

Recent publications by IBM authors

The information listed here is supplied by the Institute for Scientific Information and other outside sources. Reprints of the papers may be obtained by writing directly to the first author cited.

- Journals are listed alphabetically by title; papers are listed sequentially for each journal.

A

Development of Sediment Overpressure and Its Effect on Thermal Maturation: Application to the Gulf of Mexico Basin, U. T. Mello (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and G. D. Karner, *AAPG Bulletin—American Association of Petroleum Geologists* **80**, No. 9, 1367–1396 (1996).

Electrostatic Effects on Ion Conduction in Designed Helical Bundle Ion Channels, J. D. Lear (University of Pennsylvania, Philadelphia, PA 19104) et al., *Abstracts of Papers of the American Chemical Society* **212**, 15 (1996).

The Vesta Parallel File System, P. F. Corbett (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. G. Feitelson, *ACM Transactions on Computer Systems* **14**, No. 3, 225–264 (1996).

Recovery in the Calypso File System, M. Devarakonda (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *ACM Transactions on Computer Systems* **14**, No. 3, 287–310 (1996).

Scanning Probe Microscopy of Polymeric Methyltrioxorhenium, M. R. Mattner (Technical University of Munich, Lichtenbergstrasse 4, D-85747 Garching, Germany) et al., *Advanced Materials* **8**, No. 8, 654+ (1996).

Stress-Induced Voiding in Microelectronic Metallization: Void Growth Models and Refinements, T. D. Sullivan (IBM Corporation, P.O. Box A, Essex Junction, VT 05452), *Annual Review of Materials Science* **26**, 333–364 (1996).

Formation of Ultrathin, Buried Oxides in Si by O^+ Ion Implantation, O. W. Holland (Oak Ridge National Laboratory, 3003 MS-6048, Oak Ridge, TN 37831) et al., *Applied Physics Letters* **69**, No. 5, 674–676 (1996).

High Speed Electrical Sampling Using Optical 2D Harmonic Generation, A. Nahata (Columbia University, New York, NY 10027) et al., *Applied Physics Letters* **69**, No. 6, 746–748 (1996).

Application of an InSb Flat Crystal with Elliptically Shaped Modulated Structures to X-ray Point Focusing, W. Z. Chang (University of Jena, D-7900 Jena, Germany) et al., *Applied Physics Letters* **69**, No. 7, 872–874 (1996).

Electrooptical Characterization of Poled Polymer Films in Transmission, P. M. Lundquist (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **69**, No. 7, 901–903 (1996).

Does Magnetization in Thin-Film Manganates Suggest the Existence of Magnetic Clusters, J. Z. Sun (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **69**, No. 7, 1002–1004 (1996).

Polysiloxane-Based Photorefractive Polymers for Digital Holographic Data Storage, C. Poga (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **69**, No. 8, 1047–1049 (1996).

Polycrystalline Silicon Formation by Pulsed Rapid Thermal Annealing of SF Amorphous Silicon, Y. Kuo (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **69**, No. 8, 1092–1094 (1996).

Self-Consistent Modeling of Accumulation Layers and Tunneling Currents Through Very Thin Oxides, F. Rana (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **69**, No. 8, 1104–1106 (1996).

A Low-Noise Single-Domain Fluxgate Sensor, J. Deak (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **69**, No. 8, 1157-1159 (1996).

Growth Temperature Dependence of Long-Range Alloy Order and Magnetic Properties of Epitaxial FePt_{1-x} (x-Similar-or-Equal-to-0.5) Films, R. F. C. Farrow (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **69**, No. 8, 1166-1168 (1996).

Interaction of Threading and Misfit Dislocations in a Strained Epitaxial Layer, K. W. Schwarz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and J. Tersoff, *Applied Physics Letters* **69**, No. 9, 1220-1222 (1996).

Single Charge and Confinement Effects in Nano-Crystal Memories, S. Tiwari (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **69**, No. 9, 1232-1234 (1996).

Fabrication of Arrays of Large Step-Free Regions on Si(001), S. Tanaka (Cornell University, Ithaca, NY 14853) et al., *Applied Physics Letters* **69**, No. 9, 1235-1237 (1996).

Advances in Ultrafast Scanning Tunneling Microscopy, D. Botkin (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **69**, No. 9, 1321-1323 (1996).

An Extension of Hierarchical Star Formation to Galactic Scales, B. G. Elmegreen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and Y. N. Efremov, *Astrophysical Journal* **466**, No. 2, 802-807 (1996).

On the Size and Formation Mechanism of Star Complexes in SM, IM, and BCD Galaxies, B. G. Elmegreen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Astrophysical Journal* **467**, No. 2, 579-588 (1996).

Star Formation in the Outer Resonance Ring of NGC-1300, D. M. Elmegreen (Vassar College, Poughkeepsie, NY 12601) et al., *Astrophysical Journal* **469**, No. 1, 131+ (1996).

B

Effects of Intravenous Anesthetic Agents on Fast Inhibitory Oscillations in the Rat Hippocampus *In-Vitro*, M. A. Whittington (University of London, London W2 1PG, England) et al., *British Journal of Pharmacology* **118**, No. 8, 1977-1986 (1996).

Big Blue Electric Money, M. Greene (IBM Corporation, Old Orchard Road, Armonk, NY 10504), *Byte* **21**, No. 9, 19 (1996).

C

STM-Induced H Atom Desorption from Si(100): Isotope Effects and Site Selectivity, P. Avouris (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Chemical Physics Letters* **257**, No. 1-2, 148-154 (1996).

Vapor-Phase Self-Assembly of Carbon Nanomaterials, C. H. Kiang (Massachusetts Institute of Technology, Cambridge, MA 02139) et al., *Chemical Physics Letters* **259**, No. 1-2, 41-47 (1996).

Effect of Capillary Force on Friction Force Microscopy: A Scanning Hydrophilicity Microscope, M. Fujihira (Tokyo Institute of Technology, Midori-ku, Yokohama, Kanagawa 226, Japan) et al., *Chemistry Letters* **7**, 499-500 (1996).

Luminescence of W(Co)(4)(4-Me-Phen) in Photosensitive Thin-Films: A Molecular Probe of Acrylate Polymerization, K. A. Rawlins (SUNY Binghamton, Binghamton, NY 13902) et al., *Chemistry of Materials* **8**, No. 7, 1540-1544 (1996).

A Note on Error-Bounds for Approximation in Inner-Product Spaces, A. Dingankar (IBM Corporation, 11400 Burnet Road, Austin, TX 78758) and I. W. Sandberg, *Circuits Systems and Signal Processing* **15**, No. 4, 515-518 (1996).

Shrinkage Estimation of Contemporaneous Outliners in Concurrent Time Series, N. Ravishanker (University of Connecticut, Storrs, CT 06269) et al., *Communications in Statistics—Simulation and Computation* **25**, No. 3, 643-656 (1996).

New Paradigms for Using Computers, T. Selker (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Communications of the ACM* **39**, No. 8, 60-69 (1996).

Toward Real Microkernels, J. Liedtke (German National Research Center Information Technology, Berlin, Germany), *Communications of the ACM* **39**, No. 9, 70-77 (1996).

Simple Numerical Quadrature Rules for Gaussian Chain Polymer Density Functional Calculations in Three-Dimension and Implementation on Parallel Platforms, N. M. Maurits (University of Groningen, NL-9747 AG Groningen, Netherlands) et al., *Computational & Theoretical Polymer Science* **6**, No. 1-2, 1-8 (1996).

SSA: The Disk-Drive Specialist, M. Tidwell (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193), *Computer Design* **35**, No. 9, 56 (1996).

Full-Range Approximation of Triangulated Polyhedra, R. Roufard (Institute of National Audiovisuel, 4 Ave. Europe, F-94366 Bry Sur Marn, France) and J. Rossignac, *Computer Graphics Forum* **15**, No. NSICI, 67+ (1996).

Coupling Boundary Elements and Finite Elements: A Structured Approach, U. Hausslercombe (IBM Germany, D-80639 Munich, Germany), *Computer Methods in Applied Mechanics and Engineering* **134**, No. 1-2, 117-134 (1996).

HFS92: A Program for Relativistic Atomic Hyperfine-Structure Calculations, P. Jonsson (IBM Corporation, P.O. Box 950, Poughkeepsie, NY 12602) et al., *Computer Physics Communications* **96**, No. 2-3, 301-310 (1996).

Characterization of the Saccharomyces-Cerevisiae RTA1 Gene Involved in 7-Aminocholesterol Resistance, I. Soustre (IBMIG, 40 Avenue Recteur Pineau, F-86022 Poitiers, France) et al., *Current Genetics* **30**, No. 2, 121-125 (1996).

Copolymers at Surfaces and Interfaces, T. P. Russell (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Current Opinion in Colloid & Interface Science* **1**, No. 1, 107-115 (1996).

D

Exotica/FMDC: A Workflow Management System for Mobile and Disconnected Clients, G. Alonso (ETH Zentrum, CH-8092 Zurich, Switzerland) et al., *Distributed and Parallel Databases* **4**, No. 3, 229-247 (1996).

E

Molecular Dynamics Study of Interfacial Electric Fields, J. N. Glosli (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and M. R. Philpott, *Electrochimica Acta* **41**, No. 14, 2145-2158 (1996).

Bringing Greater Programmability to FPGAs: Design Tools for Dynamic Reconfigurability, J. Boquet (IBM Corporation, Burlington, VT 05452) et al., *Electronic Products Magazine* **39**, No. 4, 31-33 (1996).

Dielectric Spectroscopy on the Quasi-One-Dimensional Organic Charge Density Wave Conductor (Fluoranthene)(2)PF₆, C. Math (University of Bayreuth, D-95440 Bayreuth, Germany) et al., *Europhysics Letters* **35**, No. 3, 221-226 (1996).

F

Work and Family in the Virtual Office: Perceived Influences of Mobile Telework, E. J. Hill (IBM Corporation, 1085 North 400 East, Logan, Utah 84341) et al., *Family Relations* **45**, No. 3, 293-301 (1996).

When an Infinitely-Renormalizable Endomorphism of the Interval Can Be Smoothed, C. Tresser (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. Wilkinson, *Fractals* **3**, No. 4, 701-711 (1995).

G

Efficient Computation of Equilibria for Extensive Two-Person Games, D. Koller (Stanford University, Stanford, CA 94305) et al., *Games and Economic Behavior* **14**, No. 2, 247-259 (1996).

I

What Do We Really Know About Cloud Formation, B. G. Elmegreen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IAU Symposia* **169**, 551-560 (1996).

Electronic Data Interchange for Health Care, A. Hutchison (University of Cape Town, ZA-7925 Cape Town, South Africa) et al., *IEEE Communications Magazine* **34**, No. 7, 28-34 (1996).

Emerging Data Communication Standards, C. S. Li (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and Y. Ofek, *IEEE Communications Magazine* **34**, No. 8, 36+ (1996).

Fiber Channel and Related Standard, M. W. Sachs (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. Varma, *IEEE Communications Magazine* **34**, No. 8, 40-50 (1996).

Wireless LANs and Mobile Networking: Standards and Future Directions, R. O. La Maire (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Communications Magazine* **34**, No. 8, 86-94 (1996).

Fitting a Woven Cloth Model to a Curved Surface: Dart Insertion, M. Aono (IBM Japan Ltd., 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan) et al., *IEEE Computer Graphics and Applications* **16**, No. 5, 60-70 (1996).

Dynamic Data Retention and Implied Design Criteria for Floating Body SOI DRAM, D. Suh (University of Florida, Gainesville, FL 32611) et al., *IEEE Electron Device Letters* **17**, No. 8, 385-387 (1996).

Multilevel-Spiral Inductors Using VLSI Interconnect Technology, J. N. Burghartz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Electron Device Letters* **17**, No. 9, 428-430 (1996).

DC and RF Performance of 0.25 μ m P-Type SiGe MODFET, M. Arafa (University of Illinois, Urbana, IL 61801) et al., *IEEE Electron Device Letters* **17**, No. 9, 449-451 (1996).

Design of Si/SiGe Heterojunction Complementary Metal-Oxide-Semiconductor Transistors, A. Sadek (Cairo University, Giza 12211, Egypt) et al., *IEEE Electron Device Letters* **43**, No. 8, 1224-1232 (1996).

Neural Networks for Computer Virus Recognition, G. J. Tesaro (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Expert—Intelligent Systems & Their Applications* **11**, No. 4, 5-6 (1996).

Stream Conversation to Support Interactive Video Playback, M. S. Chen (National Taiwan University, Taipei 10764, Taiwan) and D. D. Kandlur, *IEEE Multimedia* **3**, No. 2, 51-58 (1996).

Cost Based Program Allocation for Distributed Multimedia-on-Demand Systems, C. C. Bisdikian (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and B. V. Patel, *IEEE Multimedia* **3**, No. 3, 62-72 (1996).

The Impact of Tools on Software Productivity, T. Bruckhaus (Sun Microsystems Inc., 2550 Garcia Avenue, Mountain View, CA 94043) et al., *IEEE Software* **13**, No. 5, 29+ (1996).

A Block Based Gradient Descent Search Algorithm for Block Motion Estimation in Video Coding, L. K. Liu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and E. Feig, *IEEE Transactions on Circuits and Systems for Video Technology* **6**, No. 4, 419-422 (1996).

Modeling, Measurement, and Simulation of Simultaneous Switching Noise, B. D. McCredie (IBM Corporation, 11400 Burnet Road, Austin, TX 78758) and W. D. Becker, *IEEE Transactions on Components Packaging and Manufacturing Technology Part B* **19**, No. 3, 461-472 (1996).

Modeling and Design of Antennas for RF Wireless Systems, S. Ponnappalli (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Components Packaging and Manufacturing Technology Part B* **19**, No. 3, 487-502 (1996).

Multireflection Algorithm for Timed Statistical Coupled Noise Checking, H. H. Smith (IBM Corporation, P.O. Box 950, Poughkeepsie, NY 12602) and G. A. Katopis, *IEEE Transactions on Components Packaging and Manufacturing Technology Part B* **19**, No. 3, 503-511 (1996).

Reliability of Metallized Ceramic Packages, G. Subbarayan (University of Colorado, Boulder, CO 80309) et al., *IEEE Transactions on Components Packaging and Manufacturing Technology Part B* **19**, No. 3, 685-691 (1996).

A Weighted Random Pattern Test-Generation System, R. Kapur (IBM Corporation, Mountain View, CA 94043) et al., *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **15**, No. 8, 1020-1025 (1996).

The Effect of Program Behavior on Fault Observability, N. S. Bowen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. K. Pradhan, *IEEE Transactions on Computers* **45**, No. 8, 868-880 (1996).

Reducing the MISR Size, J. Savir (IBM Corporation, 9737 Great Hills Trail, Austin, TX 78759) *IEEE Transactions on Computers* **45**, No. 8, 930-938 (1996).

Fast and Long Retention-Time Nano-Crystal Memory, H. I. Hanafi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Electron Devices* **43**, No. 9, 1553-1558 (1996).

Integrated RF and Microwave Components in BiCMOS Technology, J. N. Burghartz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Electron Devices* **43**, No. 9, 1559-1570 (1996).

The Optimal Error Exponent for Markov Order Estimation, L. Finesso (CNR, Ladseb, Corso Stati Uniti 4, I-35127 Padua, Italy) et al., *IEEE Transactions on Information Theory* **42**, No. 5, 1488-1497 (1996).

A Unified Framework for Optimizing Communication in Data Parallel Programs, M. Gupta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Parallel and Distributed Systems* **7**, No. 7, 689-704 (1996).

A Survey of Methods and Strategies in Character Segmentation, R. G. Casey (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and E. Lecolinet, *IEEE Transactions on Pattern Analysis and Machine Intelligence* **18**, No. 7, 690-706 (1996).

Estimating Component Defect Probability from Masked System Success/Failure Data, B. Reiser (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Reliability* **45**, No. 2, 238-243 (1996).

Cost Modeling of N-Version Fault-Tolerant Software Systems for Large-N, R. K. Scott (IBM Corporation, Research Triangle Park, NC 27709) and D. F. McAllister, *IEEE Transactions on Reliability* **45**, No. 2, 297-302 (1996).

Methods for Job Configuration in Semiconductor Manufacturing, D. P. Connors (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. D. Yao, *IEEE Transactions on Semiconductor Manufacturing* **9**, No. 3, 401-411 (1996).

A Queuing Network Model for Semiconductor Manufacturing, D. P. Connors (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Semiconductor Manufacturing* **9**, No. 3, 412-427 (1996).

On the Design of Pole-Zero Approximations Using a Logarithmic Error Measure, J. H. Derby (IBM Corporation, Research Triangle Park, NC 27709) *IEEE Transactions on Signal Processing* **44**, No. 7, 1811-1813 (1996).

Efficient Network QOS Provisioning Based on Per Node Traffic Shaping, L. Georgiadis (Aristotelian University of Thessaloniki, Thessaloniki 54006, Greece) et al., *IEEE/ACM Transactions on Networking* **4**, No. 4, 482-501 (1996).

Fault Tolerant Designs for 256 MB DRAM, T. Kirihaata (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *IEICE Transactions on Electronics* **7**, 969-977 (1996).

A 286mm² 256 MB DRAM with X32 Both-Ends DQ, Y. Watanabe (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *IEICE Transactions on Electronics* **7**, 978-985 (1996).

Characteristics of A-Si Thin-Film Transistors with an Inorganic Black Matrix on the Top, Y. Kato (IBM Japan, Ltd., Yamato, Nara 242, Japan) et al., *IEICE Transactions on Electronics* **79C**, No. 8, 1091-1096 (1996).

Microrheological Study of Magnetic Particle Suspensions, M. S. Jhon (Carnegie Mellon University, Pittsburgh, PA 15213) et al., *Industrial & Engineering Chemistry Research* **35**, No. 9, 3027-3031 (1996).

On the Number of Small Cuts in a Graph, M. Henzinger (Digital Equipment Corporation, 136 Lytton Avenue, Palo Alto, CA 94301) and D. P. Williamson, *Information Processing Letters* **59**, No. 1, 41-44 (1996).

Behavioral Analysis of a Complex System, P. Massotte (IBM France, BP 1021, F-34006 Montpellier, France), *International Journal for Advanced Manufacturing Technology* **12**, No. 1, 66-76 (1996).

Element Specific Contrast in Scanning Tunneling Microscopy Via Resonant Tunneling, F. J. Himpsel (University of Wisconsin, Madison, WI 53706) et al., *Japanese Journal of Applied Physics Part 1* **35**, No. 6B, 3695-3699 (1996).

Adhesion of Poly(Arylene Ether Benzimidazole) to Copper and Polyimides, K. W. Lee (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Adhesion Science and Technology* **10**, No. 9, 807-821 (1996).

An Incremental Algorithm for a Generalization of the Shortest-Path Problem, G. Ramalingam (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and T. Reps, *Journal of Algorithms* **21**, No. 2, 267-305 (1996).

Surface Hardness Enhancement in Ion-Implanted Amorphous Carbon, D. H. Lee (Georgia Institute of Technology, Atlanta, GA 30332) et al., *Journal of Applied Physics* **80**, No. 3, 1480-1484 (1996).

Band-Structure, Deformation Potentials, and Carrier Mobility in Strained Si, Ge, and SiGe Alloys, M. V. Fischetti (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. E. Laux, *Journal of Applied Physics* **80**, No. 4, 2234-2252 (1996).

Molecular-Beam Deposited Thin-Films of Pentacene for Organic-Field Effect Transistor Applications, C. D. Dimitrakopoulos (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Applied Physics* **80**, No. 4, 2501-2508 (1996).

Electronic Effects of Ion Mobility in Semiconductors—Mixed Electronic-Ionic Behavior and Device Creation in Si-Li, L. Chernyak (Weizmann Institute of Science, IL-76100 Rehovot, Israel) et al., *Journal of Applied Physics* **80**, No. 5, 2749-2762 (1996).

Spalling of Cu_3Sn Spheroids in the Soldering Reaction of Eutectic SnPb on Cr/Cu/Au Thin-Films, A. A. Liu (University of California, Los Angeles, CA 90095) et al., *Journal of Applied Physics* **80**, No. 5, 2774-2780 (1996).

Interpolatory Subdivision Schemes and Wavelets, C. A. Micchelli (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Approximation Theory* **86**, No. 1, 41-71 (1996).

Recognition of Ring Pairs in the Data Analysis of Cherenkov Detectors, H. Babovsky (IBM Germany, D-6900 Heidelberg, Germany), *Journal of Computational and Applied Mathematics* **72**, No. 2, 227-234 (1996).

Certifying Permutations: Noninteractive Zero Knowledge Based on any Trapdoor Permutation, M. Bellare (University of California, 9500 Gilman Drive, La Jolla, CA 92093) and M. T. Yung, *Journal of Cryptology* **9**, No. 3, 149-166 (1996).

Electric Potential Near a Charged Metal Surface in Contact with Aqueous-Electrolyte, M. R. Philpott (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. N. Glosli, *Journal of Electroanalytical Chemistry* **409**, No. 1-2, 65-72 (1996).

Resonant Inelastic Scattering in Localized Solid Systems by Soft-X-ray Fluorescence Spectroscopy, R. C. C. Perera (University of California, Berkeley, CA 94720) et al., *Journal of Electron Spectroscopy and Related Phenomena* **79**, 139-142 (1996).

Stoichiometry Reversal and Depth-Profiling in the Growth of Thin Oxynitride Films with N_2O on Si(100) Surfaces, D. G. Sutherland (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Electron Spectroscopy and Related Phenomena* **80**, 133-136 (1996).

Soft X-ray Microscope with Zone-Plate at Uvsor, N. Watanabe (University Tsukuba, Tsukuba, Ibaraki 305, Japan) et al., *Journal of Electron Spectroscopy and Related Phenomena* **80**, 365-368 (1996).

Transient Temperature During the Vaporization of Liquid on a Pulsed Laser-Heated Solid Surface, H. K. Park (University of California, Berkeley, CA 94720) et al., *Journal of Heat Transfer—Transactions of the ASME* **118**, No. 3, 702-708 (1996).

Surface Modification of Hydroxyapatite to Introduce Interfacial Bonding with Polyactive(TM)-70/30 in a Biodegradable Composite, Q. Liu (Leiden University, Leiden, Netherlands) et al., *Journal of Materials Science—Materials in Medicine* **7**, No. 9, 551-557 (1996).

Chemical Dynamics at the Gas-Surface Interface, C. T. Rettner (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Physical Chemistry* **100**, No. 31, 3021-3033 (1996).

Conformational Characteristics of 1,3-Dimethoxypropane and Poly(Oxytrimethylene) Based Upon *Ab-Initio* Electronic-Structure Calculations, G. D. Smith (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Physical Chemistry* **100**, No. 32, 3439-3446 (1996).

Time Evolution of Gaussian-Type Initial Conditions Associated with the Davey-Stewartson Equations, K. Nishinari (Yamagata University, Jyonan 4-3-16, Yonezawa, Yamagata 992, Japan) et al., *Journal of Physics A* **29**, No. 14, 4237-4245 (1996).

Preparation and Properties of Phenylene Oxide-Aryl Ether Sulfone Block-Copolymers and Their Blends, C. J. G. Plummer (École Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland) et al., *Journal of Polymer Science Part B* **34**, No. 13, 2177-2192 (1996).

A Quantitative Study of Parallel Scientific Applications with Explicit Communication, R. Cypher (Johns Hopkins University, 3400 North Charles Street, Baltimore, MD 21218) et al., *Journal of Supercomputing* **10**, No. 1, 5-24 (1996).

Nonempirical Calculations of a Hydrated RNA Duplex, J. Hutter (Max-Planck Institute Festkörperforschung, D-70569 Stuttgart, Germany) et al., *Journal of the American Chemical Society* **118**, No. 36, 8710–8712 (1996).

Fluorine Diffusion from Fluorosilicate Glass, M. J. Shapiro (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of the Electrochemical Society* **143**, No. 7, L156–L158 (1996).

Investigation of Island Formation During Through-Mask Electrochemical Micromachining, R. V. Shenoy (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of the Electrochemical Society* **143**, No. 7, 2305–2309 (1996).

Impact of Reactive Ion Etching Induced Carbon Contamination on Oxidation of Silicon, M. Tsuchiaki (Toshiba American Electrical Components, Hopewell Junction, NY 12533) et al., *Journal of the Electrochemical Society* **143**, No. 7, 2378–2387 (1996).

Horizontally Redundant, Split-Gate A-Si:H Thin-Film Transistors, Y. Kuo (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of the Electrochemical Society* **143**, No. 8, 2680–2682 (1996).

Light-Induced Orientation in a High Glass Transition Temperature Polyimide with Polar AZO Dyes in the Side-Chain, Z. Sekkat (Max-Planck Institute, D-55128 Mainz, Germany) et al., *Journal of the Optical Society of America B* **13**, No. 8, 1713–1724 (1996).

Electrodynamics of High-Temperature Superconductors Investigated with Coherent Terahertz Pulse Spectroscopy, S. D. Brorson (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of the Optical Society of America B* **13**, No. 9, 1979–1993 (1996).

Fluorocarbon High-Density Plasmas VII. Investigation of Selective SiO₂-to-Si₃N₄ High-Density Plasma Etch Processes, Y. Zhang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Vacuum Science & Technology A* **14**, No. 4, 2127–2137 (1996).

Effect of a Surface Layer on the Stress Relaxation of Thin Films, M. D. Thouless (University of Michigan, Ann Arbor, MI 48109) et al., *Journal of Vacuum Science & Technology A* **14**, No. 4, 2454–2461 (1996).

Characterization of Silicon Oxynitride Thin-Films by Infrared Reflection Absorption Spectroscopy, M. Firon (University of Paris 06, 11 Rue Pierre & Marie Curie, F-75231 Paris, France) et al., *Journal of Vacuum Science & Technology A* **14**, No. 4, 2488–2492 (1996).

Effects of Y or Gd Addition on the Structures and Resistivities of Al Thin-Films, S. Takayama (Hosei University, 3-7-2 Kajino Cho, Koganei, Tokyo 184, Japan) and N. Tsutsui, *Journal of Vacuum Science & Technology A* **14**, No. 4, 2499–2504 (1996).

Linear Conformality in Ionized Magnetron Sputter Metal Deposition Processes, S. Hamaguchi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. M. Rosnagel, *Journal of Vacuum Science & Technology B* **14**, No. 4, 2603–2608 (1996).

Effect of Dislocations in Strained Si/SiGe on Electron Mobility, K. Ismail (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science & Technology B* **14**, No. 4, 2776–2779 (1996).

An Inquiry Concerning the Principles of Si 2P Core-Level Photoemission Shift Assignments at the Si/SiO₂ Interface, F. R. McFeely (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Vacuum Science & Technology B* **14**, No. 4, 2824–2831 (1996).

Stressing and High-Field Transport Studies on Device-Grade SiO₂ by Ballistic-Electron-Emission Spectroscopy, R. Ludeke (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Vacuum Science & Technology B* **14**, No. 4, 2855–2863 (1996).

Magnetic Circular Dichroism in Reflection Electron-Energy-Loss Spectroscopy, G. R. Harp (Ohio University, Athens, OH 45701) et al., *Journal of Vacuum Science & Technology B* **14**, No. 4, 3148–3151 (1996).

K

CAD/CAM Process Chain in Mold Construction, J. Lauscher (IBM Germany, Dusseldorf, Germany) and R. Leitheiser, *Kunststoffe—European Plastics* **86**, No. 6, 801–802 (1996).

L

Brewster-Angle Microscopy Study of a Magnetic Nanoparticle/Polymer Complex at the Air/Water Interface, Y. S. Kang (University of California, Davis, CA 95616) et al., *Langmuir* **12**, No. 18, 4345–4349 (1996).

M

Initiating Systems for Nitroxide-Mediated Living Free-Radical Polymerizations: Synthesis and Evaluation, C. J. Hawker (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* **29**, No. 16, 5245–5254 (1996).

Homopolymer Interfaces Reinforced with Random Copolymers, R. Kulasekere (University of Missouri, Columbia, MO 65211) et al., *Macromolecules* **29**, No. 16, 5493–5496 (1996).

Kinetics of Chain Organization in Ultrathin Poly(Di-n-Hexylsilane) Films, M. M. Despotopoulou (Stanford University, Stanford, CA 94305) et al., *Macromolecules* **29**, No. 18, 5797–5804 (1996).

A Kinetic Study of the Mechanism of the Solid-State Reaction Between Pyromellitic Dianhydride (PMDA) and Oxydianiline (ODA), C. D. Mimitrakopoulos (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Macromolecules* **29**, No. 18, 5818–5825 (1996).

Use of the Lognormal-Distribution Function to Describe Orientational Relaxation in Optically Nonlinear Polymers, T. Verbiest (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* **29**, No. 19, 6310-6316 (1996).

Discrete Time Adaptive Control Using a Sliding Mode, T. Semba (IBM Corporation, 1623-14 Shimotsuruma, Kanagawa 242, Japan) and K. Furuta, *Mathematical Problems in Engineering* **2**, No. 2, 131-142 (1996).

Up and the Low and High Hierarchies: A Relativized Separation, M. J. Sheu (IBM Corporation, Research Triangle Park, NC 27709) and T. J. Long, *Mathematical Systems Theory* **29**, No. 5, 423-449 (1996).

A Review of Hot-Carrier Degradation Mechanisms in MOSFETs, A. Acovic (IBM Corporation, Route 52, Hopewell Junction, NY 12533), *Microelectronics and Reliability* **36**, No. 7-8, 845-869 (1996).

Modeling Considerations and Development of Upper Limits of Stress Conditions for Dielectric Breakdown Projections, R. P. Vollertsen (IBM Corporation, 1000 River Street, Essex Junction, VT 05452) and W. W. Abadeer, *Microelectronics and Reliability* **36**, No. 7-8, 1019-1031 (1996).

Choosing from Redundant Designs of Power Systems Using System Outage Rate and Cost, C. R. Vallarino (38466 Canyon Heights Drive, Fremont, CA 94536) and K. J. Elsey, *Microelectronics and Reliability* **36**, No. 9, 1269-1274 (1996).

The Effect of Strain on the Formation of Dislocations at the SiGe/Si Interface, F. K. Legoues (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *MRS Bulletin* **21**, No. 4, 38-44 (1996).

Applications of Electron-Microscopy in Collaborative Industrial Research, F. M. Ross (University of California, Berkeley, CA 94720) et al., *MRS Bulletin* **21**, No. 5, 17-23 (1996).

O

A Reliable and Flexible Type System for Object Oriented Programming, M. Dodani (IBM Corporation, 4828 Oak Way, Raleigh, NC 27613) and C. S. Tsai, *Object Oriented Systems* **3**, No. 2, 87-121 (1996).

Photon Gated Spectral Hole Burning in $\text{Pr}_3\text{:YAg}$, R. M. Macfarlane (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and G. Wittmann, *Optics Letters* **21**, No. 16, 1289-1291 (1996).

Molecular Engineering of Polymer Films for Amplitude and Phase Measurements of Ti-Sapphire Femtosecond Pulses, D. R. Yankelevich (University of California, Davis, CA 95616) et al., *Optics Letters* **21**, No. 18, 1487-1489 (1996).

P

Design of Effective Buffer Control Policies for ATM Networks, S. Seshadri (New York University, 550 First Avenue, New York, NY 10012) and V. Srinivasan, *Performance Evaluation* **26**, No. 2, 95-114 (1996).

Evidence for Al Doping in the CuO Planes of $\text{YBa}_2\text{Cu}_3\text{O}_8$ Single Crystals, H. Schwer (ETH H  nggerberg, CH-8093 Zurich, Switzerland) et al., *Physica C* **267**, No. 1-2, 113-118 (1996).

Optical Observation of Impurity Localized States at the Edges of Landau Subbands in Doped Quantum-Wells, D. Gekhtman (Technion Israel Institute of Technology, IL-32000 Haifa, Israel) et al., *Physical Review B* **54**, No. 4, 2756-2762 (1996).

Determination of the Electronic Density of States Near Buried Interfaces: Application to Co/Cu Multilayers, A. Nilsson (University of Uppsala, Box 530, S-75121 Uppsala, Sweden) et al., *Physical Review B* **54**, No. 4, 2917-2921 (1996).

Observation of Internal Interfaces in PtCO_{1-x} ($x \sim 0.7$) Alloy-Films: A Likely Cause of Perpendicular Magnetic Anisotropy, T. A. Tyson (Los Alamos National Laboratory, Los Alamos, NM 87545) et al., *Physical Review B* **54**, No. 6, 3702-3705 (1996).

Perovskite Oxide Superlattices: Magnetotransport and Magnetic Properties, G. Q. Gong (Brown University, Providence, RI 02912) et al., *Physical Review B* **54**, No. 6, 3742-3745 (1996).

Structural Relaxation and Magnetic Anisotropy in Co/Cu(001) Films, W. Weber (IBM Corporation, S  umerstrasse 4, 8803 R  schlikon, Switzerland) et al., *Physical Review B* **54**, No. 6, 4075-4079 (1996).

Local Transport Properties of Thin Bismuth-Films Studied by Scanning Tunneling Potentiometry, B. G. Briner (Max-Planck Gesell, Fritz Haber Institute, D-14195 Berlin, Germany) et al., *Physical Review B* **54**, No. 8, 5283-5286 (1996).

Ballistic Random Walker, P. Molinasmata (University of Paris 11, Batiment 213, F-91405 Orsay, France) et al., *Physical Review E* **54**, No. 1, 968-971 (1996).

Freedom and Constraints of a Metal Atom Encapsulated in Fullerene Cages, W. Andreoni (IBM Corporation, S  umerstrasse 4, 8803 R  schlikon, Switzerland) and A. Curioni, *Physical Review Letters* **77**, No. 5, 834-837 (1996).

Dynamics of Brittle-Fracture with Variable Elasticity, F. F. Abraham (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Physical Review Letters* **77**, No. 5, 869-872 (1996).

Flux-Quantization in Magnetic Nanowires Imaged by Electron Holography, M. R. Scheinfein (Arizona State University, Tempe, AZ 85287) et al., *Physical Review Letters* **77**, No. 5, 976 (1996).

Asymmetry of Velocity Increments in Fully Developed Turbulence and the Scaling of Low-Order Moments, K. R. Sreenivasan (Institute of Advanced Study, Princeton, NJ 08540) et al., *Physical Review Letters* **77**, No. 8, 1488-1491 (1996).

New Evidence for Localized Electronic States on Atomically Sharp Field Emitters, M. L. Yu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **77**, No. 8, 1636–1639 (1996).

Local Excitation, Scattering, and Interference of Surface Plasmons, B. Hecht (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Physical Review Letters* **77**, No. 9, 1889–1892 (1996).

Stress-Driven Alloy Decomposition During Step-Flow Growth, J. Tersoff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review Letters* **77**, No. 10, 2017–2020 (1996).

Real-Time Microscopy of Two-Dimensional Critical Fluctuations: Disorder of the Si(113)-(3×1) Reconstruction, R. M. Tromp (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **77**, No. 12, 2522–2525 (1996).

On Boundary-Conditions in Lattice Boltzmann Methods, S. Y. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physics of Fluids* **8**, No. 9, 2527–2536 (1996).

The Battle with Hot Electrons, R. W. Keyes (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physics World* **9**, No. 7, 26 (1996).

Q

Structure and Distribution of Modules in Extracellular Proteins, P. Bork (Max Delbrück Ctr. Mol. Med., D-13125 Berlin, Germany) et al., *Quarterly Reviews of Biophysics* **29**, No. 2, 119–167 (1996).

R

Using Content Based Search to Download Digital Video into a Client Station, M. S. Chen (National Taiwan University, Taipei, Taiwan) et al., *Real-Time Imaging* **2**, No. 1, 35–44 (1996).

High Performance Superconducting Quantum Interference Device Feedback Electronics, R. H. Koch (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Review of Scientific Instruments* **67**, No. 8, 2968–2976 (1996).

S

Structure in Thin and Ultrathin Spin-Cast Polymer Films, C. W. Frank (Stanford University, Stanford, CA 94305) et al., *Science* **273**, No. 5277, 912–915 (1996).

Local Control of Microdomain Orientation in Diblock Copolymer Thin-Films with Electric Fields, T. L. Morkved (University of Chicago, 5640 South Ellis Avenue, Chicago, IL 60637) et al., *Science* **273**, No. 5277, 931–933 (1996).

A Three-Color, Solid-State, Three-Dimensional Display, E. Downing (Stanford University, Stanford, CA 94305) et al., *Science* **273**, No. 5279, 1185–1189 (1996).

Convergence Properties of an Augmented Lagrangian Algorithm for Optimization with a Combination of General Equality and Linear Constraints, A. R. Conn (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *SIAM Journal of Optimization* **6**, No. 3, 674–703 (1996).

Network Design Using Cut Inequalities, F. Barahona (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *SIAM Journal of Optimization* **6**, No. 3, 823–837 (1996).

Analysis and Differentiation of Software System Environments, T. M. Khoshgoftaar (Florida Atlantic University, Boca Raton, FL 33431) and D. L. Lanning, *Software Quality Journal* **5**, No. 2, 127–139 (1996).

The Thermodynamics of a Charged Fermion Layer at High R(S) Values, S. Shapira (Technion Israel Institute of Technology, IL-32000 Haifa, Israel) et al., *Surface Science* **362**, No. 1–3, 113–116 (1996).

Low Temperature Magnetotransport of 2D Electron and Hole Systems in High Mobility Si-Si_{1-x}Ge Heterostructures, R. B. Dunford (University of New South Wales, Sydney, NSW 2052, Australia) et al., *Surface Science* **362**, No. 1–3, 550–555 (1996).

Quantum Interference in 2D Atomic-Scale Structures, M. F. Crommie (Boston University, Boston, MA 02215) et al., *Surface Science* **362**, No. 1–3, 864–869 (1996).

Anomalous Branching Ratio in the Femtosecond Surface-Chemistry of O₂/Pd(111), J. A. Misewich (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Surface Science* **363**, No. 1–3, 204–213 (1996).

Breaking Individual Chemical Bonds Via STM-Induced Excitations, P. Avouris (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Surface Science* **363**, No. 1–3, 368–377 (1996).

The Electronic Structure of Ag(110)C(4×4)C-60 and Au(110)(6×5)C-60, D. Purdie (University of Neuchatel, CH-2000 Neuchatel, Switzerland) et al., *Surface Science* **364**, No. 3, 279–286 (1996).

The Molecular Adsorption of Ethane on Sulfur-Covered and Ethylidyne-Covered Surfaces of Pt(111), J. A. Stinnett (Stanford University, Stanford, CA 94305) et al., *Surface Science* **364**, No. 3, 325–334 (1996).

T

Inference About Defects in the Presence of Masking, B. J. Flehinger (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Technometrics* **38**, No. 3, 247–255 (1996).

Bandwidth Efficiency of the Networking Broad-Band Services Architecture: A Case Study, M. Peyravian (IBM Corporation, Research Triangle Park, NC 27709) and L. Gun, *Telecommunications Systems* **5**, No. 4, 273–301 (1996).

The Complexity of PDL with Interleaving, A. J. Meyer (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and L. J. Stockmeyer, *Theoretical Computer Science* **161**, No. 1-2, 109-122 (1996).

Generalized Knapsack Problems and Fixed Degree Separations, F. Cucker (University of Pompeu Fabra, Balma 132, Barcelona 08008, Spain) and M. Shub, *Theoretical Computer Science* **161**, No. 1-2, 301-306 (1996).

Activation Energy for Ni_2Si and NiSi Formation Measured Over a Wide Range of Ramp Rates, E. G. Colgan (IBM Corporation, Route 52, Hopewell Junction, NY 12533), *Thin Solid Films* **279**, No. 1-2, 193-198 (1996).

Precisions on Reaction Monitoring from *In-Situ* Resistance Measurements: Relations Between Such Measurements and Actual Reaction-Kinetics, S. L. Zhang (KTH, S-16440 Kista, Sweden) and F. M. d'Heurle, *Thin Solid Films* **279**, No. 1-2, 248-252 (1996).

Epitaxially Grown Molybdenum Thin-Films Deposited by Laser-Ablation on (100)MgO Substrates, M. Guillouxviry (University Rennes 1, URA CNRS 1495, F-34042 Rennes, France) et al., *Thin Solid Films* **280**, No. 1-2, 76-82 (1996).

Speed Dependence, Takeoff and Stiction of a New Class of Gas Bearing Sliders, F. Hendriks (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Tribology Transactions* **39**, No. 3, 603-608 (1996).

W

Using Uncensored Trace-Level Measurements to Detect Trends in Ground Water Contamination, M. E. Dakins (University of Idaho, 1776 Science Center Drive, Idaho Falls, ID 83405) et al., *Water Resources Bulletin* **32**, No. 4, 799-805 (1996).

A Simulation Model for Meandering Rivers, T. Sun (University of Oslo, P.O. Box 1048, N-0316 Oslo, Norway) et al., *Water Resources Research* **32**, No. 9, 2937-2954 (1996).

Z

How to Write Symbolic/Numeric Programs in a (Number) Without Interprocess Communication, S. S. Dooley (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Zeitschrift für Angewandte Mathematik und Mechanik* **76**, No. S1, 45-48 (1996).

High-Performance Computing and Numerical-Simulation of Flames, C. C. Douglas (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Zeitschrift für Angewandte Mathematik und Mechanik* **76**, No. S1, 49-52 (1996).

A Sparse-Matrix Approach to Abstract Multilevel Solvers on Serial and Parallel Computers, C. C. Douglas (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Zeitschrift für Angewandte Mathematik und Mechanik* **76**, No. S1, 139-142 (1996).