

## Bibliography on applications of Scanning Probe Microscopy to characterization of polymers

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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

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### **A scanning probe microscopy study of conjugated polymers**

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

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

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### **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

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### **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

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### **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

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### **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

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### **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

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### **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

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### **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

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**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

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**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

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**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

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**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

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**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

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**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

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**AFM study of thermotropic structural transitions in poly(diethylsiloxane)**

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

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**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

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**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

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

S. Biggs, C.A. Lukey, G.M. Spinks, S.-T. Yau  
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**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

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**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  
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**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

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**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

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**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

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**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

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

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N.R. Kallenbach, T.Y. Morozova, V.N. Morozov  
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**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

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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

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**Atomic force microscopy studies of short melamine fiber reinforced EPDM rubber**

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*Journal of Materials Science (full set)*, 36 (2001), 11, 2621-2632

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

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*Applied Surface Science*, 144-145 (1999), 627-632

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**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  
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**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

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**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

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

C. Serre, M. Vayer, R. Erre, N. Boyard, C. Ollive  
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G. Jandea, D.L. Woerdeman, V. Ponsinet, N. Amouroux, L. Leger, H. Hervet  
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A.A. Patel, F. Jianrong, M.A. Winnik, G.J. Vansco, C.B.D. McBain  
*Polymer*, 37 (1996), 25, 5577-5582

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

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

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G.T. Barnes, J.B. Peng

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C. Ortiz and G. Hadziioannou

*Macromolecules* 32 (1999), 780-787

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**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

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**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

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

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

P. Muller-Buschbaum, M. Stamm

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

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**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**

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

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

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

*Synthetic Metals*, 71 (1995), 1-3, 2025-2026**526****Hydrophobic polytetrafluoroethylene-modified PbO<sub>2</sub>: ex situ observations of morphology during nucleation and growth via atomic force microscopy**

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

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

E. Wang, J. Li, M. Green, P.E. West  
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**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  
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**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  
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R. Nyffenegger, E. Ammann, H. Siegenthaler, R. Kotz, O. Haas  
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**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  
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Z. Keresztes, T. Rigo, J. Telegdi, E. Kalman  
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**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

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

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F. Lin, D.J. Meier

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

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**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

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**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

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**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**

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J.P. Rabe, K. Mullen, T. Mangel, V. Francke, P. Samori  
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**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  
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