I	STXM		renewed X1A beamline
2000WG&	P	A	STXM	PS, PMMA	Phase segregation
2000WJ&	B	I	STXM		cryo-tomography
2000WS&	B	A	TXM	green algae tomography	
2000WT&	M	I	STXM		BESSY STXM
2000WZ&	P	A	STXM	PS, PMMA	Phase segregation
2000ZN	M	A	SPEM	benzoic acid / Ni(11)	linear dichroism , orientation
2000ZS&	M	A	STXM	a-C, graphite, diamond	
2001AU	P	R	STXM		
2001BC&	M	A	SPEM	Ni/GaN	
2001BC&a	M	A	SPEM	Au/GaN	
2001BC&b	M	A	SPEM	Au/GaN	
2001BGK	M	A	SPEM	metal/GaN(0001) interfaces – Shottky barriers	
2001CL&	M	A	PEEM	liquid crystal alignment	
2001DC&	B	A	PEEM	Gd in glioblastoma cells	Gd NCT
2001DG&	B,E	R	PEEM		
2001FB&	B,E	R	STXM		review of NSLS program
2001FJ&	M	I	STXM		segmented detector
2001GB&	M	A	SPEM	(Ni,Ag)/Si(111)	
2001GM&a	B	R	PEEM		
2001GM&b	E	A,I	PEEM	biomineralization	Charge compensation
2001GM&c	M	I	SPEM	multi-channel detection	
2001GM&d	M	A	SPEM	laterally inhomogeneous surface reactions	
2001H	P, B	R	STXM, PEEM	PUR (MDI)-polyurea precipitates; 355 (PU-matrix, SAN, pipa); PS-PI-PS trilayer; polyurea capsules; HSA on PUR-filler; Alb on PTMO-ED-MDI (polytetramethylene oxide±ethylenediamine±MDI)	

code	materials	type	tech	species	Comments
2001HK&	P	A	STXM	Polyurethanes, urea precipitates	
2001HS	P,B	R	STXM, PEEM	many	
2001HT&	I	T	PEEM	hard X-rays, Fe K-edge	
2001KH&	P	A	STXM	DVB55, EGDMA	core-shell microspheres
2001LD&a	M	A	SPEM	laser annealed Ti/Si(111)	
2001LD&b	M	A	SPEM	laser annealed Ti/Si(111)	
2001LD&c	M	A	SPEM	laser annealed Ti/Si(111)	
2001LSa	M	I	SPEM		PSL beamline and undulator
2001LSb	M	I	SPEM	electrical circuits	instrument description
2001MI&	P	A	PEEM, STXM	PS, PMMA	Compare to AFM; phase segregation
2001OJ&	B	I	STXM	sperm	cryo STXM instrumentation
2001OR&	M	A	PEEM	interfacial mag. spin imaging	
2001OS&	M	A	PEEM	AFM, FM coupling - pinning	
2001RO&	M	A	PEEM	metal-oxide interfaces (pinning)	
2001SA&a	P	A	STXM	Polycarbonate; poly(ABS)	
2001SA&b	P	A	STXM	tires	Mechanical blends
2001SA&c	P	A	STXM	PMMA/ poly(ethylene-*alt*-propylene)	Cryo-mechanical blends
2001SK&	E	A	STXM	humic acid, fulvic acid	
2001SL	M	I	SPEM		PSL SPEM
2001SN&	M	A	PEEM	AFM, FM coupling - pinning	
2001SU&	P	A, R	STXM	PC, P(BrS), PS, PMMA, PE, PVC-PET (food packaging film), PP	
2001VC&	B	I	STXM		dark field microscopy
2001ZG&	P	A	STXM	PB/ BIMS / filler (= C-black or SiO2)	nanofiller effect on interfaces
2002AK&	P	A	STXM	polylefins	
2002AS	P	R		many	
2002BC&	B	A	STXM	Fossil plant cells	
2002BF&	B	R	STXM		review of NSLS program
2002BG&a	M	A	SPEM	electrochemically patterned Ga on GaN	
2002BG&b	M	A	SPEM	metal/GaN – Shottky barriers	
2002BK	M	R	SPEM	zone plate microscopies	
2002BS&	M	A	SPEM	O/Ru(0001)	
2002CS&	E	A	STXM	high-pH clays	
2002CUA	P	A	STXM	PMMA, many others	radiation damage

code	materials	type	tech	species	Comments
2002FGD	B,E	T	PEEM	Transmission in PEEM	
2002GK&	M	R	SPEM, u-ESCA	review	
2002GL&	M	A	SPEM	XPS of single carbon nanotubes	
2002GM&	M	A	SPEM	K transport on catalysts	
2002GM&b	M	A	SPEM	patterns in H&O on Rh(110)/Pt	
2002HM&	P, B	A	STXM	polyurethane, SAN, pipa, Fg	protein on polymers, dry vs. wet
2002JB&	B,E	R	STXM		review of NSLS program
2002KD&	P	A	STXM	PS	craze alignment, dichroism
2002KH&	P	A	STXM	PAA, PE	Filtration membranes
2002KO&	B	A	STXM		amino acid spectroscopy
2002LG&	M	A	microprobe	LiF direct patterning	
2002LJ&	M	A	SPEM	reduction fronts in zirconia	
2002MG&a	M	A	SPEM	patterned alkali on metals	
2002MG&b	M	A	SPEM	transport of alkali on metals	
2002MW&	P	A	STXM	PAA	Cross-link mapping
2002^{ND}&	M	A	SPEM	laser modified Pt/Si(001)	
2002PH&	M	A	SPEM	PbS oxidation	
2002PM&a	M	I	SPEM	multi-channel detection in SPEM (e)	
2002PM&b	M	A	SPEM	Au/Ni(poly)	
2002PR	E	A	STXM	Eu(III) – humics agglomeration	
2002RN&	M	A	PEEM	singl ~10 nm Fe2O3 nanoxlls	sub spatial resolution spectroscopy
2002RU&	P	A	STXM	Polyurethanes, SAN, pipa	
2002SO&	M, I	A, T	PEEM	XMCD at PEEM2	
2002SW&	M	A	SPEM	Cs in carbon nanotubes	
2002SW&b	M	A	SPEM	XPS of carbon nanotubes	
2002UA	E	A	STXM	carbonyl compounds	
2002YS	B	A	TXM	macrophages	
2002ZF&	P	A	STXM	PMMA, Silsequioxane	
2003AK&	P	I	STXM	STXM532 instrumentation	
2003BC&a	B	A	STXM	Fossil plant cells	
2003BC&b	M	A	SPEM	Si nanowires catalysed by C nanoparticles	
2003BF&	M	A	SPEM	Fe/Au(001) magnetic films	role of Au segregation
2003BG&	M	R	STXM, PEEM	review	

code	materials	type	tech	species	Comments
2003BJ	P	A	STXM	PMMA	radiation damage
2003CB&	P	A	STXM		Crystal structure from dichroism
2003CM&	P	A	STXM	polyurea capsules	
2003DF&	E	I	PEEM	zircon	Charge compensation
2003FG&	M	T	PEEM		Depth sensitivity
2003FJ&	M	I	STXM		segmented detector
2003FK&a	E	A	STXM	interplanetary dust	
2003FK&b	E	A	STXM	extraterrestrial organics	
2003GK	P	R	STXM, PEEM	PS/P(BrS) wetting	wetting of polymer surfaces
2003GT&	E	T	STXM		analysis program for Fe-organic interactions
2003HA&	P	A	STXM	3d chemical mapping of toners	First serial section STXM tomo
2003HAA	P	A	PEEM	PS, PMMA	
2003JF&	E	T	STXM		cluster analysis
2003K	M	R	SPEM, u-ESCA	review	
2003KB&	M	I	TXM, STXM	Twin-mic progress report	
2003KT&	P	I	STXM	polyurethane, SAN, pipa	ALS interferometric STXM
2003LN&	M	A	PEEM	AFM, FM coupling - pinning	
2003LS&	B, E	A	STXM	bio-mapping biofilms	
2003MK&	M	A	PEEM	ZDDP tribology	
2003OS&	M	A	PEEM	exchange bias	
2003PM&	M	A	SPEM, XPEEM	Pd/Ni(poly) dynamics	
2003RMD	E	A	STXM	Eu(111)-humic aggregates	
2003SC&a	E	A	STXM	organics in clays	
2003SC&b	M	A	SPEM	SiN/Si(111)	
2003SH&	E	A	STXM	colloid functional groups	
2003ST&	E	A	STXM	soil colloids	
2003WA&	P	A	STXM		Application to rubber science
2003WS&	P	A	STXM, PEEM	PS, PMMA	
2003WYJ	M	I	STXM		achromatic Fresnel optics
2003ZG	P, M	A	STXM	PS, PMMA, WS_2 nanotubes	
2004A	P	R		many	
2004AB&a	M	A	XPEEM	electron quantum confinement	nanospectroscopy
2004AB&b	M	A	XPEEM	Pd/W(110)	
2004AG&	M	A	SPEM	$Au/Si_3N_4/Si(111)$ interfaces	

code	materials	type	tech	species	Comments
2004BL&	E, B	A	STXM	marine particulates	
2004BS&	E	A	STXM	diesel soot	
2004BY&	E	A	STXM	Mn redox states	
2004BZ&	B	A	STXM	Fossil plant cell walls	
2004CA&a	M	A	PEEM(t)	magnetic vortex dynamics	
2004CA&b	M	A	PEEM-(t)	vortex dynamics	
2004CD&	E	A	PEEM	Polysaccharide templating of Fe nanofibers	
2004CV&	M	A	PEEM	Ag/Si(111)	
2004DF&	B	T	PEEM	Cell surfaces	Ion sputtering depth profile
2004DL&	M	I	STXM	Cu, CO, CO2	in situ gas-solid absorption cell, catalysis
2004DM&	M	A	SPEM	promoter induced phase segregation	
2004FG&	B	I	PEEM		Sphinx performance
2004FK&a	E	A	STXM	interplanetary dust	
2004FK&b	E	A	STXM	extraterrestrial organics	
2004FM&	I	T	PEEM	aberration corrector design	
2004FW&	M	A	SPEM	Au/Si(111)-H interface	annealing effects
2004GB&	M	I	u-ESCA	48-channel XPS detector	
2004GE&	M	A	SPEM	MoO_3 on Al_2O_3	gas transport
2004GS&	E	A	STXM	radionuclide migration	
2004HRH	M	T	TXM		Micro zone plate fabrication
2004IW&	M	A	SPEM	O at Al/organic interfaces	
2004KM&	E	A	STXM	interplanetary dust	
2004LHK	M	A	XPEEM	Au/Rh(110)	kinetics of lateral spread
2004LJ&	E	T	STXM		cluster analysis
2004MG&	M	A	SPEM	0_2+H_2 reaction on Rh(110)	
2004MH&	P	A	PEEM	PS, PMMA, Fg	protein adsorption on polymer blend
2004MR&	E	A	STXM	aerosols	Impact on climate forcing
2004NB&	M	A	PEEM	Antiwear films	
2004NK&	M	A	PEEM	Antiwear films	
2004NN&	M	A	PEEM	Antiwear films	
2004OK&	I,M	T	PEEM(t)	time-of-flight energy analysis	
2004PR&	E	A	STXM	humic acid analysis	
2004PRD	E	A	STXM	groundwater colloids	

code	materials	type	tech	species	Comments
2004RH&	M	T	TXM		Condenser zone plate fabrication
2004RPD	E	A	STXM	organics speciation in soils	
2004SL&	M	A	PEEM	AFM exchange spring	
2004SN	M	A	PEEM	exchange bias – domain size effect	
2004SW&	M	A	SPEM	valence band of SW carbon nanotubes	
2004W	P	A	STXM	BR/BIMS rubbers	
2004YJ&	E	A	STXM	Al micro-organisms	
2005AH&	P	A	STXM	Ca alginate; poly N-vinylpyyrolidone	
2005BC&	M	A	SPEM	nanoparticles to nanotubes	catalytic free transformation
2005BH&	E	A	STXM	diesel soot	TEM-EELS comparison
2005BN&	M	A	SPEM	subsurface O in O/Ru(0001)	
2005BR&	E	A	STXM	Eu(III) adsorb. on smectite	
2005BS&	E	A	STXM	diesel soot	
2005BT&	E	A	STXM	Eu on smectite	
2005CH&	M	I	STXM		CXRO zone plate fabrication – 15 nm resolution
2005CS&	P	A	STXM	DVB55, malonic acid, EGDMA	tectocapsules
2005CS&b	E	A	STXM	Cm(III) sorption	
2005DB&	M	A	SPEM	oxid/ reduct of Rh(110)	
2005DRC	B	A	PEEM	Gd CNT	
2005DSG	E	A	PEEM	biomineralization	
2005FA&	P	A	STXM	P4VP/SiO2 microgel particles pH swellable	stimulus response microgels
2005FF&	I	T	PEEM	aberration corrector design	
2005GFA	E	A	PEEM	biomineralization	
2005GS&	P	I	STXM	polyaniline	in situ electrochemistry
2005KS	E	A	STXM	metal transport	
2005LB&	M	R	SPEM, XPEEM	review	
2005LJ&	E	T	STXM		Cluster analysis method
2005LL&	E	A	STXM	black carbon, soil	
2005LS&	M	A	XPEEM	H_2+O_2 on au/Ru(110)	
2005MB&	M	A	SPEM	dark spots on OLEDs	
2005ML&	B	A	STXM	lignin mapping	
2005MP&	P	A	STXM	Polymer resists	

code	materials	type	tech	species	Comments
2005NB&	M	A	PEEM	Antiwear films	
2005NN&	M	A	PEEM	Antiwear films	
2005OK&	M	T	PEEM(t)	XMCD dynamics	
2005PL&	M	A	PEEM	Antiwear films	
2005PM&	M	A	SPEM	Pd/Ni as f(T)	
2005PR&	E	A	STXM	model studies for humics in soil	
2005SB&	E	A	STXM	fulvic acids in aquifers	
2005SC&	B,M	A	SPEM	cysteine on Pt(111)	
2005SC&a	E	A	STXM	humics in soil	
2005SC&b	E	A	STXM	organic soil colloids	
2005SL&	E	A	STXM	organics speciation in soils	
2005SS&	E,B	R	PEEM	nacre; Fe-OOH template; zircons; designer peptides for guiding mineralization	
2005TF&					
2005TO&	P	A	STXM	PS, PMMA	
2005WAA	P	A, T	RSoXS	PS-PMMA	resonant scattering
2006AA&	P	A	REXS		
2006AH&	B	A	STXM	melanomas in mouse iris	
2006AS&	M	A	PEEM(t)	quantum magnetism dynamics	
2006BA&	B, E	R,I	STXM	environmental apps.	ALS BL 11.0.2 MES science overview
2006BT&	E	A	STXM	Wild 2 comet analysis	
2006BW&	E	A	STXM	diesel soot	
2006CH&	M	A	PEEM	polyimide alignment	
2006CR&	P, B	A	STXM	silk	Dichroism mapping
2006CZ&	M	A	SPEM	organic LED degradation	
2006D	E	A	STXM	actinide speciation	
2006DA&	M	A	SPEM	Oxidation of Rh(001)	
2006DL&	B, E	A	STXM	chlorhexidine in biofilms	antimicrobials
2006DR&	B	A	PEEM	Gd neutron capture therapy	
2006DT&	B, E	A	STXM	Fe, Ni, Mn in biofilms	
2006DZ&	E	A	STXM	zeolites	H^+, Cu^+ exchange
2006EO&	M	T	STM-SR	Ni-dots	STM tip current modulation by SR, 20 nm
2006FH&a	M	A	STXM	carbon nanotubes	

code	materials	type	tech	species	Comments
2006FH&b	B	I	STXM		dark/phase detector (segmented Si photofiode)
2006FK&	E	A	STXM	extraterrestrial organics	
2006GH&	M	A	SPEM	K 7 K/O on Rh(111)	
2006HB&a	E	A	STXM	black carbon, sediments	
2006HB&b	E	A	STXM	black carbon in sediments	
2006HH&a	P, B	A	STXM	silk worm cocoon silk	orientation mapping
2006HH&b	I, P, B	A	STXM	spider dragline silk	in situ azimuthal rotation; orientation mapping
2006HLH	M	T	TXM		Optimizing zone plate fabrication
2006IT&a	P	A	STXM	toners	
2006IT&b	P	A	STXM	toners	
2006JD&a	B	A	STXM	Tomography - biofilm	First 3d chemical mapping by tomo
2006JD&b	P	A	STXM	Tomography – PS, acrylate spheres	
2006KS&	E	A	STXM	soils	
2006LA&	M	A, R	XPEEM	review	
2006LH&	P	A	PEEM	PS, PMMA, alb	protein adsorption on polymer blend
2006LH&b	I,M	A	PEEM		CLS PEEM described
2006LK	M	R	SPEM	review	
2006LL&	E	A	STXM	black carbon in sediments	
2006LM&	M	A	XPEEM	periodic surface reactions	
2006ML&	P	A, T	RSoXS	low K dielectric	resonant scattering
2006MW&a	P	A	STXM	poly(9,9-dioctylfluorene-co-N-(4-butylphenyl)diphenylamine) (TFB) and poly(9,9’-dioctylfluorene-co-benzothiadiazole) (F8BT)	solar cell blend
2006MW&b	P	A	STXM	fullerene-PHT, PCBM composites	reinforcement
2006NP&	E	A	STXM	Eu(II) in humics	
2006OL&	P	A	STXM	Hydrogen Silsesquioxane Resist	Damage mechansims
2006OS&	M	A	PEEM	exchange bias	
2006PL&	M	A	XPEEM	Tribofilms on steel	Role of cation
2006SA&a	P	A	STXM	PS/PMMA, PC/SN and PMMA/EVA blends with Cloisite 20A or Cloisite 6A	Clay compatibilizers
2006SA&b	E	A	STXM	Wild 2 comet analysis	

code	materials	type	tech	species	Comments
2006SC&	E	A	STXM	dissolved organic matter	
2006TVH	B	T	TXM	Diatom, COS-cells	Liquid jet TXM design & performance
2006VL&	B	T	TXM	Diatom, COS-cells	Liquid jet TXM design & performance
2006WP&	M	A	STXM	vortex dynamics	80 ps time resolution
2006WR&	P	A	PEEM	PE	T-m depends on substrate
2006ZZ&	E	A	STXM	Wild 2 comet analysis	
2007AB&a	M	A, R	SPEM, XPEEM	review	
2007AB&b	M	A	XPEEM	Mg/W(110)	
2007BT&	M	T	TXM		Zone plate testing rig
2007CK	E	A	STXM	humic acids	
2007FA&	P	A	STXM	P4VP-SiO2 microgel	
2007FB&	M	A	STXM	nanotubes	
2007GG&	M	A	SPEM	organic LED degradation	
2007GS&	M	A	XPEEM	Tibology properties on nano-diamond	
2007GT&	B,P	A	TXM	dragline spider silk	
2007HFJ	M	T	STXM		Quantitative amplitude & phase imaging
2007HH&	I, P, B	A	STXM	spider dragline silk	orientation mapping
2007HJ&	P, I	A	STXM	Polyacrylate-polystyrene spheres in 3d	Tomography at C 1s edge
2007HJW	B,E,P	R		many	
2007HL&a	P	A	STXM	polyurea – aromatic, aliphatic	capsules
2007HL&b	E	A	STXM	Aerosol balls	correlate optical, chemical, physical props
2007HT&	E	A	STXM	black carbon & aerosols	
2007HYV	M	T	TXM	Modeling image formation	Phase contrast microscope
2007JT&	P, I	A	STXM	Polyacrylate-polystyrene spheres in 3d	tomography
2007KB&	M, P	A	STXM	Liquid crystal	orientation mapping
2007KH	P	A	STXM	smectic liquid crystal	orientation mapping
2007KK&	M	I	STXM, PEEM	CLS 10ID beamine & microscopes	
2007LHH	M	T	TXM		High resolution ZP manufacture
2007LT&	M	T	TXM		High resolution ZP manufacture
2007MA&	B, M	A	PEEM	nacre (aragonite)	polarization mapping
2007MB&	M	A	SPEM	LiF damage & patterning	
2007MT&	E	A	STXM	Soot by laser – aerosol models	
2007PL&a	M	A	XPEEM	Tribofilms on steel	
2007PL&b	M	A	XPEEM	Tribofilms on AlSi	

code	materials	type	tech	species	Comments
2007PL&b	M	A	XPEEM	ZDDP tribofilms on AlSi	
2007RH&	P, B	A	STXM	silk	orientation mapping
2007SC&	E	A	STXM	colloid particulates in lake water	
2007SG&a	M	A	XPEEM	Tibology properties on nano-diamond	
2007SG&b	M	T	TXM	diatom	Algorithm for auto-locating Au cols
2007SPH	M	T	STXM	wet cell design	
2007TG&	E	A	STXM	aerosol tar balls	
2007TG&	P	A	STXM	phase change microcapsules	first SLS science paper ?
2007TOH	M	T	TXM		Phase contrast microscope
2007TS&	B	T	TXM	Diatom, COS-cells	Liquid jet TXM design & performance
2007ULF	P, M	R	STXM, PEEM	orientation mapping	
2007WS&	P	A	STXM	PMMA, PAN	chemically sensitive patterning
2007WSH	P	A	STXM	PMMA, PAN, PEC, PPC	Tricolor chemically sensitive patterning
2007ZL&	P	A	STXM		compatibilizers
2008AA&	M	A	STXM	Compare to TEM-EELS	
2008AH	P	R	STXM		Review of polymer X-ray microscopy
2008BH&a	M, B	A	PEEM	HSA, sub-6 peptide competitive adsorption on PS/PMMA	
2008BH&b	M	T	TXM		Differential interference contrast microscope
2008BM&	E	A	STXM	Nanoscale arsenic	
2008CL&	M	A	PEEM	Langmuir-Blodgett films	Phase segregation, SEEM contrast
2008DL&	E	A	STXM	Chlorhexidine – antimicrobial maps	
2008GFK	M	A	PEEM	Polyaniline/steel	Corrosion protection
2008GM&	B, M	A	STXM	Au nanoparticles in skin	
2008HB&	M	T	TXM	Test structure	Simple Zernicke phase contrast
2008HBV	M	T	TXM		Differential interference contrast optic
2008HD&	P, M	A	STXM	comparison of STXM-NEXAFS and TEM-EELS	
2008HH	P	R	STXM, PEEM	comprehensive polymer review	Contains this biblio as supplement
2008HH&	E	A	STXM	*Pseudomonas Aeruginosa* & iron	
2008HJ&a	M	A,T	STXM	Latex PS, p-MMA microspheres	tomography
2008HJ&b	M	A,T	STXM	Tomo, chem.. patterning, biology	Compare to TEM-EELS
2008HT&	M	A	PEEM	Fluorocarbon / Ti stent	Reliability analysis
2008LB&	M, B	A	XPEEM	Alb on PS/PMMA	pH effect

code	materials	type	tech	species	Comments
2008LG&	P	A	STXM	RuO2 in Nafion fuel cell membrane	
2008LH&a	P,B	A	PEEM	Peptide (sub-6) vs. protein (albumin) competititve adsorption on PS/PMMA	Natural NEXAFS contrast
2008LR&	M	A,I	X-SNOM	ZnO	ESRF implementation of tip detection of XAS
2008LS&	E	A	STXM	soil organics	
2008NH&	M	A	STXM	Multi-wall carbon nanotubes	Dichroism; quality evaluation (AD, vs, CVD)
2008PM&	B	A	TXM	Tomography with NCXT	
2008SS&	M	A	STXM	Fe-oxide catalyst	In situ, H2, 1 atm, T to 450 C
2008UD&	M	R	STXM, PEEM	Dichroic measurements	
2008WA	M	A	STXM	graphite	polarization calibration
2008WM&	P	A,T	PEEM, STXM	PS, PMMA, Fg	radiation damage
2009FD&	P	A	STXM	Poly(2-vinylpyridine) microgels	pH, electrolyte; wet cell
2009LH&b	P	A	STXM	Polyurea capsules	Gradient mapping, mechanisms
2009SS&	M	A	STXM	Fe-oxide catalyst	In situ, H2, 1 atm, T to 450 C

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