

Bibliography on applications of Scanning Probe Microscopy to characterization of polymers

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(Titles are sorted in alphabetical order. The years of all articles issued since 2000 are marked red)

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A scanning force microscopy study of poly(phenol) films containing immobilized glucose oxidase

P.N. Bartlett, D.W.M. Arrigan

Biosensors and Bioelectronics, 13 (1998), 3-4, 293-304

1001

A scanning probe microscopy study of conjugated polymers

S.F. Bond, A. Howie, R.H. Friend

Surface Science, 331-333 (1995), 196-200

806

A study of the glass transition of polypropylene surfaces by sum-frequency vibrational spectroscopy and scanning force microscopy

W. Ibach, Y.R. Shen, L. Lianos, D.H. Gracias, D. Zhang, G.A. Somorjai

Chemical Physics, 245 (1999), 1-3, 277-284

196

A Surface Masking Technique for the Determination of Plasma Polymer Film Thickness by AFM

Patrick G. Hartley, Helmut Thissen, Tharshan Vaithianathan, Hans J. Griesser

Plasmas and Polymers, 5 (2000), 1, 47-60

304

A two-dimensional Hartman-Perdok analysis of polymorphic fat surfaces observed with atomic force microscopy

F.F.A. Hollander, M. Plomp, J. van de Streek, W.J.P. van Enckevort

Surface Science, 471 (2001), 1-3, 101-113

281

AFM and TEM investigations of polypropylene-polyurethane blends

D. Reifer, H. Fuchs, R. Windeit, A. Karbach, R.J. Kumpf

Thin Solid Films, 264 (1995), 2, 148-152

176

AFM and XPS study of ion bombarded poly(methyl methacrylate)

B. Pignataro, M.E. Fragala, O. Puglisi

Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 131 (1997), 1-4, 141-148

269

AFM imaging and characterization of latex particles formed by copolymerization of styrene and poly(ethylene oxide) macromonomer

S.F.Y. Li, C.H. Chew, P.-C. Zhang, J. Liu, L.M. Gan

Talanta, 45 (1998), 4, 767-773

195

AFM investigation of polymer LB films on the alignment of ferroelectric liquid crystal

J. Gu, R. Lu, K. Xu, Z. Lu

Physics Letters A, 260 (1999), 5, 417-423

25

AFM investigations of the initial stages of prepolymer film growth on aluminium

T. Gesang, R. Hoper, S. Dieckhoff, D. Fanter, A. Hartwig, W. Possart, O.-D. Hennemann
Applied Surface Science, 84 (1995), 3, 273-283

154

AFM measurement of the grain size in polycrystalline titanium silicides

F. Cazzaniga, G. Pavia, A. Sabbadini, S. Spiga, G. Queirolo
Microelectronic Engineering, 55 (2001), 1-4, 93-99

265

AFM studies of composite 16-mer polyaniline Langmuir-Blodgett (LB) films

A.G. MacDiarmid, A. Dhanabalan, M.A. Cotta, P.S.P. Herrmann, A.J. Riul, L.H.C. Mattoso, O.N.J. Oliveria
Synthetic Metals, 101 (1999), 1-3, 830-831

266

AFM studies of polypyrrole film surface morphology I. The influence of film thickness and dopant nature

R.G. Compton, T. Silk, Q. Hong, J. Tamm
Synthetic Metals, 93 (1998), 1, 59-64

267

AFM studies of polypyrrole film surface morphology II. Roughness characterization by the fractal dimension analysis

Q. Hong, R.G. Compton, J. Tamm, T. Silk
Synthetic Metals, 93 (1998), 1, 65-71

143

AFM study of excimer laser ablation of polythiophene films

K. Tsunoda, T. Ishii, Y. Tezuka, H. Yajima
Journal of Photochemistry and Photobiology A: Chemistry, 106 (1997), 1-3, 21-26

197

AFM study of thermotropic structural transitions in poly(diethylsiloxane)

S.N. Magonov, V. Elings, V.S. Papkov
Polymer, 38 (1997), 2, 297-307

169

AFM surface investigation of polyethylene modified by ion bombardment

H. Ryssel, R. Ochsner, V. Hnatowicz, V. Svorck, V. Rybka, E. Arenholz
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 142 (1998), 3, 349-354

175

AFM surface morphology investigation of ion beam modified polyimide

V. Svorcik, V. Rybka, E. Arenholz, V. Hnatowicz
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 122 (1997), 4, 663-667

316

An atomic force microscopy study of weathering of polyester/melamine paint surfaces

S. Biggs, C.A. Lukey, G.M. Spinks, S.-T. Yau
Progress in Organic Coatings, 42 (2001), 1-2, 49-58

1005

An in situ scanning probe microscopy study of copper electrodeposition on conductive polypyrrole

R.J. Nichols, D. Schroer, H. Meyer
Electrochimica Acta, 40 (1995), 10, 1479-1485

140

Analysis of Anionic Polymer Dispersant Behavior in Dense Silicon Nitride and Carbide Suspensions Using an AFM

M. Nojiri, S. Matsui, H. Hasegawa, T. Ono, Y. Fukuda, M. Tsukada, H. Kamiya
Journal of Nanoparticle Research, 3 (2001), 2/3, 237-244

811

Ar plasma treated and Al metallised polycarbonate: a XPS, mass spectroscopy and SFM study

H. Fuchs, C. Seidel, B. Gotsmann, H. Kopf, T. Vieth, K. Reihls
Applied Surface Science, 150 (1999), 1-4, 19-33

334

Atomic force microscopy and Fourier transform infra-red studies of the influence of a highly oriented poly(tetrafluoroethylene) substrate on poly(ethylene terephthalate) overlayers

N.W. Hayes, G. Beamson, D.T. Clark, D.S.-L. Law, D.T. Clarke
Polymer, 37 (1996), 3, 523-526

358

Atomic force microscopy imaging of single polymer spherulites during crystallization: application to a semi-crystalline blend

B. Nysten, A.M. Jonas, D.A. Ivanov
Polymer, 40 (1999), 21, 5899-5905

363

Atomic force microscopy investigation of filled elastomers and comparison with transmission electron microscopy - application to silica-filled silicone elastomers

F. Clement, A. Lapra, L. Bokobza, L. Monnerie, P. Menez
Polymer, 42 (2001), 14, 6259-6270

366

Atomic force microscopy investigations of morphologies in ultrathin polyaniline films

T. Kugler, J.R. Rasmusson, W.R. Salaneck, J.-E. Osterholm, A.P. Monkman
Synthetic Metals, 76 (1996), 1-3, 181-185

383

Atomic force microscopy of structures produced by electro spraying polymer solutions

N.R. Kallenbach, T.Y. Morozova, V.N. Morozov
International Journal of Mass Spectrometry, 178 (1998), 3, 143-159

388

Atomic force microscopy on ethyl-cyanoethyl cellulose/polyacrylic acid composites with cholesteric order

Y.Q. Yang, J. Petermann, Y. Huang
Polymer, 39 (1998), 22, 5301-5306

392

Atomic force microscopy studies of molded thin films of segmented polyamides

Subiman Ghosh, D. Khastagir, A. K. Bhowmick, S. Bandyopadhyay, G. J. P. Kao, L. Kok
Journal of Materials Science Letters, 19 (2000), 23, 2161-2165

393

Atomic force microscopy studies of short melamine fiber reinforced EPDM rubber

R. S. Rajeev, S. K. De, A. K. Bhowmick, G. J. P. Kao, S. Bandyopadhyay
Journal of Materials Science (full set), 36 (2001), 11, 2621-2632

407

Atomic force microscopy study of polypropylene surfaces treated by UV and ozone exposure: modification of morphology and adhesion force

B. Berno, N.S. McIntyre, M.J. Walzak, H.-Y. Nie
Applied Surface Science, 144-145 (1999), 627-632

412

Atomic force microscopy study of the morphology of polythiophene films grafted onto the surface of a Pt microelectrode array

Y. Cohen, E. Vieil, D. Aurbach, M.D. Levi, M. Lapkowski, J. Serosé
Synthetic Metals, 109 (2000), 1-3, 55-65

413

Atomic force microscopy study of the topographic evolution of polyacrylonitrile thin films submitted to a rapid thermal treatment

F. Houze, P. Newton, S. Guessab, S. Noel, L. Boyer, G. Lecayon, P. Viel
Thin Solid Films, 303 (1997), 1-2, 200-206

418

Atomic force microscopy surface morphology studies of 'in situ' deposited polyaniline thin films

J.K. Avlyanov, A.G. MacDiarmid, J.Y. Josefowicz
Synthetic Metals, 73 (1995), 3, 205-208

424

Atomic force microscopy, a powerful tool to study blend morphologies based on polyester resins

C. Serre, M. Vayer, R. Erre, N. Boyard, C. Ollive
Journal of Materials Science (full set), 36 (2000), 1, 113-122

1357

Bundle structure formation on a polymer film at various temperatures and scanning velocities

X. P. Wang, M. M. T. Loy and X. Xiao
Nanotechnology 13 (2002) 478-483

1400

Characterisation of the topography and surface potential of electrodeposited conducting polymer films using atomic force and electric force microscopies

J.N. Barisci, R. Stella, G.M. Spinks, G.G. Wallace
Electrochimica Acta, 46 (2000), 4, 519 - 531

443

Characterization of glass-epoxy adhesion using JKR methods and atomic force microscopy

G. Jandea, D.L. Woerdeman, V. Ponsinet, N. Amouroux, L. Leger, H. Hervet
Composites Part A: Applied Science and Manufacturing, 30 (1999), 1, 95-109

446

Characterization of latex blend films by atomic force microscopy

A.A. Patel, F. Jianrong, M.A. Winnik, G.J. Vansco, C.B.D. McBain
Polymer, 37 (1996), 25, 5577-5582

447

Characterization of polyacrylonitrile films grafted onto nickel by ellipsometry, atomic force microscopy and X-ray reflectivity

A.M. Jonas, M. Mertens, R. Jerome, X. Arys, C. Calberg, R. Legras
Thin Solid Films, 310 (1997), 1-2, 148-155

822**Characterization of polymeric membranes by means of scanning force microscopy (SFM) in comparison to results of scanning electron microscopy (SEM)**H. Kamusewitz, M. Schossig-Tiedemann, M. Keller, D. Paul
Surface Science, 377-379 (1997), 1076-1081**449****Characterization of synthetic membranes by Raman spectroscopy, electron spin resonance, and atomic force microscopy; a review**K.C. Khulbe, T. Matsuura
Polymer, 41 (2000), 5, 1917-1935**1301****Chemical, optical and tribological characterization of perfluoropolymer films as an anti-stiction layer in micro-mirror arrays**K.-K. Lee, N.-G. Cha, J.-S. Kim, J.-G. Park, H.-J. Shin
Thin Solid Films, 377-378 (2000), 727-732**1527****Collagen adsorption on poly(methyl methacrylate) : net-like structure formation upon drying.**Ch.C. Dupont-Gillain, B. Nysten, P.G. Rouxhet
Polymer Int., 48, 1999, 271-276.**198****Comparison of lamellar thickness and its distribution determined from d.s.c., SAXS, TEM and AFM for high-density polyethylene films having a stacked lamellar morphology**Z. Hongyi, G.L. Wilkes
Polymer, 38 (1997), 23, 5735-5747**22****Contact resonance imaging - a simple approach to improve the resolution of AFM for biological and polymeric materials**K. Wadu-Mesthrige, N.A. Amro, J.C. Garno, S. Cruchon-Dupeyrat, G.-Y. Liu
Applied Surface Science, 175-176 (2001), 391-398**828****Cratering in PMMA induced by gold ions: dependence on the projectile velocity**R.M. Papaleo, L.S. Farenzena, G. Bermudez, M. Alurralde, M.A. De Araujo, R.P. Livi
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 148 (1999), 1-4, 126-131**832****Dewetting of thin polymer films: an X-ray scattering study**P. Muller-Buschbaum, M. Stamm
Physica B: Condensed Matter, 248 (1998), 1-4, 229-237**1391****Direct observation of polyhydroxyalkanoate chains by atomic force microscopy**Kumar Sudesh, Zhihua Gan, Ken'ichiro Matsumoto and Yoshiharu Doi
Ultramicroscopy, 91 (2002) 1-4, pp. 157-164**477****Direct observations of the growth of spherulites of poly(hydroxybutyrate-co-valerate) using atomic force microscopy**T.J. McMaster, J.K. Hobbs, P.J. Barham, M.J. Miles
Polymer, 39 (1998), 12, 2437-2446

480

Draw-ratio-dependent morphology of biaxially oriented polypropylene films as determined by atomic force microscopy

H.-Y. Nie, M.J. Walzak, N.S. McIntyre

Polymer, 41 (2000), 6, 2213-2218

485

Effect of the cure temperature on the morphology of a cyanate ester resin modified with a thermoplastic: characterization by atomic force microscopy

C. Marieta, M. del Rio, I. Harismendy, I. Mondragon

European Polymer Journal, 36 (2000), 7, 1445-1454

1402

Electric force microscopy study of the surface electrostatic property of rubbed polyimide alignment layers

X. Liang, J. Liu, L. Han, H. Tang, S.-Y. Xu

Thin Solid Films, 370 (2000), 1-2, 238-242

489

Ellipsoid-like structures formed by atomic force microscopy in Langmuir-Blodgett films of PMMA

G.T. Barnes, J.B. Peng

Thin Solid Films, 284-285 (1996), 444-449

1650

Entropic Elasticity of Single Polymer Chains of Poly(methacrylic acid) Measured by Atomic Force Microscopy

C. Ortiz and G. Hadziioannou

Macromolecules 32 (1999), 780-787

204

Epitaxy of isotactic poly(1-butene): new substrates, impact and attempt at recognition of helix orientation in form I' by AFM

C. Mathieu, W. Stocker, A. Thierry, J.C. Wittmann, B. Lotz

Polymer, 42 (2001), 16, 7033-7047

498

Examination of solvent interactions at the surface of poly(ethylene)terephthalate films using atomic force microscopy and infrared spectroscopy

G. Chen, J.H. Horton, C. Freure

Surface Science, 437 (1999), 1-2, 231-238

840

Experimental measurement of polyethylene chain modulus by scanning force microscopy

B. Du, J. Liu, Q. Zhang, T. He

Polymer, 42 (2001), 13, 5901-5907

844

Film thickness dependence of the domain size in weakly incompatible thin polymer blend films

P. Muller-Buschbaum, M. Stamm

Colloid and Polymer Science, 279 (2001), 4, 376-381

69

Friction studies of hydrogel contact lenses using AFM: non-crosslinked polymers of low friction at the surface

S.H. Kim, C. Marmo, G.A. Somorjai

Biomaterials, 22 (2001), 24, 3285-3294

1304**Frictional anisotropy and sectorization in poly(4-methyl-1-pentene) lamellar crystals studied by lateral force microscopy**

G.J. Vancso, R. Pearce

Polymer, 39 (1998), 26, 6743-6746**849****Glass and Structural Transitions Measured at Polymer Surfaces on the Nanoscale**

R. M. Overney, C. Buenviaje, R. Luginbuhl, F. Dinelli

Journal of Thermal Analysis and Calorimetry, 59 (2000), 1/2, 205-225**850****Glass transition measurements on heterogeneous surfaces**

F. Dinelli, C. Buenviaje, R.M. Overney

Thin Solid Films, 396 (2001), 1-2, 138-145**851****Glow discharge plasma deposited hexafluoropropylene films: surface chemistry and interfacial materials properties**

B.D. Ratner, R.M. Overney, M.D. Garrison, R. Luginbuhl

Thin Solid Films, 352 (1999), 1-2, 13-21**853****Growth of solution cast macromolecular p-conjugated nanoribbons on mica**

V. Francke, P. Samor, J.P. Rabe, K. Mullen

Thin Solid Films, 336 (1998), 1-2, 13-15**519****Harmonic responses of a cantilever interacting with elastomers in tapping mode atomic force microscopy**

M.-H. Whangbo, G. Bar, R. Brandsch, L. Delineau

Surface Science, 448 (2000), 1, L179-L187**520****Helical chain configuration of isotactic PMMA LB films observed by atomic-force microscopy**

S.-D. Jung, J.-J. Kim, I.-C. Jeon

Synthetic Metals, 71 (1995), 1-3, 2025-2026**526****Hydrophobic polytetrafluoroethylene-modified PbO₂: ex situ observations of morphology during nucleation and growth via atomic force microscopy**

H. Chun Nan, H. Bing Joe

Journal of Electroanalytical Chemistry, 388 (1995), 1-2, 53-67**527****Hysteresis in the distance-sweep curves of elastomers and its implications in tapping mode atomic force microscopy**

G. Bar, L. Delineau, R. Brandsch, M. Ganter, M.-H. Whangbo

Surface Science, 457 (2000), 1-2, L404-L412**529****Imaging an alginate polymer gel matrix using atomic force microscopy**

A.W. Decho

Carbohydrate Research, 315 (1999), 3-4, 330-333

1093**Imaging crystals, polymers, and processes in water with the atomic force microscope**

B. Drake, C.B. Prater, A.L. Weisenhorn, S.A.C. Gould, T.R. Albrecht, C.F. Quate, D.S. Cannell, H.G. Hansma, P.K. Hansma
Science 243 (1989), 1586-1588

535**Imaging of sub-surface nano particles by tapping-mode atomic force microscopy**

J. Feng, L.-T. Weng, C.-M. Chan, J. Xhie, L. Li
Polymer, 42 (2001), 5, 2259-2262

1507**Imaging single-stranded DNA, antigen-antibody reaction and polymerized Langmuir-Blodgett films with an AFM**

A.L. Weisenhorn, H.E.Gaub, H.G.Hansma, R.L.Sinsheimer, G.L. Kelderman and P.K.Hansma,
Scanning Microsc. 4 (1990) 511.

264**In situ AFM study of the electrochemical deposition of polybithiophene from propylene carbonate solution**

A. Fujishima, K. Hashimoto, L. Jiang, T. Iyoda, O.A. Semenikhin
Synthetic Metals, 110 (2000), 3, 195-201

263**In situ AFM study of the surface morphology of polypyrrole film**

E. Wang, J. Li, M. Green, P.E. West
Synthetic Metals, 74 (1995), 2, 127-131

547**In situ atomic force microscopy study of polypyrrole synthesis and the volume changes induced by oxidation and reduction of the polymer**

R.G. Compton, M.F. Suarez
Journal of Electroanalytical Chemistry, 462 (1999), 2, 211-221

550**In situ observation of lamellar growth in thin films for poly[(R)-3-hydroxybutyric acid-co-6-hydroxyhexanoic acid] at a high crystallization temperature of 110oC by atomic force microscopy**

Y. Kikkawa, Y. Inoue, H. Abe, T. Iwata, Y. Doi
Polymer, 42 (2001), 6, 2707-2710

1028**In-situ scanning probe microscopy for the measurement of thickness changes in an electroactive polymer**

R. Nyffenegger, E. Ammann, H. Siegenthaler, R. Kotz, O. Haas
Electrochimica Acta, 40 (1995), 10, 1411-1415

564**Investigation of a stimuli-responsive copolymer by atomic force microscopy**

H.M. Zareie, E. Volga Bulmus, A.P. Gunning, A.S. Hoffman, E. Piskin, V.J. Morris
Polymer, 41 (2000), 18, 6723-6727

19**Investigation of biopolymer networks by means of AFM**

Z. Keresztes, T. Rigo, J. Telegdi, E. Kalman
Applied Physics A: Materials Science & Processing, 72 (2001), 7, S113-S116

136**Investigation of Interactions Between Polymer-coated Nano-Y-TZP Particles by AFM**

Jun Wang, Lian Gao

Journal of Materials Science Letters, 18 (1999), 3, 181-183**174****Investigation of ion bombarded polymer surfaces using SIMS, XPS and AFM**

J.W. Lee, T.H. Kim, S.H. Kim, C.Y. Kim, Y.H. Yoon, J.S. Lee, J.G. Han

Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 121 (1997), 1-4 (January), 474-479**568****Investigation of latex particle morphology and surface structure of the corresponding coatings by atomic force microscopy**

B. Gerharz, R. Kuroпка, H. Petri, H.-J. Butt

Progress in Organic Coatings, 32 (1997), 1-4, 75-80**37****Investigation of polystyrene nanoparticles and DNA-protein complexes by AFM with image reconstruction**

C.F. Zhu, I. Lee, X. Wang, C. Wang, C. Bai

Applied Surface Science, 126 (1998), 3-4, 281-286**572****Investigation of the radiation induced changes on the surface topology of PVC films by atomic force microscopy**

E. Tan, A. Alacakir, C. Uzun, O. Guven

Radiation Physics and Chemistry, 46 (1995), 4-6, 897-900**573****Investigation of the stiffness change in, the indentation force and the hydrophobic recovery of plasma-oxidized polydimethylsiloxane surfaces by tapping mode atomic force microscopy**

G. Bar, L. Delineau, A. Hafele, M.-H. Whangbo

Polymer, 42 (2001), 8, 3627-3632**580****Latex film formation: atomic force microscopy and theoretical results**

F. Lin, D.J. Meier

Progress in Organic Coatings, 29 (1996), 1-4, 139-146**870****Lithographically defined polymer tips for quartz tuning fork based scanning force microscopes**

T. Akiyama, U. Staufer, N.F. de Rooij, L. Howald, L. Scandella

Microelectronic Engineering, 57-58 (2001), 769-773**583****Local elasticity measurement on polymers using atomic force microscopy**

H.-Y. Nie, W. Mizutani, H. Tokumoto, M. Motomatsu

Thin Solid Films, 273 (1996), 1-2, 143-148**594****Measuring the thermal properties of photoresist thin films using atomic force microscopy**

A. Kawai

Thin Solid Films, 273 (1996), 1-2, 308-311

875**Membrane characterization by means of pneumatic scanning force microscopy**H. Kamusewitz, M. Keller, D. Paul
Thin Solid Films, 264 (1995), 2, 184-193**599****Mesostructure of polymer/carbon black composites observed by conductive probe atomic force microscopy**J. Ravier, F. Houze, F. Carmona, O. Schneegans, H. Saadaoui
Carbon, 39 (2001), 2, 314-318**603****Microphase domains of poly(styrene-block-ethylene/butylene-block-styrene) triblock copolymers studied by atomic force microscopy**M. Motomatsu, W. Mizutani, H. Tokumoto
Polymer, 38 (1997), 8, 1779-1785**606****Microstructure of block copolymers containing a conjugated segment, as studied with atomic force microscopy**R. Lazzaroni, P. Leclere, A. Couturiaux, V. Parente, B. Francois, J.L. Bredas
Synthetic Metals, 102 (1999), 1-3, 1279-1282**879****Microstructure study of acrylic polymer-silica nanocomposite surface by scanning force microscopy**M. Motomatsu, T. Takahashi, N. Heng-Yong, W. Mizutani, H. Tokumoto
Polymer, 38 (1997), 1, 177-182**609****Miscibility and surface crystal morphology of blends containing poly(vinylidene fluoride) by atomic force microscopy**C.-S. Ha, W.-K. Lee
Polymer, 39 (1998), 26, 7131-7134**202****Modelling and simulation of the permanganic etching of banded spherulitic polyethylene: correlation with AFM observations**L. Markey, J.J. Janimak, G.C. Stevens
Polymer, 42 (2001), 14, 6221-6230**1316****Modification and structuring of conducting polymer films on insulating substrates by ion beam treatment**T. Asmus, G.K. Wolf
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 166-167 (2000), 732-736**610****Modification of poly (3-methylthiophene) (PMeT) structure during electrochemical doping-undoping, studied by in situ atomic force microscopy (ECAFM)**F. Chao, M. Costa, C. Tian
Synthetic Metals, 75 (1995), 2, 85-94**1373****Monitoring high-temperature solid–solid phase transitions of HMX with atomic force microscopy**Brandon L. Weeks, Chantel M. Ruddle, Joseph M. Zaug and Debra J. Cook
Ultramicroscopy, 93 (2002) 1, pp. 19-23

623

Morphological investigation by atomic force microscopy and light microscopy of electropolymerised polypyrrole films

J.S. Shapiro, M.J. Miles, W.T. Smith

Polymer, 41 (2000), 9, 3349-3356

625

Morphology and phase behaviour of blends of syndiotactic and isotactic polypropylene: 1. X-ray scattering, light microscopy, atomic force microscopy, and scanning electron microscopy

R. Thomann, J. Kressler, S. Setz, W. Chun, R. Mulhaupt

Polymer, 37 (1996), 13, 2627-2634

1370

Morphology and roughness of high-vacuum sublimed oligomer thin films

F. Biscarini, P. Samorí, A. Lauria, P. Ostoja, R. Zamboni, C. Taliani, P. Viville, R. Lazzaroni, J. L. Brédas

Thin Solid Films 284-285 (1996) 439-443

629

Nanomechanical measurements on polymers using contact mode atomic force microscopy

J. Mc Laughlin, P. Lemoine

Thin Solid Films, 339 (1999), 1-2, 258-264

637

Nanosopic measurements of the electrostriction responses in P(VDF/TrFE) ultra-thin-film copolymer using atomic force microscopy

K. El Hami, H. Yamada, K. Matsushige

Applied Physics A: Materials Science & Processing, 72 (2001), 3, 347-350

886

Non-destructive imaging of delicate polymer surfaces using scanning force microscopy tips modified with hydrophobic self-assembled monolayers

G.J. Leggett, B.D. Beake

Polymer, 40 (1999), 21, 5973-5976

660

On the formation of oriented nanometer scale patterns on amorphous polymer surfaces studied by atomic force microscopy

J.P. Pickering, G.J. Vancso

Applied Surface Science, 148 (1999), 3-4, 147-154

134

On the use of nanoscale indentation with the AFM in the identification of phases in blends of linear low density polyethylene and high density polyethylene

M. S. Bischel, M. R. Vanlandingham, R. F. Eduljee, J. W. Gillespie, Jr., J. M. Schultz

Journal of Materials Science (full set), 35 (2000), 1, 221-228

888

Phase-contrast scanning force microscopy and chemical heterogeneity of GR polysulfone ultrafiltration membranes

L. Palacio, P. Pradanos, A. Hernandez, M.J. Ariza, J. Benavente, M. Nystrom

Applied Physics A: Materials Science & Processing, 73 (2001), 5, 555-560

199

Photooxidation of blends of polystyrene and poly(vinyl methyl ether): FTIR and AFM studies

B. Mailhot, S. Morlat, J.-L. Gardette
Polymer, 41 (2000), 6, 1981-1988

889

Poly-para-phenylene-ethynylene assemblies for a potential molecular nanowire: An SFM study

J.P. Rabe, K. Mullen, T. Mangel, V. Francke, P. Samori
Optical Materials, 9 (1998), 1-4, 390-393

892

Probing glass transition of PMMA thin films at the nanometer scale with single ion bombardment and scanning force microscopy

R.M. Papaleo, L.D. de Oliveira, L.S. Farenzena, R.P. Livi
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 185 (2001), 1-4 (December), 55-60

672

Probing polymer interdiffusion in carboxylated latices with force modulation atomic force microscopy

A.-C. Hellgren
Progress in Organic Coatings, 34 (1997), 1-4, 91-99

673

Probing soft polymeric coatings of a capillary by atomic force microscopy

R. Barberi, J.J. Bonvent, R. Bartolino, J. Roeraade, L. Capelli, P.G. Righetti
Journal of Chromatography B: Biomedical Sciences and Applications, 683 (1996), 1, 3-13

674

Probing the electrochemical deposition and/or desorption of self-assembled and electropolymerizable organic thin films by surface plasmon spectroscopy and atomic force microscopy

W. Knoll, J. Mack, G. Jung, V. Scheumann, A. Badia, M. Zizlsperger, S. Arnold
Sensors and Actuators B: Chemical, 54 (1999), 1-2, 145-165

682

Real-time crystallization study of poly(ϵ -caprolactone) by hot-stage atomic force microscopy

L.G.M. Beekmans, G.J. Vancso
Polymer, 41 (2000), 25, 8975-8981

683

Real-time imaging of melting and crystallization in poly(ethylene oxide) by atomic force microscopy

G.J. Vancso, R. Pearce
Polymer, 39 (1998), 5, 1237-1242

900

Scanning force microscopic investigation of plasticity and damage mechanisms in polypropylene spherulites under simple shear

C. G'Sell, G. Castelein, G. Coulon
Polymer, 40 (1999), 1, 95-110

902

Scanning force microscopy application to polymer surfaces for novel nanoscale surface characterization

M. Motomatsu, H.-Y. Nie, W. Mizutani, H. Tokumoto
Thin Solid Films, 273 (1996), 1-2, 304-307

904**Scanning force microscopy in a liquid on single latent ion tracks: Towards applications in polymers and atomic resolution on crystals**

F.M. Ohnesorge, A. Muller, R. Neumann

Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 166-167 (**2000**), (May 02), 938-943**908****Scanning force microscopy of bulk-filled uniaxially oriented poly(ethylene terephthalate) films**

B.D. Beake, J.S.G. Ling, G.J. Leggett

Polymer, 41 (**2000**), 6, 2241-2248**912****Scanning force microscopy of plasma polymerised hexane: information on the mechanical properties of thin films from tip-induced wear**

B.D. Beake, G.J. Leggett, M.R. Alexander

Polymer, 42 (**2001**), 6, 2647-2653**913****Scanning force microscopy of poly(ethylene terephthalate) surfaces: comparison of SEM with SFM topographical, lateral force and force modulation data**

J.S.G. Ling, G.J. Leggett

Polymer, 38 (**1997**), 11, 2617-2625**914****Scanning force microscopy of polyester films: contact versus non-contact imaging and tip-induced wear experiments**

A.J. Murray, G.J. Leggett, J.S.G. Ling

Polymer, 39 (**1998**), 24, 5913-5921**915****Scanning force microscopy of polyimide surfaces**

C.D. Dimitrakopoulos, S.P. Kowalczyk

Thin Solid Films, 295 (**1997**), 1-2, 162-168**1053****Scanning probe microscopy of biomolecules and polymeric biomaterials**

M.C. Davies, G.J. Leggett, D.E. Jackson, S.J.B. Tendler

Journal of Electron Spectroscopy and Related Phenomena, 81 (**1996**), 3, 249-268**1056****Scanning probe microscopy of organic and polymeric films: from self-assembled monolayers to composite multilayers**

V.V. Tsukruk, D.H. Reneker

Polymer, 36 (**1995**), 9, 1791-1808**1059****Scanning probe microscopy of polymers (in russian)**

I.V. Yaminsky

Информационный бюллетень РФФИ, 5 (**1997**), 3, 180**697****Shear banding in polyamide 6 films as revealed by atomic force microscopy**

V. Ferreira, Y. Pennec, R. Seguela, G. Coulon

Polymer, 41 (**2000**), 4, 1561-1569

77**Single-molecule force spectroscopy on polysaccharides by AFM - nanomechanical fingerprint of α -(1,4)-linked polysaccharides**H. Li, X. Zhang, M. Rief, F. Oesterhelt, H.E. Gaub, J. Shen
Chemical Physics Letters, 305 (1999), 3-4, 197-201**97****STM- and AFM-investigations of one- and two-dimensional polypyrrole structures on electrodes**C. Froeck, A. Bartl, L. Dunsch
Electrochimica Acta, 40 (1995), 10, 1421-1425**261****Structural properties of oriented polydiacetylenes: AFM and time-resolved spectroscopy characterizations**V. Da Costa, J. Le Moigne, J.-Y. Bigot, T.A. Pham
Synthetic Metals, 81 (1996), 2-3, 151-154**716****Structure of polymer within the coating: an atomic force microscopy and small angle neutrons scattering study**M. Joanicot, V. Granier, K. Wong
Progress in Organic Coatings, 32 (1997), 1-4, 109-118**717****Structures and local electrical properties of ferroelectric polymer thin films in thermal process investigated by dynamic-mode atomic force microscopy**T. Fukuma, K. Kobayashi, T. Horiuchi, H. Yamada, K. Matsushige
Thin Solid Films, 397 (2001), 1-2, 133-137**260****Study of polyaniline and water-based polyurethane nanocomposite by TEM, AFM and SNOM**S.-M. Yang, S.-D. Chow, D.-S. Lin
Synthetic Metals, 121 (2001), 1-3, 1305-1306**932****Study of the surface glass transition behaviour of amorphous polymer film by scanning-force microscopy and surface spectroscopy**A. Takahara, T. Kajiyama, K. Tanaka
Polymer, 39 (1998), 19, 4665-4673**1409****Study of the surface potential and photovoltage of conducting polymers using electric force microscopy**J.N. Barisci, R. Stella, G.M. Spinks, G.G. Wallace
Synthetic Metals, 124 (2001), 2-3, 407-414**1319****Study on surface structure of amorphous polymer blends on the basis of lateral force microscopy**W.-K. Lee
Polymer, 40 (1999), 20, 5631-5636**1069****Substrate-dependent dispersion behavior of polymer-protected Pt colloid studied by SPM**J. Guan, C. Wang, C. Bai, M. Su
Applied Surface Science, 133 (1998), 1-2, 23-26

723**Surface characterisation of ultraviolet-ozone treated PET using atomic force microscopy and X-ray photoelectron spectroscopy**C. Ton-That, D.O.H. Teare, P.A. Campbell, R.H. Bradley
Surface Science, 433-435 (1999), 278-282**201****Surface characterization of ethylene-vinyl acetate (EVA) and ethylene-acrylic acid (EAA) co-polymers using XPS and AFM**R.L. McEvoy, S. Krause, P. Wu
Polymer, 39 (1998), 21, 5223-5239**724****Surface chemistry-mechanical property relationship of low density polyethylene: an IR+visible sum frequency generation spectroscopy and atomic force microscopy study**D.H. Gracias, D. Zhang, Y.R. Shen, G.A. Somorjai
Tribology Letters, 4 (1998), 3/4, 231-235**725****Surface crystallography of polybutene-1 by atomic force microscopy**A.K. Winkel, M.J. Miles
Polymer, 41 (2000), 6, 2313-2317**726****Surface microstructure of a Kevlar aramid fibre studied by direct atomic force microscopy**S. Rebouillat, J.-B. Donnet, K.W. Tong
Polymer, 38 (1997), 9, 2245-2249**937****Surface Modifications Produced by N₂ and O₂ RF Plasma Treatment on a Synthetic Vulcanized Styrene-Butadiene Rubber**Ana B. Ortiz-Magan, M. Mercedes Pastor-Blas, Teresa P. Ferrandiz-Gomez, Carmen Morant-Zacares, Jose Miguel Martin-Martinez
Plasmas and Polymers, 6 (2001), 1/2, 81-105**728****Surface molecular diffusion in latex films observed by atomic force microscopy**M. Song, D.J. Hourston, H. Zhang, A. Hammiche, H.M. Pollock
Polymer, 42 (2001), 14, 6299-6303**1071****Surface morphology changes in polythiophene and polythiophene derivative films after being oxidized with iodine. A scanning probe microscopy study**D.Y. Zhang, T.L. Porter
Synthetic Metals, 74 (1995), 1, 55-58**732****Surface observation of Langmuir-Blodgett films of polyamic acid alkylamine salts and polyimide by atomic force microscopy and friction force microscopy**S. Yokoyama, M. Kakimoto, Y. Imai
Synthetic Metals, 81 (1996), 2-3, 265-270**1320****Surface relaxation behavior of proton- and perfluoroalkyl-terminated poly(2-vinylpyridine) films**X. Jiang, K. Tanaka, A. Sakai, A. Takahara, T. Kajiyama
Polymer, 42 (2001), 21, 8959-8964

738**Surface structure of Kevlar(R) fiber studied by atomic force microscopy and inverse gas chromatography**S. Rebouillat, J.-B. Donnet, J.C.M. Peng
Polymer, 40 (1999), 26, 7341-7350**741****Surface structure of polycarbonate urethanes visualized by atomic force microscopy**I. Revenko, Y. Tang, J.P. Santerre
Surface Science, 491 (2001), 3, 346-354**940****Surface study of plasma- and UV-polymerized styrene films using scanning force microscopy and in-situ photoelectron spectroscopy**S. Schelz, N. Schuhler, T. Richmond, P. Oelhafen
Thin Solid Films, 266 (1995), 2, 133-139**942****Surface tracks in polymers induced by MeV heavy-ion impacts**R.M. Papaleo, L.S. Farenzena, M.A. De Araujo, R.P. Livi
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 151 (1999), 1-4 (May 02), 135-139**750****Tapping-mode atomic force microscopy study of the near-surface composition of a styrene-butadiene-styrene triblock copolymer film**M.-H. Whangbo, D. Denley, S.N. Magonov, J. Cleveland, V. Elings
Surface Science, 389 (1997), 1-3, 201-211**761****The heavy ion tracks in polymers investigation by means of high-effective liquid chromatography and atomic-force microscopy**A.I. Vilensky, O.G. Larionov, R.V. Gainutdinov, A.L. Tolstikhina, V.Y. Kabanov, D.L. Zagorski, E.V. Khataibe, A.N. Netchaev, B.V. Mchedlishvili
Radiation Measurements, 34 (2001), 1-6, 75-80**945****The interface surfaces of a CN-substituted poly(phenylenevinylene) light-emitting diode, a morphological study**J.R. Rasmusson, P. Broms, J. Birgeron, R. Erlandsson, W.R. Salaneck
Synthetic Metals, 79 (1996), 1, 75-84**50****The lamellar period in symmetric diblock copolymer thin films studied by neutron reflectivity and AFM**N.B. Larsen, N. Gadegaard, K. Almdal, K. Mortensen
Applied Surface Science, 142 (1999), 1-4, 608-613**763****The lamellar thickness of melt crystallized isotactic polystyrene as determined by atomic force microscopy**S.J. Sutton, K. Izumi, H. Miyaji, K. Fukao, Y. Miyamoto
Polymer, 37 (1996), 24, 5529-5532**947****The mechanism of PTFE and PE friction deposition: a combined scanning electron and scanning force microscopy study on highly oriented polymeric sliders**H. Schonherr, G.J. Vancso
Polymer, 39 (1998), 23, 5705-5709

948

The nano-scratch tester (NST) as a new tool for assessing the strength of ultrathin hard coatings and the mar resistance of polymer films

R. Consiglio, N.X. Randall, B. Bellaton, J. von Stebut
Thin Solid Films, 332 (1998), 1-2, 151-156

951

The scanning force microscope as a tool for the detection of local mechanical properties within the interphase of fibre reinforced polymers

M. Munz, H. Sturm, G. Hinrichsen, E. Schulz
Composites Part A: Applied Science and Manufacturing, 29 (1998), 9-10, 1251-1259

767

The structure of highly textured quasi-single-crystalline high-density polyethylene probed by atomic force microscopy and small-angle X-ray scattering

H. Schonherr, G.J. Vancso, A.S. Argon
Polymer, 36 (1995), 11, 2115-2121

68

The use of SIMS, XPS and in situ AFM to probe the acid catalysed hydrolysis of poly(orthoesters)

N.M. Franson, M.C. Davies, A.M. Brown, J. Heller, S.R. Leadley, A.J. Paul, J.F. Watts, K.M. Shakesheff
Biomaterials, 19 (1998), 15, 1353-1360

279

Thin block copolymers films: film formation and corrugation under an AFM tip

J.H. Maas, M.A. Cohen Stuart, G.J. Fleer
Thin Solid Films, 358 (2000), 1-2, 234-240

952

Thin poly(3,3'-phthalidylidene-4,4'-biphenylene) films studied by scanning force microscopy

J.R. Rasmusson, T. Kugler, R. Erlandsson, W.R. Salaneck, A. Lachinov
Synthetic Metals, 76 (1996), 1-3, 195-200

1074

Thin polypyrrole films formed on mica and alumina with and without surfactant present: characterization by scanning probe and optical microscopy

W.-L. Yuan, E.A. O'Rear, G. Cho, G.P. Funkhouser, D.T. Glatzhofer
Thin Solid Films, 385 (2001), 1-2, 96-108

776

TMDSC and Atomic Force Microscopy Studies of Morphology and Recrystallization in Polyesters Including Oriented Films

B. B. Sauer, W. G. Kampert, R. S. McLean, P. F. Garcia
Journal of Thermal Analysis and Calorimetry, 59 (2000), 1/2, 227-243

295

Tribology of a polystyrene polymer film investigated with an AFM

D. Michel, S. Kopp-Marsaudon, J.P. Aime
Tribology Letters, 4 (1998), 1, 75-80

784

Visualization of PEO-PBLA-Pyrene Polymeric Micelles by Atomic Force Microscopy

Jiahong Liaw, Takao Aoyagi, Kazunori Kataoka, Yasuhisa Sakurai, Teruo Okano
Pharmaceutical Research, 15 (1998), 11, 1721-1726

203**XPS and AFM surface studies of solvent-cast PS/PMMA blends**

C. Ton-That, A.G. Shard, D.O.H. Teare, R.H. Bradley

Polymer, 42 (**2001**), 3, 1121-1129