

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

Level-3 Basic Linear Algebra Subprograms for Sparse Matrices: A User-Level Interface, I. S. Duff (Rutherford Appleton Laboratory, Atlas Center, Didcot OX11 0QX, Oxon, England) et al., *ACM Transactions on Mathematical Software* **23**, No. 3, 379–401 (1997).

Parallelizing Nonnumerical Code with Selective Scheduling and Software Pipelining, S. M. Moon (Seoul National University, Seoul 151742, South Korea) and K. Ebcioglu, *ACM Transactions on Programming Languages and Systems* **19**, No. 6, 853–898 (1997).

Theory of Anisotropic Growth Rates in the Ordering of an FCC Alloy, R. J. Braun (National Institute of Standards and Technology, Gaithersburg, MD 20899) et al., *Acta Materialia* **46**, No. 1, 1–12 (1997).

A Central Limit Theorem for Random Coefficient Autoregressive Models and Arch/Garch Models, A. Rudolph (IBM Corporation, Vangerowstrasse 18, D-69115 Heidelberg, Germany), *Advances in Applied Probability* **30**, No. 1, 113–121 (1998).

Vortex Dynamics of Blade-Blade Interaction, Z. X. Yao (IBM Corporation, 11400 Burnet Road, Austin, TX 78758) and D. D. Liu, *AIAA Journal* **36**, No. 4, 497–504 (1998).

A New Approach for the Geodesic Voronoi Diagram of Points in a Simple Polygon and Other Restricted Polygonal Domains, E. Papadopoulou (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. T. Lee, *Algorithmica* **20**, No. 4, 319–352 (1998).

Resource Letter ICQM-1: The Interplay Between Classical and Quantum Mechanics, M. C. Gutzwiller (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *American Journal of Physics* **66**, No. 4, 304–324 (1998).

Lattice Boltzmann Method for Fluid Flows, S. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and G. D. Doolen, *Annual Review of Fluid Mechanics* **30**, 329–364 (1998).

Experimental Study of the Effects of a Six-Level Phase Mask on a Digital Holographic Storage System, M. P. Bernal (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Optics* **37**, No. 11, 2094–2101 (1998).

Stochastic Simulation of Heat Flow with Application to Laser-Solid Interactions, F. A. Houle (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and W. D. Hinsberg, *Applied Physics A* **66**, No. 2, 143–151 (1998).

Ab-Initio Approach to the Structure and Dynamics of Metallofullerenes, W. Andreoni (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and A. Curioni, *Applied Physics A* **66**, No. 3, 299–306 (1998).

Nanometer Thin-Film Ni-NiO-Ni Diodes for Mixing 28 THz CO₂ Laser Emissions with Difference Frequencies Up to 176 GHz, C. Fumeaux (ETH Zurich, CH-8093 Zurich, Switzerland) et al., *Applied Physics B* **66**, No. 3, 327–332 (1998).

Low-Temperature Formation of C54-TiSi₂ Using Titanium Alloys, C. Cabral (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **71**, No. 24, 3531–3533 (1997).

The Role of Second Neighbor Effects in Photoemission: Are Silicon Surfaces and Interfaces Special? K. Z. Zhang (University of Michigan, Ann Arbor, MI 48109) et al., *Applied Physics Letters* **72**, No. 1, 46–48 (1998).

Linewidth and Underlayer Influence on Texture in Submicrometer-Wide Al and AlCu Lines, J. L. Hurd (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Applied Physics Letters* **72**, No. 3, 326–328 (1998).

Structure and Magnetic Properties of Exchange-Spring Sm-Co/Co Superlattices, E. E. Fullerton (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **72**, No. 3, 380–382 (1998).

Sequential Position Readout from Arrays of Micromechanical Cantilever Sensors, H. P. Lang (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Applied Physics Letters* **72**, No. 3, 383–385 (1998).

Ultraviolet and Violet GaN Light Emitting Diodes on Silicon, S. Guha (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and N. A. Bojarczuk, *Applied Physics Letters* **72**, No. 4, 415–417 (1998).

Dielectric Relaxation of Ba_{0.7}Sr_{0.3}TiO₃ Thin Films from 1 MHz to 20 GHz, J. D. Baniecki (Columbia University, New York, NY 10027) et al., *Applied Physics Letters* **72**, No. 4, 498–500 (1998).

Perpendicular Coupling at Fe-FeF₂ Interfaces, T. J. Moran (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *Applied Physics Letters* **72**, No. 5, 617–619 (1998).

High-Order Azimuthal Spatial Modes of Concentric-Circle-Grating Surface-Emitting Semiconductor Lasers, C. Olson (University of Rochester, Rochester, NY 14627) et al., *Applied Physics Letters* **72**, No. 11, 1284–1286 (1998).

Electromigration-Induced Stress in Aluminum Conductor Lines Measured by X-ray Microdiffraction, P. C. Wang (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Applied Physics Letters* **72**, No. 11, 1296–1298 (1998).

Independent Detection of Vertical and Lateral Forces with a Sidewall-Implanted Dual-Axis Piezoresistive Cantilever, B. W. Chui (Stanford University, Stanford, CA 94305) et al., *Applied Physics Letters* **72**, No. 11, 1388–1390 (1998).

Atom Resolved Electronic Spectra for ALQ(3) from Theory and Experiment, A. Curioni (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Applied Physics Letters* **72**, No. 13, 1575–1577 (1998).

High Current Density ITOX/NIOX Thin-Film Diodes, W. Y. Lee (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **72**, No. 13, 1584–1586 (1998).

Local Determination of the Stacking Sequence of Layered Materials, J. Fompeyrine (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Applied Physics Letters* **72**, No. 14, 1697–1699 (1998).

Exploration of a Helium Inductively-Coupled Plasma Mattauch-Herzog Mass Spectrometer for Simultaneous Multielement Analysis, S. H. Nam (George Washington University, Washington, DC 20052) et al., *Applied Spectroscopy* **52**, No. 1, 161–167 (1998).

Atomic Scale Studies of Electron Transport Through MOS Structures, H. J. Wen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Surface Science* **123**, 418–428 (1998).

High-Concentration Bi δ -Doping Layers on Si(001), J. Falta (DESY, Notkestrasse 85, D-22607 Hamburg, Germany) et al., *Applied Surface Science* **123**, 538–541 (1998).

Observations of the Ocular Galaxy NGC-2535 and Its Starburst Companion NGC-2536, M. Kaufman (Ohio State University, 174 West 18th Avenue, Columbus, OH 43210) et al., *Astronomical Journal* **114**, No. 6, 2323+ (1997).

The H-I Distribution and Dynamics in Two Late-Type Barred Spiral Galaxies: NGC-925 and NGC-1744, D. J. Pisano (University of Wisconsin, 475 North Charter Street, Madison, WI 53706) et al., *Astronomical Journal* **115**, No. 3, 975–999 (1998).

The Relationship Between Gas, Stars, and Star Formation in Irregular Galaxies: A Test of Simple Models, D. A. Hunter (Lowell Observatory, 1400 West Mars Hill Road, Flagstaff, AZ 86001) et al., *Astrophysical Journal* **493**, No. 2, 595–612 (1998).

H-I Observations of the Spiral Arm Pattern Speed in the Late-Type Barred Galaxy NGC-925, B. G. Elmegreen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Astrophysical Journal* **494**, No. 1, L37–L39 (1998).

Visualization of Cold Plus Hot-and-Cold Dark-Matter Cosmologies Versus CFA1 Data, D. Brodbeck (UBS, Bahnhofstrasse 45, CH-8021 Zurich, Switzerland) et al., *Astrophysical Journal* **495**, No. 1, 1–8 (1998).

B

Survival with Competing Risks and Masked Causes of Failures, B. J. Flehinger (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Biometrika* **85**, No. 1, 151–164 (1998).

Symbolic Dynamics and Markov Partitions, R. L. Adler (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Bulletin of the American Mathematical Society* **35**, No. 1, 1–56 (1998).

Making Components Portable with JavaBeans, D. S. Renshaw (IBM United Kingdom Ltd., Hursley Park, Winchester, Hants, England), *Byte* **23**, No. 2, 81+ (1998).

Better Performance with Exceptions in Java, D. Orchard (IBM Corporation, Vancouver, British Columbia, Canada), *Byte* **23**, No. 3, 53–54 (1998).

C

A Visualization Technique for Surface Flows, G. W. Gale (Clarkson University, Potsdam, NY 13699) et al., *Chemical Engineering Communications* **165**, 167–176 (1998).

Photogenerated Base in Resist and Imaging Materials: Design of Functional Polymers Susceptible to Base-Catalyzed Decarboxylation, J. M. J. Frechet (University of California, Berkeley, CA 94720) et al., *Chemistry of Materials* **9**, No. 12, 2887-2893 (1997).

Preparation and Properties of $(C_4H_9NH_3)_2EuI_4$: A Luminescent Organic-Inorganic Perovskite with a Divalent Rare Earth Metal Halide Framework, D. B. Mitzi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and K. N. Liang, *Chemistry of Materials* **9**, No. 12, 2990-2995 (1997).

Polyimide Nanofoams from Aliphatic Polyester-Based Copolymers, J. L. Hedrick (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Chemistry of Materials* **10**, No. 1, 39-49 (1998).

Synthesis and Characterization of Organic-Inorganic Perovskite Thin Films Prepared Using a Versatile Two-Step Dipping Technique, K. N. Liang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Chemistry of Materials* **10**, No. 1, 403-411 (1998).

Nonlinear Digital Filters Mimicking Cellular Neural Networks, J. A. Bush (Stevens Institute of Technology, Hoboken, NJ 07030) et al., *Circuits Systems and Signal Processing* **17**, No. 1, 69-83 (1998).

Hydrophobic Radio Frequency Plasma-Deposited Polymer Films: Dielectric Properties and Surface Forces, C. J. Drummond (CSIRO, Private Bag 10, Rosebank MDC, Clayton, Victoria 3169, Australia) et al., *Colloids and Surfaces A* **130**, 117-129 (1997).

Digital Access to Antiquities, H. M. Gladney (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Communications of the ACM* **41**, No. 4, 49-57 (1998).

Large-Scale Simulations of Brittle and Ductile Failure in FCC Crystals, F. F. Abraham (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. Q. Broughton, *Computational Materials Science* **10**, No. 1-4, 1-9 (1998).

First Principles Investigations of a "Quasi-One-Dimensional" Charge-Transfer Molecular Crystal TTF-2, 5Cl(2)BQ, C. Katan (University of Rennes 1, CNRS, UMR 6626, F-35042 Rennes, France) et al., *Computational Materials Science* **10**, No. 1-4, 325-329 (1998).

Holographic Data Storage, D. Psaltis (California Institute of Technology, Pasadena, CA 91125) and G. W. Burr, *Computer* **31**, No. 2, 52+ (1998).

Design Patterns and Language Design, J. Y. Gil (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. H. Lorenz, *Computer* **31**, No. 3, 118-120 (1998).

Automatic Triangular Mesh Generation of Trimmed Parametric Surfaces for Finite Element Analysis, K. Shimada (IBM Japan, Ltd., 1623-14 Shimotsuruma, Kanagawa 242, Japan) and D. C. Gossard, *Computer Aided Geometric Design* **15**, No. 3, 199-222 (1998).

The Implementation of a Dynamic Management Scheme for Guaranteed Performance Connections, C. Parris (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. Ferrari, *Computer Communications* **21**, No. 1, 1-23 (1998).

A Switch-Router Taxonomy, B. Sultan (IBM Corporation, 30 Saw Mill River Road, Hawthorne, NY 10532), *Computer Communications* **21**, No. 2, 101-110 (1998).

Surface Reconstruction Using Alpha Shapes, B. I. Guo (University of Toronto, Toronto, Ontario M5S 1A4, Canada) et al., *Computer Graphics Forum* **16**, No. 4, 177-190 (1997).

Linear and Extended Linear Transformations for Shared-Memory Multiprocessors, D. Kulkarni (IBM Corporation, Toronto, Ontario M3C 1H7, Canada) and M. Stumm, *Computer Journal* **40**, No. 6, 373-387 (1997).

Optimized Thread Creation for Processor Multithreading, B. Sinharoy (IBM Corporation, Poughkeepsie, NY 12601), *Computer Journal* **40**, No. 6, 388-400 (1997).

Using the Internet for Business: Web Oriented Routes to Market and Existing IT Infrastructures, E. J. W. West (IBM United Kingdom Ltd., Hursley Park, Winchester SO21 2JN, Hants, England), *Computer Networks and ISDN Systems* **29**, No. 15, 1769-1776 (1997).

D

A Fast Track for High-Speed Token Ring, R. D. Love (IBM Corporation, Research Triangle Park, NC 27709), *Data Communications* **27**, No. 2, 95+ (1998).

Data Cube: A Relational Aggregation Operator Generalizing Group-By, Cross-Tab, and Subtotals, J. Gray (Microsoft Corporation, 1 Microsoft Way, Redmond, WA 98052) et al., *Data Mining and Knowledge Discovery* **1**, No. 1, 29-53 (1997).

Advanced Scout: Data Mining and Knowledge Discovery in NBA Data, I. Bhandari (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Data Mining and Knowledge Discovery* **1**, No. 1, 121-125 (1997).

How to Cut Pseudoparabolas into Segments, H. Tamaki (IBM Japan, Ltd., 1623-14 Shimotsuruma, Kanagawa 242, Japan) and T. Tokuyama, *Discrete & Computational Geometry* **19**, No. 2, 265-290 (1998).

The Metropolis Algorithm for Graph Bisection, M. Jerrum (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and G. B. Sorkin, *Discrete Applied Mathematics* **82**, No. 1-3, 155-175 (1998).

Capabilities-Based Query Rewriting in Mediator Systems, Y. Papakonstantinou (University of California, La Jolla, CA 92093) et al., *Distributed and Parallel Databases* **6**, No. 1, 73-110 (1998).

The Next Generation System Power Management, Part II. N. W. Songer (Intel Corporation, 2200 Mission College Boulevard, Santa Clara, CA 95054), *Electronic Design* **46**, No. 6, 57+ (1998).

Importance of Including Power Supply Noise in Digital Circuit Simulations. K. A. Jenkins (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and P. F. Lu, *Electronics Letters* **33**, No. 20, 1692-1693 (1997).

Photoluminescence from SiGe/Si Quantum Dots with Wavelength in the Visible Range. F. Y. Huang (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Electronics Letters* **33**, No. 20, 1736-1737 (1997).

GaN Based Light-Emitting Diodes Grown on Si(111) by Molecular Beam Epitaxy. S. Guha (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and N. A. Bojarczuk, *Electronics Letters* **33**, No. 23, 1986-1987 (1997).

Large UV-Induced Negative Index Changes in Germanium-Free Nitrogen-Doped Planar SiO₂ Wave Guides. D. Wiesmann (ETH Zurich, Gloriastrasse 35, CH-8092 Zurich, Switzerland) et al., *Electronics Letters* **34**, No. 4, 364-366 (1998).

Seed Specification for Displaying a Streamline in an Irregular Volume. K. Koyamada (IBM Japan, Ltd., 1623-14 Shimotsuruma, Kanagawa 242, Japan) and T. Ito, *Engineering with Computers* **14**, No. 1, 73-80 (1998).

A Model for Warehouse Order Picking. R. L. Daniels (Georgia Institute of Technology, Atlanta, GA 30332) et al., *European Journal of Operational Research* **105**, No. 1, 1-17 (1998).

Centralized Ordering and Allocation Policies in a Two-Echelon System with Nonidentical Warehouses. S. Bollapragada (General Electric Corporation, 1 Research Circle, Schenectady, NY 12309) et al., *European Journal of Operational Research* **106**, No. 1, 74-81 (1998).

Simplifying a Special Class of Mathematical Programs Arising in Design Problems. S. Takriti (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and C. H. Rosa, *European Journal of Operational Research* **106**, No. 1, 165-171 (1998).

Particle Tracking Velocimetry Beneath Water Waves Part I: Visualization and Tracking Algorithms. F. Hering (University of Heidelberg, Neuenheimer Feld 368, D-69120 Heidelberg, Germany) et al., *Experiments in Fluids* **23**, No. 6, 472-482 (1997).

Particle Tracking Velocimetry Beneath Water Waves Part II: Water Waves. F. Hering (University of Heidelberg, Neuenheimer Feld 368, D-69120 Heidelberg, Germany) et al., *Experiments in Fluids* **24**, No. 1, 10-16 (1998).

Internet Messaging Frameworks. J. von Känel (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *IBM Systems Journal* **37**, No. 1, 4-18 (1998).

NetVista: Growing an Internet Solution for Schools. W. A. Kellogg (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *IBM Systems Journal* **37**, No. 1, 19-41 (1998).

A Security Architecture for the Internet Protocol. P. C. Cheng (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *IBM Systems Journal* **37**, No. 1, 42-60 (1998).

SurfN'Sign: Client Signatures on Web Documents. A. Herzberg (IBM Corporation, 2 Weizmann Street, IL-61336 Tel Aviv, Israel) and D. Naor, *IBM Systems Journal* **37**, No. 1, 61-71 (1998).

Designing a Generic Payment Service. J. L. Abad Peiro (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *IBM Systems Journal* **37**, No. 1, 72-88 (1998).

SpeedTracer: A Web Usage Mining and Analysis Tool. K.-L. Wu (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *IBM Systems Journal* **37**, No. 1, 89-105 (1998).

Catapults and Grappling Hooks: The Tools and Techniques of Information Warfare. A. Boulanger (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598), *IBM Systems Journal* **37**, No. 1, 106-114 (1998).

Accessing Existing Business Data from the World Wide Web. C.-S. Peng (University of California, Irvine, CA 92697) et al., *IBM Systems Journal* **37**, No. 1, 115-132 (1998).

IBM eNetwork Host On-Demand: The Beginning of a New Era for Accessing Host Information in a Web Environment. Y. S. Tan (IBM Corporation, 3039 Cornwallis Road, P.O. Box 12195, Research Triangle Park, NC 27709) et al., *IBM Systems Journal* **37**, No. 1, 133-151 (1998).

Distributed Channel Allocation for PCN with Variable Rate Traffic. P. P. Bhattacharya (IBM Corporation, 30 Saw Mill River Road, Hawthorne, NY 10532) et al., *IEEE ACM Transactions* **5**, No. 6, 907-923 (1997).

Distributed Network Control for Optical Networks. R. Ramaswami (Tellabs, Hawthorne, NY 10532) and A. Segall, *IEEE ACM Transactions* **5**, No. 6, 936-943 (1997).

Combinatorial Design of Congestion-Free Networks. B. Yener (New Jersey Institute of Technology, Newark, NJ 07102) et al., *IEEE ACM Transactions* **5**, No. 6, 989-1000 (1997).

A History of the IBM Systems Journal. G. C. Stierhoff (P.O. Box 660, Cross Junction, VA 22625) and A. G. Davis, *IEEE Annals of the History of Computing* **20**, No. 1, 29-35 (1998).

Delegated Agents for Network Management, G. Goldszmidt (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) and Y. Yemini, *IEEE Communications Magazine* **36**, No. 3, 66-70 (1998).

Survivable Mobile Phone Network Architectures: Models and Solution Methods, D. Alevis (IBM Corporation, Armonk, NY 10504) et al., *IEEE Communications Magazine* **36**, No. 3, 88-93 (1998).

Geometric Hashing: An Overview, H. J. Wolfson (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) and I. Rigoutsos, *IEEE Computational Science and Engineering* **4**, No. 4, 10-21 (1997).

Medical Image Registration Using Geometric Hashing, A. P. Guezic (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *IEEE Computational Science and Engineering* **4**, No. 4, 29-41 (1997).

Fingerprint Matching Using Transformation Parameter Clustering, R. S. Germain (IBM Corporation, 30 Saw Mill River Road, Hawthorne, NY 10532) et al., *IEEE Computational Science and Engineering* **4**, No. 4, 42-49 (1997).

Improving Model Development with Configuration Management, S. S. Fine (North Carolina Supercomputing Center, P.O. Box 12889, Research Triangle Park, NC 27709) et al., *IEEE Computational Science and Engineering Magazine* **5**, No. 1, 56-65 (1998).

SiGe Power HBTs for Low-Voltage, High-Performance RF Applications, J. N. Burghartz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Electron Device Letters* **19**, No. 4, 103-105 (1998).

Optoelectronic Device Simulation of Bragg Reflectors and Their Influence on Surface-Emitting Laser Characteristics, D. W. Winston (IBM Corporation, Route 52, Hopewell Junction, NY 12533) and R. E. Hayes, *IEEE Journal of Quantum Electronics* **34**, No. 4, 707-715 (1998).

Cosmic Ray Soft Error Rates of 16-Mb DRAM Memory Chips, J. F. Ziegler (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Journal of Solid-State Circuits* **33**, No. 2, 246-252 (1998).

Backside Optical Emission Diagnostics for Excess I-DDQ, J. A. Kash (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Journal of Solid-State Circuits* **33**, No. 3, 508-511 (1998).

Measurement and Modeling of On-Chip Transmission-Line Effects in a 400-MHz Microprocessor, P. J. Restle (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Journal of Solid-State Circuits* **33**, No. 4, 662-665 (1998).

Design and Implementation of an RSVP-Based Quality-of-Service Architecture for an Integrated Services Internet, T. P. Barzilai (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *IEEE Journal on Selected Areas in Communications* **16**, No. 3, 397-413 (1998).

Trends in Semiconductor Memories, Y. Katayama (IBM Japan, Ltd., 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan), *IEEE Micro* **17**, No. 6, 10-17 (1997).

DataWeb: Customizable Database Publishing for the Web, R. J. Miller (Ohio State University, 2015 Neil Avenue, Columbus, OH 43210) et al., *IEEE Multimedia* **4**, No. 4, 14-21 (1997).

Authoring and Navigating Video in Space and Time, N. Sawhney (Massachusetts Institute of Technology, Cambridge, MA 02139) et al., *IEEE Multimedia* **4**, No. 4, 30-39 (1997).

Internet Protocols for Multimedia Communications, T. Braun (IBM Corporation, Vangerowstrasse 18, D-69115 Heidelberg, Germany), *IEEE Multimedia* **4**, No. 4, 74-82 (1997).

Robustness Analysis and Synthesis for Nonlinear Uncertain Systems, W. M. Lu (IBM Corporation, San Jose, CA 95193) and J. C. Doyle, *IEEE Transactions on Automatic Control* **42**, No. 12, 1654-1662 (1997).

Optimal Scheduling with Deadline Constraints in Tree Networks, P. P. Bhattacharya (IBM Corporation, 30 Saw Mill River Road, Hawthorne, NY 10532) et al., *IEEE Transactions on Automatic Control* **42**, No. 12, 1703-1705 (1997).

Implementation of Efficient Algorithms for Globally Optimal Trajectories, L. C. Polymenakos (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Automatic Control* **43**, No. 2, 278-283 (1998).

Motion Optimization of Ordered Blocks for Overlapped Block Motion Compensation, R. Rajagopalan (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Circuits and Systems for Video Technology* **8**, No. 2, 119-123 (1998).

Semitherm XIII: Foreword, S. Lee (Amkor Electronics, Inc., Chandler, AZ 85248) et al., *IEEE Transactions on Components Packaging and Manufacturing Technology Part A* **20**, No. 4, 382-383 (1997).

A High-Performance MCM-D/C Application, E. D. Perfecto (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *IEEE Transactions on Components Packaging and Manufacturing Technology Part B* **21**, No. 1, 20-27 (1998).

Item: A Temperature-Dependent Electromigration Reliability Diagnosis Tool, C. C. Teng (Avant Corporation, Fremont, CA 94538) et al., *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **16**, No. 8, 892-893 (1997).

Performance Optimization of Checkpointing Schemes with Task Duplication, A. Ziv (IBM Israel, Science & Technology, IL-31905 Haifa, Israel) and J. Bruck, *IEEE Transactions on Computers* **46**, No. 12, 1381-1386 (1997).

A Coding Approach for Detection of Tampering in Write-Once Optical Disks, M. Blaum (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Computers* **47**, No. 1, 120-125 (1998).

Physical Modeling of Temperature Dependences of SOI CMOS Devices and Circuits Including Self-Heating, G. O. Workman (University of Florida, Gainesville, FL 32611) et al., *IEEE Transactions on Electron Devices* **45**, No. 1, 125–133 (1998).

CMOS Active Pixel Image Sensors Fabricated Using a 1.8-V, 0.25- μ m CMOS Technology, H. S. P. Wong (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Electron Devices* **45**, No. 4, 889–894 (1998).

Memory Universal Prediction of Stationary Random Processes, D. S. Modha (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and E. Masry, *IEEE Transactions on Information Theory* **44**, No. 1, 117–133 (1998).

Interleaving Schemes for Multidimensional Cluster Errors, M. Blaum (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Information Theory* **44**, No. 2, 730–743 (1998).

A Multiagent Update Process in a Database with Temporal Data Dependencies and Schema Versioning, A. Gal (Rutgers State University, 94 Rockefeller Road, Piscataway, NJ 08854) and O. Etzion, *IEEE Transactions on Knowledge and Data Engineering* **10**, No. 1, 21–37 (1998).

The Design and Implementation of Seeded Trees: An Efficient Method for Spatial Joins, M. L. Lo (IBM Corporation, 30 Saw Mill River Road, Hawthorne, NY 10532) and C. V. Ravishanker, *IEEE Transactions on Knowledge and Data Engineering* **10**, No. 1, 136–152 (1998).

Distributed Optimistic Concurrency Control Methods for High-Performance Transaction Processing, A. Thomasian (IBM Corporation, 30 Saw Mill River Road, Hawthorne, NY 10532), *IEEE Transactions on Knowledge and Data Engineering* **10**, No. 1, 173–189 (1998).

Nonlinear Behavior of Magnetoresistive Heads, T. C. Arnoldussen (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) and J. G. Zhu, *IEEE Transactions on Magnetics* **34**, No. 1, 36–39 (1998).

Intra-Pattern and Inter-Pattern Nonlinearities in High-Density Magnetic Recording, A. Taratorin (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **34**, No. 1, 45–50 (1998).

Noise-Predictive Maximum-Likelihood (NPML) Detection, J. D. Coker (IBM Corporation, 3605 Highway 52 North, Rochester, MN 55901) et al., *IEEE Transactions on Magnetics* **34**, No. 1, 110–117 (1998).

Error Propagation Evaluation for RLL-Constrained DFE Read Channels, V. Y. Krachkovsky (Data Storage Institute, 10 Kent Ridge Crescent, Singapore 119260, Singapore) et al., *IEEE Transactions on Magnetics* **34**, No. 1, 147–152 (1998).

Design, Implementation and Performance Evaluation of an MdFe Read Channel, Y. X. Lee (Data Storage Institute, 10 Kent Ridge Crescent, Singapore 119260, Singapore) et al., *IEEE Transactions on Magnetics* **34**, No. 1, 166–171 (1998).

A Parallel Architecture for Multilevel Decision-Feedback Equalization, J. G. Kenney (Analog Devices Inc., Somerset, NJ 08873) and C. M. Melas, *IEEE Transactions on Magnetics* **34**, No. 2, 588–595 (1998).

Neutron Radiation Tolerance of Advanced UHV/CVD SiGe HBT BiCMOS Technology, J. M. Roldan (Auburn University, Auburn, AL 36849) et al., *IEEE Transactions on Nuclear Science* **44**, No. 6, 1965–1973 (1997).

Total Dose and SEU Characterization of 0.25 Micron CMOS/SOI Integrated Circuit Memory Technologies, C. Brothers (United States Air Force, Kirtland Air Force Base, NM 87117) et al., *IEEE Transactions on Nuclear Science* **44**, No. 6, 2134–2139 (1997).

Pion-Induced Soft Upsets in 16 MBit DRAM Chips, C. J. Gelderloos (Hughes Space & Communications Co., P.O. Box 92915, Los Angeles, CA 90009) et al., *IEEE Transactions on Nuclear Science* **44**, No. 6, 2237–2242 (1997).

A Generic Grouping Algorithm and Its Quantitative Analysis, A. Amir (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and M. Lindenbaum, *IEEE Transactions on Pattern Analysis and Machine Intelligence* **20**, No. 2, 168–185 (1998).

Grouping-Based Nonadditive Verification, A. Amir (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and M. Lindenbaum, *IEEE Transactions on Pattern Analysis and Machine Intelligence* **20**, No. 2, 186–192 (1998).

An Off-Line Cursive Handwriting Recognition System, A. W. Senior (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) and A. J. Robinson, *IEEE Transactions on Pattern Analysis and Machine Intelligence* **20**, No. 3, 309–321 (1998).

Band-Limited Extrapolation Using Time-Bandwidth Dimension, S. Dharanipragada (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and K. S. Arun, *IEEE Transactions on Signal Processing* **45**, No. 12, 2951–2966 (1997).

Speaker Clustering and Transformation for Speaker Adaptation in Speech Recognition Systems, M. Padmanabhan (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Speech and Audio Processing* **6**, No. 1, 71–77 (1998).

A Very Wide Bandwidth Digital VCO Using Quadrature Frequency Multiplication and Division Implemented in AlGaAs/GaAs HBTs, P. M. Campbell (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *IEEE Transactions on Very Large Scale Integration Systems* **6**, No. 1, 52–55 (1998).

Accurate Area and Delay Estimation from RTL Descriptions, A. Srinivasan (Circuit Semantics, Inc., San Jose, CA 95113) et al., *IEEE Transactions on Very Large Scale Integration Systems* **6**, No. 1, 168–172 (1998).

A Visibility Matching Tone Reproduction Operator for High Dynamic Range Scenes, G. W. Larson (Silicon Graphics, Inc., 2011 North Shoreline Boulevard, Mountain View, CA 94043) et al., *IEEE Transactions on Visualization and Computer Graphics* **3**, No. 4, 291-306 (1997).

Secure Electronic Sealed-Bid Auction Protocol with Public Key Cryptography, M. Kudo (IBM Japan, Ltd., 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan), *IEICE Transactions on Fundamentals of Electronics Communications and Computer Sciences* **E81A**, No. 1, 20-27 (1998).

Playbot: A Visually-Guided Robot for Physically Disabled Children, J. K. Tsotsos (University of Toronto, 6 Kings College Road, Toronto, Ontario M5S 1A4, Canada) et al., *Image and Vision Computing* **16**, No. 4, 275-292 (1998).

A New Probabilistic Analysis of Karger's Randomized Algorithm for Minimum Cut Problems, Y. Dai (Kyoto University, Sakyo-Ku, Kyoto 60601, Japan) et al., *Information Processing Letters* **64**, No. 5, 255-261 (1997).

Mixing of 28 THz (10.7- μ m) CO₂ Laser Radiation by Nanometer Thin-Film Ni-NiO-Ni Diodes with Difference Frequencies Up to 176 GHz, C. Fumeaux (ETH Zurich, CH-8093 Zurich, Switzerland) et al., *Infrared Physics & Technology* **38**, No. 7, 393-396 (1997).

C-Hydroxydicarba-Closo-Dodecaboranes, I. Zharov (University of Colorado, Boulder, CO 80309) et al., *Inorganic Chemistry* **36**, No. 26, 6033-6038 (1997).

Synthesis and Characterization of $<NH_2C(I) = NH_2^*(2)AsNi(5)$ with A = Iodoformamidinium or Formamidinium: The Chemistry of Cyanamide and Tin(II) Iodide in Concentrated Aqueous Hydriodic Acid Solutions, D. B. Mitzi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Inorganic Chemistry* **37**, No. 2, 321-327 (1998).

Application of Image Filtering to Semiconductor Structures, P. L. Flaitz (IBM Corporation, 1580 Route 52, Hopewell Junction, NY 12533) and A. Domenicucci, *Institute of Physics Conference Series* **157**, 515-518 (1997).

Impact of the Symmetry of the Superconducting Wave Function of Josephson Tunneling in High- T_c Superconductors, Z. G. Ivanov (Chalmers University of Technology, S-41296 Gothenburg, Sweden) et al., *Institute of Physics Conference Series* **158**, 571-574 (1997).

Corrosion Measurements with HTS SQUID Gradiometer, R. Matthews (Quantum Magnet Inc., San Diego, CA) et al., *Institute of Physics Conference Series* **158**, 767-770 (1997).

An Improved Methodology for Evaluating the Producibility of Partially Specified Part Designs, S. S. Aurand (IBM Corporation, Huntersville, NC 28078) et al., *International Journal of Computer Integrated Manufacturing* **11**, No. 2, 153-172 (1998).

Function Evaluation with Feedforward Neural Networks, D. Logan (IBM Corporation, Kingston, NY 12401) and P. Argyrakis, *International Journal of Computer Mathematics* **67**, No. 1-2, 201-222 (1998).

Standardization and Security for the EMR, K. Toyoda (IBM Japan, Ltd., Chuo Ku, 19-21 Nihonbashi Hakozaicho, Tokyo 103, Japan), *International Journal of Medical Imaging* **48**, No. 1-3, 57-60 (1998).

A Random Sampling Scheme for Path Planning, J. Barraquand (Salomon Brothers International, Ltd., 111 Buckingham Palace Road, London SW1W 0SB, England) et al., *International Journal of Robotics Research* **16**, No. 6, 759-774 (1997).

Out of the Clouds, S. Ladwig (IBM Corporation, Armonk, NY 10504), *Internet Week*, No. 700, 36 (1998).

J

Stability of UV-Type Two-Domain-Wide Viewing Angle Liquid Crystal Display, Y. Saitoh (IBM Japan, Ltd., 1623-14 Shimotsuruma, Kanagawa 242, Japan) et al., *Japanese Journal of Applied Physics Part 1* **36**, No. 12A, 7216-7223 (1997).

Atomic Beam Alignment of Liquid Crystals, P. Chaudhari (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Japanese Journal of Applied Physics Part 2* **37**, No. 1AB, L55-L56 (1998).

Business Process Components and Infrastructure, P. Monday (IBM Corporation, Rochester, MN 55901) and B. Rubin, *Java Report* **3**, No. 3, 51+ (1998).

Tantalum, Tantalum Nitride, and Chromium Adhesion to Polyimide: Effect of Annealing Ambient on Adhesion, L. P. Buchwalter (9 Coach Lantern Drive, Hopewell Junction, NY 12533) and K. Holloway, *Journal of Adhesion Science and Technology* **12**, No. 1, 95-104 (1998).

Constructing Computer Virus Phylogenies, L. A. Goldberg (University of Warwick, Coventry CV4 7AL, West Midlands, England) et al., *Journal of Algorithms* **26**, No. 1, 188-208 (1998).

Generating the Acyclic Orientations of a Graph, M. B. Squire (IBM Corporation, P.O. Box 12195, Research Triangle Park, NC 27709), *Journal of Algorithms* **26**, No. 2, 275-290 (1998).

X-ray Diffraction Study of Mechanochemical Synthesis and Formation Mechanisms of Zirconium Carbide and Zirconium Silicides, B. K. Yen (University of Tokyo, Tokyo 113, Japan), *Journal of Alloys and Compounds* **268**, No. 1-2, 266-269 (1998).

Reaction of Ti with WSi₂, J. P. Gambino (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of Applied Physics* **82**, No. 12, 6073-6077 (1997).

- The Response of High- T_c SQUID Magnetometers to Small Changes in Temperature**, F. P. Milliken (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Applied Physics* **82**, No. 12, 6301–6305 (1997).
- Interdiffusion and Phase-Formation in Cu(Sn) Alloy Films**, L. A. Clevenger (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Applied Physics* **83**, No. 1, 90–99 (1998).
- Theory of Electron Transport in Small Semiconductor Devices Using the Pauli Master Equation**, M. V. Fischetti (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **83**, No. 1, 270–291 (1998).
- Buried, Self-Aligned Barrier Layer Structures for Perovskite-Based Memory Devices Comprising PT or IR Bottom Electrodes on Silicon-Contributing Substrates**, K. L. Saenger (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Applied Physics* **83**, No. 2, 802–813 (1998).
- Piezoresistive Cantilever Designed for Torque Magnetometry**, M. Willemin (University of Zurich, Winterthurerstrasse 190, CH-8057 Zurich, Switzerland) et al., *Journal of Applied Physics* **83**, No. 3, 1163–1170 (1998).
- A Mechanistic Picture of the Effects of Rubbing on Polyimide Surfaces and Liquid Crystal Pretilt Angles**, S. H. Paek (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Applied Physics* **83**, No. 3, 1270–1280 (1998).
- Effects of MeV Ion Irradiation of Thin Cubic Boron-Nitride Films**, J. Ullmann (Carl Zeiss, D-73446 Oberkochen, Germany) et al., *Journal of Applied Physics* **83**, No. 6, 2980–2987 (1998).
- Observation of Near-Surface Electrically Active Defects in N-Type 6H-SiC**, J. P. Doyle (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Applied Physics* **83**, No. 7, 3649–3651 (1998).
- O-18(2) Isotope Labeling Studies of Stress Effect on Oxidation Kinetics**, K. Imai (IBM Corporation, Route 52, Hopewell Junction, NY 12533) and K. Yamabe, *Journal of Applied Physics* **83**, No. 7, 3849–3855 (1998).
- Towards an Accurate Gold Carbonyl Binding Energy in AuCo α : Basis-Set Convergence and a Comparison Between Density-Functional and Conventional Methods**, T. K. Dargel (Technical University of Berlin, Berlin, Germany) et al., *Journal of Chemical Physics* **108**, No. 10, 3876–3885 (1998).
- List Homomorphisms in Reflexive Graphs**, T. Feder (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and P. Hell, *Journal of Combinatorial Theory Series B* **72**, No. 2, 236–250 (1998).
- On Reform Intensity Under Uncertainty**, S. Johnson (Massachusetts Institute of Technology, Cambridge, MA 02142) et al., *Journal of Comparative Economics* **25**, No. 3, 297–321 (1997).
- Wavelet Galerkin Methods for Second-Kind Integral Equations**, C. A. Micchelli (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Computational and Applied Mathematics* **86**, No. 1, 251–270 (1997).
- Perfect Zero-Knowledge Arguments for NP Using Any One-Way Permutation**, M. Naor (Weizmann Institute of Science, IL-76100 Rehovot, Israel) et al., *Journal of Cryptology* **11**, No. 2, 87–108 (1998).
- Consumer Prices, the Consumer Price Index, and the Cost of Living**, M. J. Boskin (Stanford University, Stanford, CA 94305) et al., *Journal of Economic Perspectives* **12**, No. 1, 3–26 (1998).
- Viscoelastic Properties of Solder Pastes**, R. Lapasin (University of Trieste, Piazzale Europa 1, I-34127 Trieste, Italy) et al., *Journal of Electronic Materials* **27**, No. 3, 138–148 (1998).
- The Impact of Interfacial Adhesion on PTH and Via Stress State**, G. Subbarayan (University of Colorado, Boulder, CO 80309) et al., *Journal of Electronic Packaging* **119**, No. 4, 260–267 (1997).
- Development of a Two Matrix Model for Thermal Analysis of a Multichip Module**, M. A. Butterbaugh (IBM Corporation, 3605 Highway 52 North, Rochester, MN 55901), *Journal of Electronic Packaging* **119**, No. 4, 288–293 (1997).
- CMOS-on-SOI ESD Protection Networks**, S. Voldman (IBM Corporation, Essex Junction, VT 05452) et al., *Journal of Electrostatics* **42**, No. 4, 333–350 (1998).
- Defining a Product Development Methodology with Concurrent Engineering for Small Manufacturing Companies**, S. C. Skalak (University of Virginia, Charlottesville, VA 22903) et al., *Journal of Engineering Design* **8**, No. 4, 305–328 (1997).
- Measuring Strain Distribution During Mesoscopic Domain Reorientation in a Ferroelectric Material**, S. B. Park (IBM Corporation, 1701 North Street, Endicott, NY 13760) et al., *Journal of Engineering Materials and Technology* **120**, No. 1, 1–6 (1998).
- Nonparametric Estimation of State-Price Densities Implicit in Financial Asset Prices**, Y. Aitsahalia (University of Chicago, Chicago, IL 60637) and A. W. Lo, *Journal of Finance* **53**, No. 2, 499–547 (1998).
- Peierls-Holstein Dimer Model with Coherent Squeezed Oscillatory Trial Functions**, H. Morawitz (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Luminescence* **76**, No. 7, 567–570 (1998).
- Characterization of a Thick Co-Cr Perpendicular Medium for a Merged Head**, Y. Ikeda (IBM Japan, Ltd., 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan) et al., *Journal of Magnetism and Magnetic Materials* **176**, No. 1, 13–19 (1997).

Biquadratic Coupling Dependence on Spacer Layer Thickness for Fe/Cr/Fe, A. Azevedo (University Federal Pernambuco, BR-50670901 Recife, PE, Brazil) et al., *Journal of Magnetism and Magnetic Materials* **177**, 1177–1178 (1998).

Brillouin Light-Scattering and Ferromagnetic Resonance in Trilayers with Bilinear and Biquadratic Exchange Coupling, S. M. Rezende (University Federal Pernambuco, BR-50670901 Recife, PE, Brazil) et al., *Journal of Magnetism and Magnetic Materials* **177**, 1213–1215 (1998).

Magnetic and Magneto-Optical Properties of NiMnSb Thin Films, J. A. Caballero (University of Florida, Gainesville, FL 32611) et al., *Journal of Magnetism and Magnetic Materials* **177**, 1229–1230 (1998).

Structural and Magnetic Phases of Fe in Fe/Ni(0 0 1) and Fe/Ni₈₁Fe₁₉ (0 0 1) Multilayers, W. Kuch (Max-Planck-Institut für Mikrostrukturphysik, Weinberg 2, D-06120 Halle, Germany) and S. S. P. Parkin, *Journal of Magnetism and Magnetic Materials* **184**, No. 2, 127–136 (1998).

Aqueous TiO₂ Suspension Preparation and Novel Application of Ink-Jet Printing Technique for Ceramics Patterning, S. J. Kim (Samsung Advanced Institute of Technology, P.O. Box 111, Suwon, South Korea) and D. E. McKean, *Journal of Materials Science Letters* **17**, No. 2, 141–144 (1998).

Graphical Three-Dimensional Medical Image Registration and Quantification, E. J. Farrell (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *Journal of Medical Systems* **21**, No. 3, 155–172 (1997).

6-MHz 2-N/m Piezoresistive Atomic Force Microscope Cantilevers with Incisive Tips, R. P. Ried (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Microelectromechanical Systems* **6**, No. 4, 294–302 (1997).

Supercomputer Description of Human Lung Morphology for Imaging Analysis, T. B. Martonen (United States Environmental Protection Agency, Research Triangle Park, NC 27711) et al., *Journal of Nuclear Medicine* **39**, No. 4, 745–750 (1998).

Processor Allocation in Multiprogrammed Distributed Memory Parallel Computer Systems, V. K. Naik (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Parallel and Distributed Computing* **46**, No. 1, 28–47 (1997).

Theoretical Study of the Insertion Reactions of Aluminum with H₂O, NH₃, HCl, and Cl-2, T. Fangstrom (Uppsala University, Box 518, S-75120 Uppsala, Sweden) et al., *Journal of Physical Chemistry A* **102**, No. 6, 1005–1017 (1998).

Manipulation of Individual Carbon Nanotubes and Their Interaction with Surfaces, T. Hertel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Physical Chemistry B* **102**, No. 6, 910–915 (1998).

Magnetic Imaging of the Paramagnetic Meissner Effect in the Granular High-T_c Superconductor Bi₂Sr₂CaCu₂O_x, J. R. Kirtley (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Physics—Condensed Matter* **10**, No. 6, L97–L103 (1998).

Synthesis, Resistivity, and Thermal Properties of the Cubic Perovskite NH₂CH = NH(2) SNi(3) and Related Systems, D. B. Mitzi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and K. Liang, *Journal of Solid State Chemistry* **134**, No. 2, 376–381 (1997).

Failure Time Prediction, J. Rissanen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and G. Shedler, *Journal of Statistical Planning and Inference* **66**, No. 2, 193–210 (1998).

Microstructural Study of the Hot Corrosion of a Calcium Aluminosilicate Glass Ceramic and a Si–C–O Fiber-Reinforced Calcium Aluminosilicate Matrix Composite Via Sodium Sulfate in Air and Argon at 900°C, A. Kumar (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) and A. G. Fox, *Journal of the American Ceramic Society* **81**, No. 3, 613–623 (1998).

An Ab-Initio Mo Study on Fragmentation Reaction Mechanism of Thymine Dimer Radical-Cation, M. Aida (National Cancer Center, Chuo Ku, 5-1-1 Tsukiji, Tokyo 104, Japan) et al., *Journal of the American Chemical Society* **119**, No. 50, 2274–2279 (1997).

Microfluidic Networks for Chemical Patterning of Substrate: Design and Application to Bioassays, E. Delamarche (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Journal of the American Chemical Society* **120**, No. 3, 500–508 (1998).

How Much Can Hardware Help Routing?, A. Borodin (University of Toronto, 10 Kings College Road, Toronto, Ontario M5S 3G4, Canada) et al., *Journal of the Association for Computing Machinery* **44**, No. 5, 726–741 (1997).

Contention in Shared Memory Algorithms, C. Dwork (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of the Association for Computing Machinery* **44**, No. 6, 779–805 (1997).

Probabilistic Checking of Proofs: A New Characterization of NP, S. Arora (35 Olden Street, Princeton, NJ 08544) and S. Safra, *Journal of the Association for Computing Machinery* **45**, No. 1, 70–122 (1998).

Interface State Capture Cross-Section Measurements on Vacuum Annealed and Radiation Damaged Si–SiO₂ Surfaces, M. J. Uren (Defense Evaluation & Research Agency, Great Malvern WR14 3PS, Worcs, England) et al., *Journal of the Electrochemical Society* **145**, No. 2, 683–689 (1998).

The Thermal Stability of CoSi₂ on Polycrystalline Silicon: The Effect of Silicon Grain Size and Metal Thickness, J. P. Gambino (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of the Electrochemical Society* **145**, No. 4, 1384–1389 (1998).

Low-Stiffness Silicon Cantilevers with Integrated Heaters and Piezoresistive Sensors for High-Density AFM Thermomechanical Data Storage, B. W. Chui (Stanford University, Stanford, CA 94305) et al., *Journal of the Microelectronics Society* 7, No. 1, 69–78 (1998).

Modeling of Longitudinally Pumped Solid-State Lasers Exhibiting Reabsorption Losses (Vol. 5, p. 1412, 1988), W. P. Risk (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of the Optical Society of America B* 14, No. 12, 3457 (1997).

Correlation Between Polymer Architecture and Sub-Glass Transition Temperature Light-Induced Molecular Movement in Azo-Polyimide Polymers: Influence on Linear and Second- and Third-Order Nonlinear Optical Processes, Z. Sekkat (University of California, Davis, CA 95616) et al., *Journal of the Optical Society of America B* 15, No. 1, 401–413 (1998).

Amplified Scattering in a High-Gain Photorefractive Polymer, A. Grunnetjepsen (University of California, La Jolla, CA 92093) et al., *Journal of the Optical Society of America B* 15, No. 2, 901–904 (1998).

Improved Characterization of Chromophores for Photorefractive Applications, C. R. Moylan (Lightwave Microsystems Corp., 2950 Scott Boulevard, Santa Clara, CA 95054) et al., *Journal of the Optical Society of America B* 15, No. 2, 929–932 (1998).

Evaluation of Perfluorinated Polyalkylether Grease Rheology on Disk Drive Bearing Performance, W. Prater (IBM Corporation, San Jose, CA 95193) et al., *Journal of Tribology* 120, No. 1, 21–27 (1998).

Effect of Slider Burnish on Disk Damage During Dynamic Load/Unload, M. Suk (IBM Corporation, San Jose, CA 95193) and D. Gillis, *Journal of Tribology* 120, No. 2, 332–338 (1998).

Excited-State Density Distributions of H, C, C-2, and CH by Spatially Resolved Optical Emission in a Diamond Depositing DC-Arcjet Reactor, J. Luque (SRI International, Menlo Park, CA 94025) et al., *Journal of Vacuum Science & Technology A* 16, No. 2, 397–408 (1998).

Polarization-Dependent Contrast in Near-Field Optical Microscopy, K. Kobayashi (IBM Japan, Ltd., 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan) and O. Watanuki, *Journal of Vacuum Science & Technology B* 15, No. 6, 1966–1970 (1997).

X-ray Lithography: Status, Challenges, and Outlook for 0.13 μm , J. P. Silverman (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science & Technology B* 15, No. 6, 2117–2124 (1997).

Obtaining a Physical Two-Dimensional Cartesian Reference, M. T. Takac (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2173–2176 (1997).

Conductive Polyaniline: Applications in X-ray Mask Making, M. S. Lawliss (IBM Corporation, Essex Junction, VT 05452) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2224–2227 (1997).

Performance of Zr/O/W Schottky Emitters at Reduced Temperatures, H. S. Kim (Etec Systems, Inc., 26460 Corporate Avenue, Hayward, CA 94545) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2284–2288 (1997).

Minimum Emission Current of Liquid Metal Ion Sources, J. C. Beckman (Stanford University, Stanford, CA 94305) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2332–2336 (1997).

Data Analysis Methods for Evaluating Lithographic Performance, R. A. Ferguson (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2387–2393 (1997).

Overlay Performance of 180-nm Ground Rule Generation X-ray Lithography Aligner, A. C. Chen (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2476–2482 (1997).

X-ray Lithography for ≤ 100 -nm Ground Rules in Complex Patterns, S. Hector (Motorola Inc., Austin, TX 78721) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2517–2521 (1997).

Low-Energy Electron Beam Top Surface Image Processing Using Chemically Amplified AXT Resist, C. S. Whelan (Cornell University, Ithaca, NY 14853) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2555–2560 (1997).

Ultrasonic and Dip Resist Development Processes for 50-nm Device Fabrication, K. L. Lee (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2621–2626 (1997).

Wire Channel and Wrap-Around Gate Metal Oxide Semiconductor Field-Effect Transistors with a Significant Reduction of Short-Channel Effects, E. Leobandung (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2791–2794 (1997).

New Complimentary Metal Oxide Semiconductor Technology with Self-Aligned Schottky Source/Drain and Low-Resistance T-Gates, S. A. Rishton (Etec Systems, Inc., 26460 Corporate Avenue, Hayward, CA 94545) et al., *Journal of Vacuum Science & Technology B* 15, No. 6, 2795–2798 (1997).

Direct Comparison of Two-Dimensional Dopant Profiles by Scanning Capacitance Microscopy with TSUPREM4 Process Simulation, J. S. McMurray (University of Utah, Salt Lake City, UT 84112) et al., *Journal of Vacuum Science & Technology B* 16, No. 1, 344–348 (1998).

Comparison of Secondary Ion Mass Spectrometry Profiling of Sub-100 nm Ultrashallow Junctions Using NO_2^- and O_2^- Sputtering, P. A. Ronsheim (IBM Corporation, Route 52, Hopewell Junction, NY 12533) and K. L. Lee, *Journal of Vacuum Science & Technology B* 16, No. 1, 382–385 (1998).

Physically Based Modeling of Two-Dimensional and Three-Dimensional Implantation Profiles: Influence of Damage Accumulation, C. S. Murthy (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of Vacuum Science & Technology B* **16**, No. 1, 440–446 (1998).

L

Effect of Surface-Influenced Order on Thermal Expansivity of Polymer Thin Films, C. Thompson (Northern Illinois University, De Kalb, IL 60115) et al., *Langmuir* **13**, No. 26, 7135–7140 (1997).

Surface-Influenced Phase Separation in Organic Thin Films on Drying, R. F. Saraf (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Langmuir* **14**, No. 2, 483–489 (1998).

Identity Authentication Using Fingerprints, L. Hong (Michigan State University, East Lansing, MI 48824) et al., *Lecture Notes in Computer Science* **1206**, 103–110 (1997).

A New Class of Liquid Crystals: Methylene-1, 4-Dihydropyridines, D. J. Dyer (Kent State University, Kent, OH 44242) et al., *Liquid Crystals* **24**, No. 2, 271–281 (1998).

Polymer Network Structure and Electrooptic Performance of Polymer Stabilized Cholesteric Textures I: The Influence of Curing Temperature, I. Dierking (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Liquid Crystals* **24**, No. 3, 387–395 (1998).

Polymer Network Structure and Electrooptic Performance of Polymer Stabilized Cholesteric Textures II: The Effect of UV Curing Conditions, I. Dierking (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Liquid Crystals* **24**, No. 3, 397–406 (1998).

M

Surface Relaxations in Polymers, Y. Liu (University of Massachusetts, Amherst, MA 01003) et al., *Macromolecules* **30**, No. 25, 7768–7771 (1997).

Static and Dynamic Properties of a $n\text{-C}_{100}\text{H}_{202}$ Melt from Molecular Dynamics Simulations, W. Paul (University of Mainz, D-55099 Mainz, Germany) et al., *Macromolecules* **30**, No. 25, 7772–7780 (1997).

Versatile and Controlled Synthesis of Star and Branched Macromolecules by Dendritic Initiation, M. Trollsas (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* **30**, No. 26, 8508–8511 (1997).

Polymeric Organic-Inorganic Hybrid Nanocomposites: Preparation of Polyimide-Modified Poly(Silsesquioxane) Using Functionalized Poly(amic Acid Alkyl Ester) Precursors, J. L. Hedrick (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* **30**, No. 26, 8512–8515 (1997).

Soluble High-Temperature Polyterephthalamides, K. R. Carter (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* **31**, No. 1, 208–209 (1998).

Dual Living Free-Radical and Ring-Opening Polymerizations from a Double-Headed Initiator, C. J. Hawker (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* **31**, No. 2, 213–219 (1998).

The Living Free-Radical Synthesis of Poly(4-Hydroxystyrene): Physical Properties and Dissolution Behavior, G. G. Barclay (Shipley Company, 455 Forest Street, Marlborough, MA 01752) et al., *Macromolecules* **31**, No. 4, 1024–1031 (1998).

Thermally Stable Blue-Light-Emitting Copolymers of Poly(Alkylfluorene), M. Kreyenschmidt (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* **31**, No. 4, 1099–1103 (1998).

Microscopic Origin of Liquid Crystal Alignment on Rubbed Polymer Surfaces, J. Stohr (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* **31**, No. 6, 1942–1946 (1998).

Polyfluorene Derivatives: Effective Conjugation Lengths from Well-Defined Oligomers, G. Klaerner (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and R. D. Miller, *Macromolecules* **31**, No. 6, 2007–2009 (1998).

Copper Interconnections and Reliability, C. K. Hu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and J. M. E. Harper, *Materials Chemistry and Physics* **52**, No. 1, 5–16 (1998).

Silicides and Ohmic Contacts, J. P. Gambino (IBM Corporation, Fishkill, NY 12533) and E. G. Colgan, *Materials Chemistry and Physics* **52**, No. 2, 99–146 (1998).

FEOL Technology Trend, Y. Taur (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and T. H. Ning, *Materials Chemistry and Physics* **52**, No. 3, 191–199 (1998).

Dislocation-Related Electronic States in Strain Relaxed $\text{Si}_{1-x}\text{Ge}_x/\text{Si}$ Epitaxial Layers Grown at Low Temperature, P. M. Mooney (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and K. Shum, *Materials Science* **F258**, No. P1–3, 151–158 (1997).

Electrically Active Defects in N-Type 4H-SiC and 6H-SiC, J. P. Doyle (Royal Institute of Technology, P.O. Box E229, S-16440 Kista, Sweden) et al., *Materials Science* **F264**, No. P1–2, 565–568 (1998).

Phase-Formation Sequence of Nickel Silicides from Rapid Thermal Annealing of Ni on 4H-SiC, L. D. Madsen (Linköping University, S-58183 Linköping, Sweden) et al., *Materials Science* **F264**, No. P1–2, 799–803 (1998).

Reaction Synthesis of Refractory Disilicides by Mechanical Alloying and Shock Reactive Synthesis Techniques, B. K. Yen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Materials Science and Engineering A* **240**, 515–521 (1997).

Si/SiO₂ Etching in High-Density SF₆/CHF₃/O-2 Plasma, R. Hsiao (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. Carr, *Materials Science and Engineering B* **52**, No. 1, 63–77 (1998).

Discontinuous Piecewise Linear Optimization, A. R. Conn (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and M. Mongeau, *Mathematical Programming* **80**, No. 3, 315–380 (1998).

Numerical Simulation of the X-ray Stress Analysis Technique in Polycrystalline Materials Under Elastic Loading, D. Chidambarrao (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Metallurgical and Materials Transactions A* **28**, No. 12, 2515–2525 (1997).

A Microstructural Study of Dislocation Substructures Formed in Metal Foil Substrates During Ultrasonic Wire Bonding, N. Murdeshwar (University of New Hampshire, Durham, NH 03824) and J. E. Krzanowski, *Metallurgical and Materials Transactions A* **28**, No. 12, 2663–2671 (1997).

Phase-Stress Partition During Uniaxial Tensile Loading of a TiC-Particulate-Reinforced Al Composite, N. Shi (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *Metallurgical and Materials Transactions A* **28**, No. 12, 2741–2753 (1997).

Fluorescence Lifetime Imaging Techniques for Microscopy, T. French (LJL Biosystems, Sunnyvale, CA 94089) et al., *Methods in Cell Biology*, **56**, 277–304 (1998).

Tracking the Performance of Photolithographic Processes with Excursion Monitoring, E. H. Bokelberg (IBM Corporation, 1000 River Road, Essex Junction, VT 05452) and M. E. Pariseau, *Micro* **16**, No. 1, 47+ (1998).

A Conic Primitive-Based Pattern Generator for Electron-Beam Lithography of Diffractive Optical Elements, H. Rothuizen (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Microelectronic Engineering* **34**, No. 3–4, 243–260 (1997).

Dry Etch Challenges of 0.25- μ m Dual Damascene Structures, R. F. Schnabel (IBM Corporation, 1580 Route 52, Hopewell Junction, NY 12533) et al., *Microelectronic Engineering* **37–8**, No. NSI, 59–65 (1997).

Low-Temperature Al–Cu Planarization by PVD Al–Cu–Ge Alloys, R. V. Joshi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Microelectronic Engineering* **37–8**, No. NSI, 295–303 (1997).

Ultrathin RTP Oxynitride Dielectrics on Planar, Trench and Three-Dimensional Structures, S. V. Nguyen (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Microelectronics and Reliability* **38**, No. 1, 81–85 (1998).

Linewidth Control Effects on MOSFET ESD Robustness, S. Voldman (IBM Corporation, 1000 River Road, Essex Junction, VT 05452) et al., *Microelectronics and Reliability* **38**, No. 1, 145–152 (1998).

Characterization of the Hot-Electron-Induced Degradation in Thin SiO₂ Gate Oxides, E. Cartier (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Microelectronics and Reliability* **38**, No. 2, 201–211 (1998).

Dynamic Task-Scheduling in Distributed Real-Time Systems Using Fuzzy Rules, M. Litoiu (IBM Corporation, 1150 Eglinton Avenue East, North York, Ontario M3C 1H7, Canada) et al., *Microprocessors and Microsystems* **21**, No. 5, 299–311 (1998).

Disk Load Balancing for Video-on-Demand Systems, J. L. Wolf (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Multimedia Systems* **5**, No. 6, 358–370 (1997).

Using Rotational Mirrored Declustering for Replica Placement in a Disk-Array-Based Video Server, M. S. Chen (National Taiwan University, Taipei 10764, Taiwan) et al., *Multimedia Systems* **5**, No. 6, 371–379 (1997).

N

Connecting Atomistic and Mesoscale Simulations of Crystal Plasticity, V. Bulatov (Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, MA 02139) et al., *Nature* **391**, No. 6668, 669–672 (1998).

Chaos and Neural Network Learning: Some Observations, K. Bertels (University of Namur, B-5000 Namur, Belgium) et al., *Neural Processing Letters* **7**, No. 2, 69–80 (1998).

Efficacy of the Rhesus Rotavirus-Based Quadrivalent Vaccine in Infants and Young Children in Venezuela, I. Perezschael (IBM Venezuela, Caracas, Venezuela) and W. Cunto, *New England Journal of Medicine* **338**, No. 14, 1002 (1998).

Change Point Models in Industrial Applications, E. Yashchin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Nonlinear Analysis* **30**, No. 7, 3997–4006 (1997).

Statistical Inference for Masked Data, B. Reiser (University of Haifa, IL-31999 Haifa, Israel) et al., *Nonlinear Analysis* **30**, No. 7, 4425–4432 (1997).

The Scalar Quarkonium Spectrum and Quarkonium Glueball Mixing, W. Lee (Los Alamos National Laboratory, Los Alamos, NM 87545) and D. Weingarten, *Nuclear Physics B* **63**, 194–196 (1998).

Improved Error Estimate for the Valence Approximation, W. Lee (Los Alamos National Laboratory, Los Alamos, NM 87545) and D. Weingarten, *Nuclear Physics B* **63**, 964–966 (1998).

Eigenstates and Eigenvalues of the Su(1,1) Displacement Operators, C. F. Lo (Chinese University of Hong Kong, Shatin, New Territories, Hong Kong) and Y. J. Wong, *Nuovo Cimento della Società Italiana di Fisica B* **113**, No. 1, 125–129 (1998).

O

Optimality of (S, S) Policies in Inventory Models with Markovian Demand, S. P. Sethi (University of Texas, Richardson, TX) and F. Cheng, *Operations Research* **45**, No. 6, 931-939 (1997).

Laser-Assisted Surface Modification of Thin Chromium Films, D. A. Willis (Purdue University, West Lafayette, IN 47907) et al., *Optical Engineering* **37**, No. 3, 1033-1041 (1998).

Ultraviolet Laser Ablation of Animal Tissue, J. J. Wynne (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Optics and Photonics News* **9**, No. 1, 6 (1998).

Femtosecond Optical Parametric Oscillator Based on Periodically Poled KTiOPO₄, T. Kartaloglu (Bilkent University, TR-06533 Ankara, Turkey) et al., *Optics Letters* **23**, No. 1, 61-63 (1998).

Noise Reduction of Page-Oriented Data Storage by Inverse Filtering During Recording, G. W. Burr (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Optics Letters* **23**, No. 4, 289-291 (1998).

Demonstration of Real-Time Address Header Decoding for Optical Data Routing at 1536 nm, T. L. Harris (Montana State University, Bozeman, MT 59717) et al., *Optics Letters* **23**, No. 8, 636-638 (1998).

P

Batching and Dynamic Allocation Techniques for Increasing the Stream Capacity of an On-Demand Media Server, D. Jadav (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Parallel Computing* **23**, No. 12, 1727-1742 (1997).

Redundant Arrays of Independent Libraries (RAIL): The Starfish Tertiary Storage System, D. A. Ford (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Parallel Computing* **24**, No. 1, 45-64 (1998).

Dynamical Conductivity of an MBE-Grown La_{1.84}Sr_{0.16}CuO₄ Thin Film at Frequencies from 5 to 36 cm⁻¹, B. P. Gorshunov (Russian Academy of Science, 38 Vavilov Street, Moscow 117942, Russia) et al., *Physica B* **244**, 15-21 (1998).

Effect of High-Frequency Magnetic Fields on the Dissipative Vortex Motion in the Superconducting Mixed State, M. G. Aikele (University of Tübingen, Morgenstelle 14, D-72076 Tübingen, Germany) et al., *Physica C* **290**, No. 1-2, 109-112 (1997).

Quantum Computation with Quantum Dots, D. Loss (University of California, Santa Barbara, CA 93106) and D. P. DiVincenzo, *Physical Review A* **57**, No. 1, 120-126 (1998).

Quantum Channel Capacity of Very Noisy Channels, D. P. DiVincenzo (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review A* **57**, No. 2, 830-839 (1998).

Conductance and Giant Magnetoconductance of Co/Cu/Co Spin Valves: Experiment and Theory, W. H. Butler (Oak Ridge National Laboratory, Oak Ridge, TN 37831) et al., *Physical Review B* **56**, No. 22, 4574-4582 (1997).

Highly Anisotropic Supercurrent Transport in YBa₂Cu₃O_{7-δ} Bicrystal Josephson Junctions, Z. G. Ivanov (Chalmers University of Technology, Mina, S-41296 Gothenburg, Sweden) et al., *Physical Review B* **57**, No. 1, 602-607 (1998).

Ultrafast Nonequilibrium Spin Dynamics in a Ferromagnetic Thin Film, G. P. Ju (Brown University, Providence, RI 02912) et al., *Physical Review B* **57**, No. 2, R700-R703 (1998).

Force-Detected Electron-Spin Resonance: Adiabatic Inversion, Nutation, and Spin Echo, K. Wago (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Physical Review B* **57**, No. 2, 1108-1114 (1998).

Spin and Charge Dynamics in the Hole-Doped One-Dimensional Chain Ladder Composite Material Sr_{1-x}Cu₂₄O₄₁: Cu NMR/NQR Studies, M. Takigawa (University of Tokyo, Minato Ku, 7-22-1 Roppongi, Tokyo 106, Japan) et al., *Physical Review B* **57**, No. 2, 1124-1140 (1998).

Electron Localization Effects on the Low-Temperature High-Field Magnetoresistivity of Three-Dimensional Amorphous Superconductors, A. V. Samoilov (California Institute of Technology, Pasadena, CA 91125) et al., *Physical Review B* **57**, No. 2, 1206-1213 (1998).

Tetragonal States from Epitaxial Strain on Metal Films, P. M. Marcus (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and P. Alippi, *Physical Review B* **57**, No. 3, 1971-1975 (1998).

Contact, Nanoindentation, and Sliding Friction, A. Buldum (Bilkent University, TR-06533 Ankara, Turkey) et al., *Physical Review B* **57**, No. 4, 2468-2476 (1998).

Modification of the Landau-Lifshitz Equation in the Presence of a Spin-Polarized Current in Colossal Magnetoresistive and Giant Magnetoresistive Materials, Y. B. Bazaliy (Stanford University, Stanford, CA 94305) et al., *Physical Review B* **57**, No. 6, 3213-3216 (1998).

Quasi-Particle Tunneling Spectra of the High-T_c Mercury Cuprates: Implications of the D-Wave Two-Dimensional Van Hove Scenario, J. Y. T. Wei (California Institute of Technology, Pasadena, CA 91125) et al., *Physical Review B* **57**, No. 6, 3650-3662 (1998).

Correlation Between Structure and Magnetic Anisotropies of Co on Cu(110), J. Fassbender (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Physical Review B* **57**, No. 10, 5870-5878 (1998).

Pairing Symmetry from Inplane Torque Anisotropy in Tl₂Ba₂CuO_{6-δ} Thin Films, M. Willemin (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Physical Review B* **57**, No. 10, 6137-6144 (1998).

Equilibrium Shapes and Properties of Epitaxially Strained Islands, B. J. Spencer (State University of New York, 3435 Main Street, Buffalo, NY 14214) and J. Tersoff, *Physical Review Letters* **79**, No. 24, 4858–4861 (1997).

Continuum Theory for Strained Epitaxial Islands, J. Tersoff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review Letters* **79**, No. 24, 4934 (1997).

Transparency of the AB Planes of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8-\delta}$ to Magnetic Fields, W. J. Kossler (College of William and Mary, Williamsburg, VA 23187) et al., *Physical Review Letters* **80**, No. 3, 592–595 (1998).

Coarsening of Self-Assembled Ge Quantum Dots on Si(001), F. M. Ross (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **80**, No. 5, 984–987 (1998).

Pinned Vortex Liquid Above the Critical Point of the First-Order Melting Transition: A Consequence of Point-Like Disorder, D. Lopez (Argonne National Laboratory, Argonne, IL 60435) et al., *Physical Review Letters* **80**, No. 5, 1070–1073 (1998).

Self-Organization of Steps in Growth of Strained Films on Vicinal Substrates, F. Liu (University of Wisconsin, Madison, WI 53706) et al., *Physical Review Letters* **80**, No. 6, 1268–1271 (1998).

Cryogenic UHV–STM Study of Hydrogen and Deuterium Desorption from Si(100), E. T. Foley (University of Illinois, Urbana, IL 61801) et al., *Physical Review Letters* **80**, No. 6, 1336–1339 (1998).

Surface Stress and Self-Organization of Steps, J. Tersoff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review Letters* **80**, No. 9, 2018 (1998).

Chain Motion in an Unentangled Polyethylene Melt: A Critical Test of the Rouse Model by Molecular Dynamics Simulations and Neutron Spin-Echo Spectroscopy, W. Paul (University of Mainz, Staudingerweg 7, D-55099 Mainz, Germany) et al., *Physical Review Letters* **80**, No. 11, 2346–2349 (1998).

Experimental Implementation of Fast Quantum Searching, I. L. Chuang (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Physical Review Letters* **80**, No. 15, 3408–3411 (1998).

Kinematic Effects on Local Energy Dissipation Rate and Local Enstrophy in Fluid Turbulence, H. D. Chen (EXA Corporation, 450 Bedford Street, Lexington, MA 02165) and S. Y. Chen, *Physics of Fluids* **10**, No. 1, 312–314 (1998).

Decoherence: The Obstacle to Quantum Computation, D. DiVincenzo (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and B. Terhal, *Physics World* **11**, No. 3, 53–57 (1998).

Preparation of Thermally Labile PMMA Particles by Combined Nonaqueous Dispersion Polymerization and Polymer-Chain Transfer, S. A. Srinivasan (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Polymer* **39**, No. 6–7, 1497–1501 (1998).

High-Temperature Polyimide Composites Prepared from Soluble Polymeric and Cross-Linkable Oligomeric Precursors: Phase Demixing and Properties, M. Ree (Pohang University of Science and Technology, Pohang 790784, South Korea) et al., *Polymer* **39**, No. 12, 2521–2529 (1998).

The Crosslinking Mechanism in Gamma Irradiation of Polyarylsulfone: Evidence for Y-Links, D. J. T. Hill (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Polymers for Advanced Technologies* **9**, No. 1, 45–51 (1998).

The QBIC Project in the Department of Art and Art History at UC Davis, B. Holt (University of California, Davis, CA 95616) et al., *Proceedings of the ASIS Annual Meeting* **34**, 189–195 (1997).

Multimedia Communication, L. C. Wolf (Technische Universität Darmstadt, D-64283 Darmstadt, Germany) et al., *Proceedings of the IEEE* **85**, No. 12, 1915–1933 (1997).

A Nanoscale Single-Molecule Amplifier and Its Consequences, C. Joachim (National Center of Scientific Research, F-31055 Toulouse 04, France) and J. K. Gimzewski, *Proceedings of the IEEE* **86**, No. 1, 184–190 (1998).

Electrical Characteristics of Interconnections for High-Performance Systems, A. Deutsch (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Proceedings of the IEEE* **86**, No. 2, 315–355 (1998).

SOI for Digital CMOS VLSI: Design Considerations and Advances, C. T. Chuang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Proceedings of the IEEE* **86**, No. 4, 689–720 (1998).

Quantum Gates and Circuits, D. P. DiVincenzo (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Proceedings of the Royal Society of London Series A* **454**, No. 1969, 261–276 (1998).

Energy Needed to Send a Bit, R. Landauer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Proceedings of the Royal Society of London Series A* **454**, No. 1969, 305–311 (1998).

Q

Spectral Characteristics of Multilayer Cobalt–Carbon Mirrors for the λ Approximate to 7.5-nm Range, N. N. Kolachevskii (Russian Academy of Science, Leninskii Prospekt 53, Moscow 117924, Russia) et al., *Quantum Electronics* **27**, No. 8, 712–716 (1997).

R

Management of Dispersed Product Development Teams: The Role of Information Technologies, R. Boutellier (University of St. Gallen, St. Gallen, Switzerland) et al., *R & D Management* **28**, No. 1, 13–25 (1998).

Apologia for Technical Autopsies, R. Landauer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Recherche* **307**, 34–35 (1998).

S

Images of Interlayer Josephson Vortices in Tl, Ba, CuO_x < δ , K. A. Moler (Princeton University, Princeton, NJ 08544) et al., *Science* **279**, No. 5354, 1193–1196 (1998).

Characterization of an Integrated Force Sensor Based on a MOS Transistor for Applications in Scanning Force Microscopy, T. Akiyama (University of Neuchâtel, rue Jaquet Droz 1, CH-2007 Neuchâtel, Switzerland) et al., *Sensors and Actuators A* **64**, No. 1, 1–6 (1998).

High Aspect Ratio, Ultrathick, Negative Tone Near-UV Photoresist and Its Applications for MEMS, H. Lorenz (École Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland) et al., *Sensors and Actuators A* **64**, No. 1, 33–39 (1998).

A Label-Free Affinity Sensor with Compensation of Unspecific Protein Interaction by a Highly Sensitive Integrated Optical Mach-Zehnder Interferometer on Silicon, F. Brosinger (IBM Germany, Hechtsheimer Strasse 2, D-55133 Mainz, Germany) et al., *Sensors and Actuators B* **44**, No. 1–3, 350–355 (1997).

Fast Quasi-Continuous Wavelet Algorithms for Analysis and Synthesis of One-Dimensional Signals, S. H. Maes (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *SIAM Journal on Applied Mathematics* **57**, No. 6, 1763–1801 (1997).

Fully Polynomial Byzantine Agreement for $n > 3t$ Processors in $t + 1$ Rounds, J. A. Garay (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) and Y. Moses, *SIAM Journal on Computing* **27**, No. 1, 247–290 (1998).

A Sublinear Time Distributed Algorithm for Minimum Weight Spanning Trees, J. A. Garay (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *SIAM Journal on Computing* **27**, No. 1, 302–316 (1998).

Reliable Computation of the Condition Number of a Tridiagonal Matrix in $O(n)$ Time, I. S. Dhillon (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *SIAM Journal on Matrix Analysis and Applications* **19**, No. 3, 776–796 (1998).

An Approach for Decomposing N-Ary Data Relationships, A. J. McAllister (University of New Brunswick, P.O. Box 4400, Fredericton, New Brunswick E3B 5A3, Canada) and D. Sharpe, *Software—Practice & Experience* **28**, No. 2, 125–154 (1998).

Influence of Disorder on the Magneto-optical Properties of FePt, Y. Perlov (University of Munich, Theresienstrasse 37, D-80333 Munich, Germany) et al., *Solid State Communications* **105**, No. 4, 273–278 (1998).

Manufacturability and Applications of SiGe HBT Technology, D. A. Sunderland (Hughes Space & Communications Co., P.O. Box 92919, Los Angeles, CA 90009) et al., *Solid State Electronics* **41**, No. 10, 1503–1507 (1997).

Critical Resolved Shear-Stress for a Dislocation Loop Growth, Stability and Retrogrowth in Silicon: Application to the 16 meg DRAM, B. Leroy (IBM France, 224 Boulevard J. F. Kennedy, F-91105 Corbeil Essonnes, France), *Solid State Physics* **57**, No. 8, 275–286 (1997).

Phase Transition in a Two-Dimensional Dipole-Oriented Exciton System, T. Fukuzawa (IBM Japan, Ltd., 1623-14 Shimotsuruma, Kanagawa 242, Japan) et al., *Superlattices and Microstructures* **23**, No. 1, 103–106 (1998).

Information Physics in Cartoons, C. H. Bennett (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Superlattices and Microstructures* **23**, No. 3–4, 367–372 (1998).

Quantum Information Is Physical, D. P. DiVincenzo (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. Loss, *Superlattices and Microstructures* **23**, No. 3–4, 419–432 (1998).

The Envelope Representation, P. J. Price (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Superlattices and Microstructures* **23**, No. 3–4, 505–510 (1998).

Is There an Intrinsic Dead Layer Effect at Ferroelectric Surfaces, C. Zhou (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. M. Newns, *Superlattices and Microstructures* **23**, No. 3–4, 539–545 (1998).

Absence of Localization in Certain Field-Effect Transistors, S. Washburn (University of North Carolina, Chapel Hill, NC 27599) et al., *Superlattices and Microstructures* **23**, No. 3–4, 581–591 (1998).

Conductance Calculations for the Atomic Relay, N. D. Lang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Superlattices and Microstructures* **23**, No. 3–4, 731–735 (1998).

Kinetic Modeling of Electron Tunneling Processes in Quantum Dots Coupled to Field-Effect Transistors, F. Rana (Massachusetts Institute of Technology, Cambridge, MA 02139) et al., *Superlattices and Microstructures* **23**, No. 3–4, 757–770 (1998).

Possible Evidence for Mixed Symmetry of the Order Parameter in the Cuprates, R. Gatt (University of Wisconsin, 1150 University Avenue, Madison, WI 53706) and P. Chaudhari, *Superlattices and Microstructures* **23**, No. 3–4, 945–956 (1998).

Multilayers of Amorphous Carbon Prepared by Cathodic Arc Deposition, S. Anders (University of California, 1 Cyclotron Road, Berkeley, CA 94720) et al., *Surface & Coatings Technology* **94-5**, No. 1-3, 189-194 (1997).

Friction Control of Diamond-Like Carbon Coatings, C. Donnet (École Central Lyon, B.P. 163, F-69131 Écully, France) and A. Grill, *Surface & Coatings Technology* **94**, No. 1-3, 456-462 (1997).

Tribology of Diamond-Like Carbon and Related Materials: An Updated Review, A. Grill (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface & Coatings Technology* **94-5**, No. 1-3, 507-513 (1997).

Wear Resistant Fluorinated Diamond-Like Carbon Films, C. Donnet (École Central Lyon, B.P. 163, F-69131 Écully, France) et al., *Surface & Coatings Technology* **94-5**, No. 1-3, 531-536 (1997).

Taber Abraser Liquid Particle Count Coupling for the Determination of Sliding Wear of Metallized Plastics, M. Riester (IBM Deutschland GmbH, Hechtsheimer Strasse 2, D-55131 Mainz, Germany) et al., *Surface & Coatings Technology* **97**, No. 1-3, 649-655 (1997).

Ultrahigh Vacuum Atomic Force Microscopy: True Atomic Resolution, R. Luthi (University of Basel, Klingelbergstrasse 82, CH-4056 Basel, Switzerland) et al., *Surface Review and Letters* **4**, No. 5, 1025-1029 (1997).

Electron-Stimulated Desorption Induced by the Scanning Tunneling Microscope, T. C. Shen (University of Illinois, Urbana, IL 61801) and P. Avouris, *Surface Science* **390**, No. 1-3, 35-44 (1997).

Local Bond Breaking Via STM-induced Excitations: The Role of Temperature, B. N. J. Persson (KFA Jülich GmbH, Postfach 1913, D-52425 Jülich, Germany) and P. Avouris, *Surface Science* **390**, No. 1-3, 45-54 (1997).

Origin of Conductance Quantization, I. P. Batra (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Surface Science* **395**, No. 1, 43-45 (1998).

Epitaxial Growth of Ultrathin PT Films on Basal-Plane Sapphire: The Emergence of a Continuous Atomically Flat Film, M. L. Hildner (University of Maryland, College Park, MD 20742) et al., *Surface Science* **396**, No. 1-3, 16-23 (1998).

Will OLED Displays Challenge Liquid Crystal Displays in Notebook Computer Applications, R. Troutman (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Synthetic Metals* **91**, No. 1-3, 31-34 (1997).

STM-Excited Luminescence on Organic Materials, S. F. Alvarado (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Synthetic Metals* **91**, No. 1-3, 69-72 (1997).

Highly Efficient and Stable Organic Light-Emitting Diodes, H. Vestweber (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and W. Riess, *Synthetic Metals* **91**, No. 1-3, 181-185 (1997).

Characterization of Blue-Light-Emitting Organic Electroluminescent Devices, E. I. Haskal (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Synthetic Metals* **91**, No. 1-3, 187-190 (1997).

Field-Effect Transistors Comprising Molecular-Beam Deposited α , ω -Di-Hexyl-Hexathienylene and Polymeric Insulator, C. D. Dimitrakopoulos (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Synthetic Metals* **92**, No. 1, 47-52 (1998).

T

A Process Algebra with Distributed Priorities, R. Cleaveland (North Carolina State University, Raleigh, NC 27695) et al., *Theoretical Computer Science* **195**, No. 2, 227-258 (1998).

Electromigration in 0.25 μ m Wide Cu Line on W, C. K. Hu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Thin Solid Films* **308**, 443-447 (1997).

Euler Products Associated to Metaplectic Automorphic Forms on the Three-Fold Cover of GSP(4), T. Goetze (Pacific Bell, 2600 Camino Ramon 15200W, San Ramon, CA 94583), *Transactions of the American Mathematical Society* **350**, No. 3, 975-1011 (1998).

U

Implications of High-Resolution to Near-Field Optical Microscopy, L. Novotny (Pacific Northwest National Laboratory, P.O. Box 999, Richland, WA 99352) et al., *Ultramicroscopy* **71**, No. 1-4, 341-344 (1998).

W

Local Domain Mesoscale Analysis and Forecast Model Support for the 1996 Centennial Olympic Games, J. S. Snook (NOAA, Forecast Systems Laboratory, Boulder, CO 80303) et al., *Weather and Forecasting* **13**, No. 1, 138-150 (1998).