

Recent publications by IBM authors

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• Journals and books are listed alphabetically by title; papers are listed sequentially for each journal.

A

Two-Phase Locking Performance and Its Thrashing Behavior, A. Thomasian (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *ACM Transactions on Database Systems* **18**, No. 4, 579–625 (1993).

Wild Type and E106Q Mutant Carbonic Anhydrase Complexed with Acetate, K. Hakansson (Lund University, P.O. Box 124, S-22100 Lund, Sweden) et al., *Acta Crystallographica D* **50**, 101–104 (1994).

A New Scaling Algorithm for the Maximum Mean Cut Problem, K. Iwano (IBM Japan Ltd., 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan) et al., *Algorithmic* **11**, No. 3, 243–255 (1994).

Algorithms and Complexity Analysis for Some Flow Problems, E. Cohen (AT&T Bell Laboratories, 600 Mt. Avenue, Murray Hill, NJ 07974) and N. Megiddo, *Algorithmic* **11**, No. 3, 320–340 (1994).

Dopant and Carrier Profiling in Modulation Doped GaAs Multilayers with Cross-Sectional Scanning Tunneling Microscopy, M. B. Johnson (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Applied Physics Letters* **63**, No. 26, 3636–3638 (1993).

Thermal Velocity Limits to Diffusive Electron Transport in Thin Base NP(<)N GaAs Bipolar Transistors, E. S. Harmon (Purdue University, West Lafayette, IN 47907) et al., *Applied Physics Letters* **64**, No. 2, 205–207 (1994).

High T_c Multilevel Edge Junction Superconducting Quantum Interference Devices with SrTiO_3 Barriers Operating at 77 K, R. B. Laibowitz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **64**, No. 2, 247–249 (1994).

Thermomechanical Data Storage Using a Fiber Optic Stylus, S. Hoen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **64**, No. 3, 267–268 (1994).

Formation of Beta-Sic Nanocrystals by the Relaxation of $\text{Si}_{1-y}\text{C}_y$ Random Alloy Layers, A. R. Powell (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **64**, No. 3, 324–326 (1994).

Block-by-Block Deposition: A New Growth Method for Complex Oxide Thin Films, J. P. Locquet (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Applied Physics Letters* **64**, No. 3, 372–374 (1994).

Hydrogen Desorption Kinetics from Epitaxially Grown $\text{Si}(100)$, C. M. Greenlief (University of Missouri, Columbia, MO 65211) and M. Liehr, *Applied Physics Letters* **64**, No. 5, 601–603 (1994).

Electric Field Dependent Nonphotorefractive Gratings in a Nonlinear Photoconducting Polymer, S. M. Silence (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **64**, No. 6, 712–714 (1994).

Strain Symmetrization Effects in Pseudomorphic $\text{Si}_{1-y}\text{C}_y/\text{Si}_{1-x}\text{Ge}_x$ Superlattices, K. Eberl (Max Planck Institute, Stuttgart, Germany) et al., *Applied Physics Letters* **64**, No. 6, 739–741 (1994).

Atomic Layer Epitaxy of Si on Ge(100) Using Si_2C_6 and Atomic Hydrogen, D. D. Koleske (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. M. Gates, *Applied Physics Letters* **64**, No. 7, 884–886 (1994).

Atomic Hydrogen Induced Interface Degradation of Reoxidized Nitrided Silicon Dioxide on Silicon, E. Cartier (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **64**, No. 7, 901–903 (1994).

Rapid Searches for Counterparts of GrB-930131, B. E. Schaefer (Cerro Tololo Interamer Observatory, La Serena, Chile) et al., *Astrophysical Journal* **422**, No. 2, L71–L74 (1994).

System Modeling and Optimization Under Vector Valued Criteria, P. A. Ferreira (Unicamp, CP 6101, BR-13081 Campinas, SP, Brazil) and T. C. D. Borges, *Automatica* **30**, No. 2, 331–336 (1994).

B

Studies of the Binding Specificity of Concanavalin-A: Nature of the Extended Binding Site for Asparagine-Linked Carbohydrates, D. K. Mandal (Albert Einstein College of Medicine, Bronx, NY 10461) et al., *Biochemistry* **33**, No. 5, 1157–1162 (1994).

DNA Sequence Determinants of Carcinogen-Induced Frameshift Mutagenesis, R. L. Napolitano (IBM Corporation, 15 Rue Descartes, F-67084, Strasbourg, France) et al., *Biochemistry* **33**, No. 6, 1311–1315 (1994).

C

The Dependence of the Oxygen Metal Distance for Water Adsorbed at a Metal Electrode, W. Schmickler (University Ulm, Elektrochem ABT, D-89069 Ulm, Germany) et al., *Chemical Physics Letters* **216**, Nos. 3–6, 424–428 (1993).

New Calculations on the Ion Molecule Processes
 $C_2H_2(<)<H_2^+ \cdot C_2H_2(<)<H$ and $C_2H_2(<)<H_2^+ \cdot C_2H_4(<)$, S. A. Maluendes (Molecular Research Institute, 845 Page Mill Road, Palo Alto, CA 94304) et al., *Chemical Physics Letters* **217**, Nos. 5–6, 571–576 (1994).

Observation of a Chemical Reaction Using a Micromechanical Sensor, J. K. Gimzewski (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Chemical Physics Letters* **217**, Nos. 5–6, 589–594 (1994).

Ab Initio Molecular Dynamics of C-70: Intramolecular Vibrations and Zero Point Motion Effects, G. Onida (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Chemical Physics Letters* **219**, Nos. 1–2, 1–7 (1994).

Measurements and Calculations of the Hyperpolarizabilities of Atoms and Small Molecules in the Gas Phase, D. P. Shelton (University of Nevada, 4505 Maryland Parkway, Las Vegas, NV 89154) and J. E. Rice, *Chemical Review* **94**, No. 1, 3–29 (1994).

Second Order Nonlinearity in Poled Polymer Systems, D. M. Burland (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Chemical Review* **94**, No. 1, 31–75 (1994).

Polymeric Photorefractive Materials, W. E. Moerner (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and S. M. Silence, *Chemical Review* **94**, No. 1, 127–155 (1994).

New Supporting Evidence for the Van Hove Model of High-Temperature Superconductivity, C. C. Tsuei (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Chinese Journal of Physics* **31**, No. 6, 795–804 (1993).

1/f Noise Near the Superconducting Transition of $YBa_2Cu_3O_x$ Meandering Line Pattern Thin Film, C. L. Lin (National Tsing Hua University, Hsinchu 300, Taiwan) et al., *Chinese Journal of Physics* **31**, No. 6, 1073–1078 (1993).

A Finite Element for the Linear Analysis of Laminated Circular Plates, G. H. Thiel (IBM Corporation, 1701 North Street, Endicott, NY 13760) and R. E. Miller, *Composite Structures* **27**, No. 4, 339–355 (1994).

Frontiers in Computational Materials Science, S. T. Pantelides (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Computational Mathematical Science* **2**, No. 1, 149–155 (1994).

CSMA CD with Network Partitioning, R. A. Pitts (IBM Corporation, Charlotte, NC 28257) et al., *Computer Networks and ISDN Systems* **26**, No. 4, 423–432 (1993).

Query Classification in Object-Oriented Engineering Design Systems, G. Samaras (IBM Corporation, P.O. Box 12195, Research Triangle Park, NC 27709) et al., *Computer-Aided Design* **26**, No. 2, 127–136 (1994).

Application of Newton Modified Barrier Method to Structural Optimization, N. S. Khot (Wright Patterson Air Force Base, OH 45433) et al., *Computers & Structures* **49**, No. 3, 467–472 (1993).

On the Darling Mandelbrot Probability Density and the Zeros of Some Incomplete Gamma Functions, J. S. Lew (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Constructive Approximation* **10**, No. 1, 15–30 (1994).

D

Electrical Resistivities of Diamond-like Carbon, A. Grill (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Diamond and Related Materials* **3**, No. 3, 281–284 (1994).

Nitrogen Containing Diamond-like Carbon Prepared by DC PACVD, A. Grill (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and V. Patel, *Diamond Films and Technology* **2**, Nos. 2–3, 61–73 (1992).

E

Experiment with Floor Planning, J. Koehl (IBM Deutschland Entwicklung, GmbH, Böblingen, Germany), *EDN* **39**, No. 4, 19–20 (1994).

Lifetime Extension of Uncoated AlGaAs Single Quantum Well Lasers by High Power Burn-in in Inert Atmospheres, W. C. Tang (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Electronics Letters* **30**, No. 2, 143–145 (1994).

Mixing Sets and Relative Entropies for Higher Dimensional Markov Shifts, B. Kitchens (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and K. Schmidt, *Ergonomic Theory and Dynamical Systems* **13**, 705–735 (1993).

F

A Column Generation Algorithm for Solving General Forest Planning Problems with Adjacency Constraints, A. Weintraub (University of Chile, Casilla 2777, Santiago, Chile) et al., *Forest Science* **40**, No. 1, 142–161 (1994).

G

The Intermittent Solar Cycle, N. Platt (USN, 10901 New Hampshire Avenue, Silver Spring, MD 20903) et al., *Geophysical and Astrophysical Fluid Dynamics* **73**, Nos. 1-4, 147-161 (1993).

Can Magnetic Force Microscopy Determine Micromagnetic Structures?, P. Grutter (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and R. Allenspach, *Geophysical Journal International* **116**, No. 2, 502-505 (1994).

I

Constructive Shell Representations for Freeform Surfaces and Solids, J. P. Menon (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Computing Graphics and Applications* **14**, No. 2, 24-36 (1994).

Research Issues in Model-Based Visualization of Complex Data Sets, J. R. Rossignac (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and M. Novak, *IEEE Computing Graphics and Applications* **14**, No. 2, 83-85 (1994).

Test Synthesis: In Cooperation with the International Test Conference, R. G. Bennetts (Synopsys Inc., Mt. View, CA 94040) et al., *IEEE Design & Test of Computers* **11**, No. 1, 60-68 (1994).

A Monolithic 2.3-Gb/S 100-Mw Clock and Data Recovery Circuit in Silicon Bipolar Technology, M. Soyuer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Journal of Solid-State Circuits* **28**, No. 12, 1310-1313 (1993).

A Dynamic Line-Termination Circuit for Multireceiver Nets, M. Dolle (Hyperstone Electric GmbH, D-78467 Constance, Germany), *IEEE Journal of Solid-State Circuits* **28**, No. 12, 1370-1373 (1993).

High-Speed Low-Power Darlington ECL Circuit, C. T. Chuang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Journal of Solid-State Circuits* **28**, No. 12, 1374-1376 (1993).

IBM's ES/9000 Model 982S Fault Tolerant Design for Consolidation, L. Spainhower (IBM Corporation, 522 South Road, Poughkeepsie, NY 12602) et al., *IEEE Micro* **14**, No. 1, 48-59 (1994).

Analytical Coupling Model for Obliquely Polished Single Mode Fibers, D. P. Clement (Dartmouth College, Hanover, NH 03755) et al., *IEEE Photonics Technology Letters* **5**, No. 12, 1442-1444 (1993).

A Four-Channel Monolithic Optical Electronic Selector for Fast Packet Switched WDMA Networks, F. Tong (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Photonics Technology Letters* **6**, No. 1, 68-70 (1994).

Single Layer Global Routing, M. Sarrafzadeh (Northwestern University, Evanston, IL 60208) et al., *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **13**, No. 1, 38-47 (1994).

Semiconductor Wafer Representation for TCAD, M. D. Giles (University of Michigan, Ann Arbor, MI 48103) et al., *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **13**, No. 1, 82-95 (1994).

Fast Simulation of Highly Dependable Systems with General Failure and Repair Processes, V. F. Nicola (University of Twente, 7500 AE Enschede, Netherlands) et al., *IEEE Transactions on Computers* **42**, No. 12, 1440-1452 (1993).

DQDB(+/-): A Fair and Waste Free Media Access Protocol for Dual Bus Metropolitan Networks, I. F. Akyildiz (Georgia Institute of Technology, Atlanta, GA 30332) et al., *IEEE Transactions on Computers* **42**, No. 12, 1805-1815 (1993).

Cycle Compensation Protocol: A Fair Protocol for the Unidirectional Twin Bus Architecture, Y. S. Leu (IBM Corporation, San Jose, CA 95114) and D. H. C. Du, *IEEE Transactions on Computers* **43**, No. 1, 1-12 (1994).

Automated Verification of Behavioral Equivalence for Microprocessors, F. Corella (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Computers* **43**, No. 1, 115-117 (1994).

A Systematic (12,8) Code for Correcting Single Errors and Detecting Adjacent Errors, M. Blaum (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Computers* **43**, No. 1, 125 (1994).

Non-Quasi-Static Transient and Small Signal Two-Dimensional Modeling of GaAs MESFETs with Emphasis on Distributed Effects, S. Akhtar (Massachusetts Institute of Technology, Cambridge, MA 02139) and S. Tiwari, *IEEE Transactions on Electron Devices* **40**, No. 12, 2154-2163 (1993).

Electrical and Optical Bandgaps of Ge Si_{1-x} Strained Layers, S. C. Jain (Clarendon Lab, Oxford OX1 3PU, Oxon, England) et al., *IEEE Transactions on Electron Devices* **40**, No. 12, 2338-2343 (1993).

SiGe Channel Heterojunction P-MOSFETs, S. Verdoncktvandebroek (Xerox Corporation, Webster, NY 14580) et al., *IEEE Transactions on Electron Devices* **41**, No. 1, 90-101 (1994).

2-D Simulation of Interface Properties of a Polysilicon Contacted BJT: Is There a Residual Potential Barrier After the Oxide is Broken?, J. L. Egley (IBM Corporation, 3605 Highway 52 North, Rochester, MN 55901), *IEEE Transactions on Electron Devices* **41**, No. 2, 217-220 (1994).

Constructions of Skew-Tolerant and Skew-Detecting Codes, M. Blaum (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Information Theory* **39**, No. 5, 1751-1757 (1993).

Tracking Mobile Users in Wireless Communications Networks, A. Barnoy (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) and I. Kessler, *IEEE Transactions on Information Theory* **39**, No. 6, 1877-1886 (1993).

Database Mining: A Performance Perspective, R. Agrawal (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Knowledge and Data Engineering* 5, No. 6, 914-925 (1993).

Avoiding Misconstruals in Database Systems: A Default Logic Approach, A. S. Hemerly (IBM Brazil, Vargas 824-844 Ctr., BR-20071 Rio de Janeiro, Brazil) et al., *IEEE Transactions on Knowledge and Data Engineering* 5, No. 6, 994-996 (1993).

Effectiveness of Antiferromagnetic Oxide Exchange for Sandwich Layers, T. R. McGuire (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Magnetics* 29, No. 6, 2714-2716 (1993).

Domain and Domain Wall Observations in Sputtered Exchange Biased Wedges, R. Schafer (IFF, Forschungszentrum Julich, Postfach 1913, D-52425 Julich, Germany) et al., *IEEE Transactions on Magnetics* 29, No. 6, 2738-2740 (1993).

Magnetic Properties of rf-Sputtered Fe(n)/NiFeCo(n) Films, R. E. Jones (IBM Corporation, San Jose, CA 95114) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3072-3074 (1993).

Magneto-optical Study on Diluted Magnetic III-V Heterostructures, P. Fumagalli (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3411-3413 (1993).

Magnetic Probing of Dispersion Quality of Cobalt Modified Iron-Oxide Particle Inks, C. Jung (University of Arizona, Tucson, AZ 85721) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3643-3645 (1993).

Composition Effects in High-Density CoPtCr Media, M. F. Doerner (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3667-3669 (1993).

Composition Effects on Recording Properties of CoPtCr Thin Film Media, K. E. Johnson (IBM Corporation, 3605 Highway 52 North, Rochester, MN 55901) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3670-3672 (1993).

Experimental Observation of Solute Segregation in Longitudinal CoPtCr/Cr Magnetic Thin Films, M. R. Kim (University of Utah, Salt Lake City, UT 84112) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3673-3675 (1993).

Development of Columnar Microstructure in Magnetron Sputter Deposited CoPtCr/Cr Magnetic Thin Films, M. R. Kim (University of Utah, Salt Lake City, UT 84112) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3688-3690 (1993).

Noise Distribution Measurements of Recorded Transitions in Film Media, T. C. Arnoldussen (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3703-3705 (1993).

Interactions in CoPtCr/SiO₂ Composite Thin Films, M. Elhilo (UCNW, SEECS, Magnet Mat. Res. Grp., Bangor, Gwynedd LL57 1U, Wales) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3724-3726 (1993).

True Direct Overwrite in Single Layer Magneto-optical Recording, M. D. Schultz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3772-3777 (1993).

Seek Reliability Enhancement in Optical and Magneto-optical Disk Data Storage Devices, N. Bui (IBM Corporation, Tucson, AZ 85744) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3802-3804 (1993).

Sensitivity of Orthogonal Magnetoresistive Heads, P. K. Wang (Connor Peripherals, 3061 Zanker Road, MS-530, San Jose, CA 95134) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3820-3822 (1993).

High Susceptibility Domain Configuration in Micron-Sized Ferromagnetic Stripes, B. Petek (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3840-3842 (1993).

Grain Influences on Domains and Read Back Pulse Distortions of Ferrite MIG Heads, R. Schafer (KFA Julich GmbH, Postfach 1913, W-5170 Julich, Germany) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3876-3878 (1993).

Environment Dependent Stiction and Durability in Hydrogenated Carbon Overcoated Thin Film Disks, V. Raman (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) and W. T. Tang, *IEEE Transactions on Magnetics* 29, No. 6, 3933-3935 (1993).

The Hardness of Iron(N) Films Sputtered in AR-N-2 Mixtures, R. E. Jones (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3966-3968 (1993).

A Novel Accelerated Wear Test for Magnetic Recording Disks, P. R. Peck (Carnegie Mellon University, Pittsburgh, PA 15213) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3969-3971 (1993).

Disk Noise Induced Peak Jitters in High-Density Recording, C. Tsang (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and Y. Tang, *IEEE Transactions on Magnetics* 29, No. 6, 3975-3977 (1993).

Track Edge Overwrite and Easy Axis Orientation in Narrow Track Recording, X. G. Ye (University of Minnesota, Minneapolis, MN 55455) et al., *IEEE Transactions on Magnetics* 29, No. 6, 3978-3980 (1993).

Real-Time Recording Results for a Trellis-Coded Partial Response (TCPR) System, H. K. Thapar (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *IEEE Transactions on Magnetics* 29, No. 6, 4009-4011 (1993).

Performance Comparison of EPRML and Peak Detection in High-Density Digital Magnetic Recording, H. Shafiee (University of Minnesota, Minneapolis, MN 55455) et al., *IEEE Transactions on Magnetics* 29, No. 6, 4015-4017 (1993).

Magnetic Hard Disk Drive Form Factor Evolution, E. G. Grochowski (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **29**, No. 6, 4065-4067 (1993).

Exchange Bias Enhancement Through Interdiffusion of NiFe/FeMn/Metal Films, M. M. Chen (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *IEEE Transactions on Magnetics* **29**, No. 6, 4077-4079 (1993).

An Improved Algorithm for Neural Network Classification of Imbalanced Training Sets, R. Anand (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Neural Networks* **4**, No. 6, 962-969 (1993).

A Symmetrical Fragment and Replicate Algorithm for Distributed Joins, J. W. Stamos (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and H. C. Young, *IEEE Transactions on Parallel and Distributed Systems* **4**, No. 12, 1345-1354 (1993).

A Parallel Hash Join Algorithm for Managing Data Skew, J. L. Wolf (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Parallel and Distributed Systems* **4**, No. 12, 1355-1371 (1993).

Highly Reliable Symmetrical Networks, L. M. Huisman (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. Kundu, *IEEE Transactions on Parallel and Distributed Systems* **5**, No. 1, 94-97 (1994).

A Case Study of Software Process Improvement During Development, I. Bhandari (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Software Engineering* **19**, No. 12, 1157-1170 (1993).

Efficient Detection and Resolution of Generalized Distributed Deadlocks, A. D. Kshemkalyani (IBM Corporation, Research Triangle Park, NC 27709) and M. Singhal, *IEEE Transactions on Software Engineering* **20**, No. 1, 43-54 (1994).

Efficient Algorithms for Finding the Most Vital Edge of a Minimum Spanning Tree, K. Iwano (IBM Japan Ltd., 5-11 Sanbancho, Chiyoda-ku, Tokyo 102, Japan) and N. Katoh, *Information Processing Letters* **48**, No. 5, 211-213 (1993).

Measuring Prime Program Complexity, M. V. Zelkowitz (University of Maryland, College Park, MD 20742) and J. H. Tian, *Information Sciences* **77**, Nos. 3-4, 325-350 (1994).

Surface Reactivity of Alkylgold(I) Complexes: Substrate Selective Chemical Vapor Deposition of Gold from $\text{RaUp}(\text{CH}_3)_3$ ($\text{R} = \text{CH}_3, \text{CH}_2, \text{CH}_3$) at Remarkably Low Temperatures, M. M. B. Holl (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Inorganic Chemistry* **33**, No. 3, 510-517 (1994).

A Process Audit Plan, W. M. Chow (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193), *International Journal of Production Research* **32**, No. 2, 399-409 (1994).

Resonantly Enhanced Neutron Intensity in a Surface Segregated Polymer Blend, L. J. Norton (Cornell University, Ithaca, NY 14853) et al., *Journal de Physique II* **4**, No. 2, 367-376 (1994).

The Linear and Circular Polarizations of Exciton Luminescence in GaAs/AlGaAs Quantum Wells, A. Frommer (Technion Israel Institute of Technology, IL-32000 Haifa, Israel) et al., *Journal de Physique IV* **3**, No. NC5, 179-182 (1993).

Optical Study of $\text{ZnSe}/\text{ZnO}_{0.7}\text{MnO}_{0.3}$ Se Heterostructure, T. Lebihen (Ecole Normale Sup., 24 Rue Lhomond, F-75231 Paris 05, France) et al., *Journal de Physique IV* **3**, No. NC5, 425-428 (1993).

Scanning Tunneling Microscopy, J. K. Gimzewski (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal de Physique IV* **3**, No. NC7, 41-48 (1993).

Neutron Reflectivity Studies of Ordered Copolymer Films, A. M. Mayes (Massachusetts Institute of Technology, Cambridge, MA 02139) and T. P. Russell, *Journal de Physique IV* **3**, No. NC8, 41-47 (1993).

GiSaS: Glancing Incidence Small Angle X-ray Scattering, J. R. L. Parrill (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal de Physique IV* **3**, No. NC8, 411-417 (1993).

Comparison of Finite Element Stress Analysis Results with Peel Strength at the Copper Polyimide Interface, R. H. Lacombe (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Adhesion Science and Technology* **7**, No. 12, 1293-1307 (1993).

Adhesion Studies of Polyimide Films Using a Surface Acoustic Wave Sensor, D. W. Galipeau (South Dakota State University, Brookings, SD 57007) et al., *Journal of Adhesion Science and Technology* **7**, No. 12, 1335-1345 (1993).

High-Speed Scanning Tunneling Microscopy: Principles and Applications, H. J. Mamin (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Applied Physics* **75**, No. 1, 161-168 (1994).

Nonperturbative Ion Etching of YBaCuO Thin Films, P. Xavier (CNRS, BP166, F-38042 Grenoble, France) et al., *Journal of Applied Physics* **75**, No. 2, 1219-1221 (1994).

Influences of Chain Rigidity, Inplane Orientation, and Thickness Residual Stress of Polymer Films, M. Ree (Pohang Institute of Science & Technology, P.O. Box 125, Pohang 790600, South Korea) et al., *Journal of Applied Physics* **75**, No. 3, 1410-1419 (1994).

Film Stress of Sputtered W/C Multilayers and Strain Relaxation Upon Annealing, J. F. Geisz (University of Wisconsin, Madison, WI 53706) et al., *Journal of Applied Physics* **75**, No. 3, 1530-1533 (1994).

Electrical Transport Properties of Cu₂Ge Thin Films, M. O. Aboelfotoh (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Applied Physics* **75**, No. 3, 1616–1619 (1994).

Effect of Crystal Structure on the Electrical Resistivity of Copper Germanium Thin Film Alloys, M. O. Aboelfotoh (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **75**, No. 5, 2441–2446 (1994).

Delocalization Length and Structure of Oligopyrroles and of Polypyrrole from Their Vibrational Spectra, G. Zerbi (Politecn. Milan, Piazza L. Da Vinci 32, I-20133 Milan, Italy) et al., *Journal of Chemical Physics* **100**, No. 2, 978–984 (1994).

Triple Intersection of H-3 Resonance States, A. E. Orel (University of California at Davis, Davis, CA 95616) et al., *Journal of Chemical Physics* **100**, No. 2, 1756–1758 (1994).

Excited States of MgO: A Cluster Model Study, P. S. Bagus (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Chemical Physics* **100**, No. 4, 2943–2946 (1994).

Conformational Properties and Apparent Dissociation Constants of Titrating Polyelectrolytes: Monte Carlo Simulation and Scaling Arguments, M. Ullner (Lund University, P.O. Box 124, S-22100 Lund, Sweden) et al., *Journal of Chemical Physics* **100**, No. 4, 3365–3366 (1994).

Regional Precipitation Quantile Values for the Continental United States Computed from L-Moments, N. B. Guttman (National Climate Center, Asheville, NC 28801) et al., *Journal of Climate* **6**, No. 12, 2326–2340 (1993).

GEMMW: A Portable Level-3 Blas Winograd Variant of Strassen's Matrix-Matrix Multiply Algorithm, C. C. Douglas (Yale University, P.O. Box 208285, New Haven, CT 06520) et al., *Journal of Computational Physics* **110**, No. 1, 1–10 (1994).

An In Situ Electrochemical Quartz Crystal Microbalance Study of the Underpotential Deposition of Copper on Au(111) Electrodes, G. L. Borges (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Electroanalytical Chemistry* **364**, Nos. 1–2, 281–284 (1994).

Solution Structure and Direct Imaging of Fibronectin Adsorption to Solid Surfaces by Scanning Force Microscopy and Cryoelectron Microscopy, F. Zenhausern (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Electron Microscopy* **42**, No. 6, 378–388 (1993).

Vibrational Heating and Atom Transfer with the STM, R. E. Walkup (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Electron Spectroscopy and Related Phenomena* **64/65**, 523–532 (1993).

Vibrational Effects in the Dissociation and Scattering of Hydrogen at a Cu(111) Surface, C. T. Rettner (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Electron Spectroscopy and Related Phenomena* **64/65**, 543–554 (1993).

UPS at the Beginning, C. R. Brundle (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Electron Spectroscopy and Related Phenomena* **66**, Nos. 1–2, 3–9 (1993).

Solid Source and Gas Source Hybrid Si Molecular Beam Epitaxy for a Si_{1-x}Ge/Si Single Quantum Well Electroluminescent Device, Y. Kato (IBM Corporation, 1623-14 Shimo-Tsuruma, Yamato, Kanagawa 242, Japan) et al., *Journal of Electronic Materials* **23**, No. 1, 47–51 (1994).

Shallow Trench Isolation Double Diode Electrostatic Discharge Circuit and Interaction with Dram Output Circuitry, S. H. Voldman (IBM Corporation, P.O. Box A, Essex Junction, VT 05452) et al., *Journal of Electrostatics* **31**, Nos. 2–3, 237–262 (1993).

Offset Quality Electrophotography, L. B. Schein (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and G. Beardsley, *Journal of Imaging Science and Technology* **37**, No. 5, 451–461 (1993).

Ultrathin Films: Magnetism on the Microscopic Scale, R. Allenspach (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Magnetism and Magnetic Materials* **129**, Nos. 2–3, 160–185 (1994).

Microstructural Characterization of Co/Cu Multilayers, A. R. Modak (Arizona State University, Tempe, AZ 85287) et al., *Journal of Magnetism and Magnetic Materials* **129**, Nos. 2–3, 415–422 (1994).

Magnetostatic Mechanism for Field Sensitivity of Magnetoresistance in Discontinuous Magnetic Multilayers, J. C. Slonczewski (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Magnetism and Magnetic Materials* **129**, Nos. 2–3, L123–L128 (1994).

Elastic Strain Gradients and X-ray Line Broadening Effects as a Function of Temperature in Aluminum Thin Films on Silicon, R. Venkatraman (IBM Corporation, 1701 North Street, Endicott, NY 13760) et al., *Journal of Materials Research* **9**, No. 2, 328–335 (1994).

Amorphous Carbon Antireflective Coatings in the 10 to 50 μ m Region of the FAR-IR, S. Metin (University of California at Berkeley, Berkeley, CA 94720) et al., *Journal of Materials Research* **9**, No. 2, 396–400 (1994).

Crystallization of Nickel Bearing Stoichiometric Cordierite Glasses, C. Boberski (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and E. A. Giess, *Journal of Materials Science* **29**, No. 1, 67–72 (1994).

A Boolean Local Improvement Method for General Discrete Optimization Problems, P. Lu (IBM Corporation, North York M3C 1W3, Ontario, Canada) and J. N. Siddall, *Journal of Mechanical Design* **115**, No. 4, 776–783 (1993).

Defects in Amorphous Hydrogenated Silicon Nitride Films, J. Kanicki (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and W. L. Warren, *Journal of Non-Crystalline Solids* **166**, 1055–1060 (1993).

Optimal Control of a Heat Transfer Problem with Convective Boundary Condition, S. Lenhart (University of Tennessee, Knoxville, TN 37996) and D. G. Wilson, *Journal of Optimization Theory and Applications* **79**, No. 3, 581-597 (1993).

Binary Cube Emulation of Butterfly Networks Encoded by Gray Code, S. L. Johnsson (Harvard University, Cambridge, MA 02138) and C. T. Ho, *Journal of Parallel and Distributed Computing* **20**, No. 3, 261-279 (1994).

Hole Transport in 1-Phenyl-3-((Diethylamino)Styryl)-5-(P-(Diethylamino)Phenyl)Pyrazoline-Doped Polymers, P. M. Borsenberger (Eastman Kodak Company, Rochester, NY 14650) and L. B. Schein, *Journal of Physical Chemistry* **98**, No. 1, 233-239 (1994).

Adsorption of Perfluoroalkanes on PT(111): Thermal Desorption and Infrared Reflection Absorption Spectroscopic Results, W. G. Golden (Humboldt State University, Arcata, CA 95521) et al., *Journal of Physical Chemistry* **98**, No. 7, 1739-1742 (1994).

Time Resolved Infrared Absorption Spectroscopy of 193 nm Photodissociation of Diethylzinc, P. F. Seidler (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Physical Chemistry* **98**, No. 8, 2095-2100 (1994).

C-13 Dipolar NMR Study of Benzene Chemisorbed on High-Surface Alumina Supported Platinum, M. Engelsberg (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Physical Chemistry* **98**, No. 9, 2397-2402 (1994).

Self-Similarity of the Branching Structure in Very Large DLA Clusters and Other Branching Fractals, I. Yekutieli (Yale University, P.O. Box 208283, New Haven, CT 06520) et al., *Journal of Physics A* **27**, No. 2, 275-284 (1994).

Horton-Strahler Ordering of Random Binary Trees, I. Yekutieli (Yale University, P.O. Box 208283, New Haven, CT 06520) and B. B. Mandelbrot, *Journal of Physics A* **27**, No. 2, 285-293 (1994).

Raman Scattering of Ferroelectric $\text{Sr}_{1-x}\text{Ca}_x\text{TiO}_3$, $x = 0.007$, U. Bianchi (University of Duisburg, D-47048 Duisburg, Germany) et al., *Journal of Physics-Condensed Matter* **6**, No. 6, 1229-1238 (1994).

Comparison of the Molecular Dimensions of Di-Alkyl and Aryl-Alkyl Substituted Polysilanes in Solution Using SEC LS, P. M. Cotts (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Polymer Science Part B* **32**, No. 4, 771-778 (1994).

Growth of Thin Films of the Defect Perovskite $\text{LaCuO}_{3-\delta}$ by Pulsed Laser Deposition, A. Gupta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Solid State Chemistry* **108**, No. 1, 202-206 (1994).

Random Vibration of a Beam with a Stick Slip End Condition, R. N. Miles (State University of New York at Binghamton, P.O. Box 6000, Binghamton, NY 13902) and S. P. Bigelow, *Journal of Sound and Vibration* **169**, No. 4, 445-457 (1994).

Precision Measurement of the Surface Acoustic Wave Velocity on Silicon Single Crystals Using Optical Excitation and Detection, H. Coufal (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of the Acoustical Society of America* **95**, No. 2, 1158-1160 (1994).

Sigmoidal Indentation Strength Characteristics of Polycrystalline Alumina, R. F. Cook (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of the American Ceramic Society* **77**, No. 2, 303-314 (1994).

The Influence of Lithographic Patterning on Current Distribution in Electrodeposition: Experimental Study and Mass Transfer Effects, S. Mehdizadeh (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of the Electrochemical Society* **140**, No. 12, 3497-3505 (1993).

Boron Nitride and Silicon Boron Nitride Film and Polish Characterization, B. Neureither (Siemens AG, D-81730 Munich, Germany) et al., *Journal of the Electrochemical Society* **140**, No. 12, 3607-3611 (1993).

Effects of Trace Surface Oxidation in Low-Temperature Epitaxy Grown from Dichlorosilane, T. O. Sedgwick (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of the Electrochemical Society* **140**, No. 12, 3684-3688 (1993).

Chemically Vapor Deposited Tungsten Silicide Films Using Dichlorosilane in a Single Wafer Reactor: Growth, Properties, and Thermal Stability, S. G. Telford (Appl. Mat. Inc., Santa Clara, CA 95054) et al., *Journal of the Electrochemical Society* **140**, No. 12, 3689-3701 (1993).

Lipophilicity at Ph 7.4 and Molecular Size Govern the Entry of the Free Serum Fraction of Drugs into the Cerebrospinal Fluid in Humans with Uninflamed Meninges, R. Nau (University of Gottingen, Robert Koch Strasse 40, D-37075 Gottingen, Germany) et al., *Journal of the Neurological Sciences* **122**, No. 1, 61-65 (1994).

Orientationally Enhanced Photorefractive Effect in Polymers, W. E. Moerner (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of the Optical Society of America B* **11**, No. 2, 320-330 (1994).

Adhesion Durability of Tantalum BPDA-PDA Polyimide Interfaces, A. C. Callegari (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Vacuum Science & Technology A* **12**, No. 1, 185-191 (1994).

Modification of the PHI Sample Mount for Multiple or Micropositioning for Zalar Rotation, D. L. Neiman (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Vacuum Science & Technology A* **12**, No. 1, 265-266 (1994).

Thin Film Materials for the Preparation of Attenuating Phase Shift Masks, K. K. Shih (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. B. Dove, *Journal of Vacuum Science & Technology B* **12**, No. 1, 32-36 (1994).

Shallow Trench Isolation for Ultra Large-Scale Integrated Devices, K. Blumenstock (Siemens AG, P.O. Box 100944, D-93009 Regensburg, Germany) et al., *Journal of Vacuum Science & Technology B* 12, No. 1, 54-58 (1994).

Sidewall Passivation During the Etching of Poly-Si in an Electron Cyclotron Resonance Plasma of HBR, M. Haverlag (Eindhoven University of Technology, 5600 MB Eindhoven, Netherlands) et al., *Journal of Vacuum Science & Technology B* 12, No. 1, 96-101 (1994).

Effect of Matrix Stopping Power on Sputter Depth Profile Broadening, P. A. Ronsheim (IBM Corporation, Route 52, Hopewell Junction, NY 12533) and M. Tejwani, *Journal of Vacuum Science & Technology B* 12, No. 1, 254-257 (1994).

Accurate Profiling of Ultra Shallow Implants with Mercury Gate Metal Oxide Semiconductor Capacitance Voltage, R. Ledudal (IBM Plant, F-91100 Corbeil Essonnes, France) et al., *Journal of Vacuum Science & Technology B* 12, No. 1, 336-341 (1994).

Cross Sectional Scanning Tunneling Microscopy on Heterostructures: Atomic Resolution, Composition Fluctuations and Doping, H. W. Salemink (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Journal of Vacuum Science & Technology B* 12, No. 1, 362-368 (1994).

Selective Dry Etching in a High-Density Plasma for 0.5 μ m Complementary Metal Oxide Semiconductor Technology, J. Givens (IBM Corporation, P.O. Box A, Essex Junction, VT 05452) et al., *Journal of Vacuum Science & Technology B* 12, No. 1, 427-432 (1994).

Metal Ion Deposition from Ionized Magnetron Sputter Discharge, S. M. Rossnagel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and J. Hopwood, *Journal of Vacuum Science & Technology B* 12, No. 1, 449-453 (1994).

L

Dewetting Dynamics for Large Equilibrium Contact Angles, K. R. Shull (Northwestern University, 2225 North Campus Drive, Evanston, IL 60208) and T. E. Karis, *Langmuir* 10, No. 1, 334-339 (1994).

Effect of Surface Moisture on Contact Charge of Polymers Containing Ions, S. Pence (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Langmuir* 10, No. 2, 592-596 (1994).

Surface Potential Map of Charged Ionomer Polymer Blends Studied with a Scanning Kelvin Probe, M. T. Nguyen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Langmuir* 10, No. 2, 597-601 (1994).

Laser Diodes Must Meet Tight Specs for Magneto-optical Data Storage, P. Asthana (IBM Corporation, 9000 South Rita Road, Tucson, AZ 85744), *Laser Focus World* 30, No. 1, 123-126 (1994).

Side Chain Polysiloxanes with Fluorinated Mesogenic Groups: The Role of the Fluorine Content on the Properties of the Smectic-A State, J. D. Laffitte (University Bordeaux 1, CNRS, Ave. Albert Schweitzer, F-33600 Pessac, France) et al., *Liquid Crystals* 16, No. 2, 223-233 (1994).

M

N-15 Solid State NMR Studies on the Cure and Degradation of Polyimide Films Under Temperature and Humidity Stress, P. D. Murphy (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* 27, No. 1, 279-286 (1994).

Interplay Between Intermolecular Interactions and Chain Pullout in the Adhesion of Elastomers, H. R. Brown (CNRS, F-75231 Paris 05, France) et al., *Macromolecules* 27, No. 2, 608-609 (1994).

Evolution of Order in Thin Block Copolymer Films, A. M. Mayes (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Macromolecules* 27, No. 3, 749-755 (1994).

A Mapping of Realistic onto Abstract Polymer Models and an Application to 2-Bisphenol Polycarbonates, W. Paul (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and N. Pistoor, *Macromolecules* 27, No. 5, 1249-1255 (1994).

Mysteries of Mathematics and Computation, M. Shub (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Mathematical Intelligencer* 16, No. 1, 10-15 (1994).

Solving Homogeneous Linear Equations Over GF(2) Via Block Wiedemann Algorithm, D. Coppersmith (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Mathematics of Computation* 62, No. 205, 333-350 (1994).

Aerial Image Studies of an Advanced Deep UV Exposure System, A. Grassmann (IBM Germany, P.O. Box 266, D-71044 Sindelfingen, Germany) et al., *Microelectronic Engineering* 23, Nos. 1-4, 155-158 (1994).

Resist Thickness Influence on Depth of Focus: A Key Question for Advanced I-Line and DUV Lithography, U. Boettiger (IBM Germany, Schickardstrasse 30, D-71034 Böblingen, Germany) et al., *Microelectronic Engineering* 23, Nos. 1-4, 163-166 (1994).

Fabrication of High-Performance 512kb SRAMS in 0.25 μ m CMOS Technology Using X-ray Lithography, R. Viswanathan (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Microelectronic Engineering* 23, Nos. 1-4, 247-252 (1994).

Performance Data of an Environmentally Stable Deep UV Positive Resist, T. Fischer (IBM Germany, Schickardstr. 30, D-71034 Böblingen, Germany) et al., *Microelectronic Engineering* 23, Nos. 1-4, 311-314 (1994).

New Negative Tone Resists for Subhalf Micron Lithography, H. Sachdev (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Microelectronic Engineering* 23, Nos. 1-4, 321-326 (1994).

Improved Underlayers for Acid Amplified Resists, H. S. Sachdev (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Microelectronic Engineering* **23**, Nos. 1-4, 327-330 (1994).

High-Resolution Electron Beam Lithography for Fabricating Visible Semiconductor Lasers with Curved Mirrors and Integrated Holograms, P. Unger (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Microelectronic Engineering* **23**, Nos. 1-4, 461-464 (1994).

An Investigation of Binary CLA and Ripple CMOS Adder Designs, C. J. Chang (State University of New York, Binghamton, NY 13902) et al., *Microprocessing and Microprogramming* **40**, No. 1, 1-21 (1994).

Rotational Motion of Linear Molecules in Three Dimensions: A Path Integral Monte Carlo Approach, D. Marx (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Molecular Simulation* **12**, No. 1, 33-48 (1994).

N

Mechanism of a Morphology Transition in Ramified Electrochemical Growth, V. Fleury (Ecole Polytech, F-91128 Palaiseau, France) et al., *Nature* **367**, No. 6462, 435-438 (1994).

Voltage Dependent Ordering of Water Molecules at an Electrode Electrolyte Interface, M. F. Toney (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Nature* **368**, No. 6470, 444-446 (1994).

Point Mutations 5 to the Transfer RNA Selenocysteine Tata Box Alter RNA Polymerase III Transcription by Affecting the Binding of TBP, E. Myslinski (IBM Corporation, CNRS, Rue Rene Descartes, Strasbourg, France) et al., *Nucleic Acids Research* **21**, No. 25, 5852-5858 (1993).

O

Fast Amplitude Modulation of the Blue 429-nm Output from a Frequency Doubled GaAlAs Diode Laser, W. J. Kozlovsky (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and W. Lenth, *Optics Letters* **19**, No. 3, 195-197 (1994).

P

The GF11 Parallel Computer, M. Kumar (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Parallel Computing* **19**, No. 12, 1393-1412 (1993).

Decomposing a Plane Figure into Lines and Nodes, S. Dizenzo (IBM Semea, Via Oceano Pacifico 173, I-00144 Rome, Italy), *Pattern Recognition Letters* **14**, No. 12, 935-943 (1993).

Recognition by Constructive Neural Algorithms, S. Dizenzo (IBM Semea, Via Oceano Pacifico 173, I-00144 Rome, Italy) et al., *Pattern Recognition Letters* **14**, No. 12, 997-1007 (1993).

An Approximation Method for Capturing Complex Traffic Behavior in High-Speed Networks, L. Gun (IBM Corporation, Research Triangle Park, NC 27709), *Performance Evaluation* **19**, No. 1, 5-23 (1994).

Characterization of the Traffic on High-Speed Token Ring Networks, E. M. Spiegel (Princeton University, Princeton, NJ 08544) et al., *Performance Evaluation* **19**, No. 1, 47-72 (1994).

Lattice Boltzmann Equation for Quantum Mechanics, S. Succi (IBM Corporation, Viale Oceano Pacifico 171-173, I-00144 Rome, Italy) and R. Benzi, *Physica D* **69**, Nos. 3-4, 327-332 (1993).

Competing Spin Exchange Interactions in $Zn_{1-x}Mn_xSe/Zn_{1-y}Fe_ySe$ Multiple Quantum Well Structures, L. P. Fu (State University of New York at Buffalo, Buffalo, NY 14260) et al., *Physical Review B* **48**, No. 24, 8272-8275 (1993).

Carrier-Carrier Scattering: An Experimental Comparison of Bulk GaAs and GaAs/Al_xGa_{1-x}As Quantum Wells, J. A. Kash (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **48**, No. 24, 8336-8339 (1993).

Evidence for Martensitic fcc-bcc Transition of Thin Fe Films on Cu(100), K. Kalki (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Physical Review B* **48**, No. 24, 8344-8347 (1993).

Finite Temperature Theory of Amorphous Magnetic Alloys, M. Yu (Hokkaido Institute of Technology, Teine Ku, Sapporo 006, Japan) et al., *Physical Review B* **49**, No. 1, 352-367 (1994).

Random Phase Approximation Analysis of Orbital and Magnetic Fluctuation Mediated Superconductivity in a Two-Band Hubbard Model, F. Buda (IBM Corporation, Viale Oceano Pacifico 171, I-00144 Rome, Italy) et al., *Physical Review B* **49**, No. 2, 1255-1268 (1994).

Calculation of Temperature Effects on the Equilibrium Crystal Shape of Si Near (100), S. Mukherjee (Max Planck Gesell, Fritz Haber Institute, Faradayweg 4-6, D-14195 Berlin, Germany) et al., *Physical Review B* **49**, No. 3, 1919-1927 (1994).

X-ray Scattering Analysis of Surface Structures Produced by Vapor Phase Epitaxy of GaAs, F. J. Lamelas (University of Missouri, Columbia, MO 65211) et al., *Physical Review B* **49**, No. 3, 1957-1965 (1994).

Growth of Vapor Deposited Cobalt Films on Pt(111) Studied by Scanning Tunneling Microscopy, P. Grutter (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and U. T. Durig, *Physical Review B* **49**, No. 3, 2021-2029 (1994).

Irreversible Processes of Spontaneous Whisker Growth in Bimetallic Cu-Sn Thin Film Reactions, K. N. Tu (University of California at Los Angeles, Los Angeles, CA 90024), *Physical Review B* **49**, No. 3, 2030-2034 (1994).

Bias Induced Transfer of an Aluminum Atom in the Scanning Tunneling Microscope, N. D. Lang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **49**, No. 3, 2067-2071 (1994).

Long Lived Polarized Photoluminescence from Separately Localized E-H Pairs in GaAs/AlGa_{1-x}As Quantum Wells, A. Frommer (Technion Israel Institute of Technology, IL-32000 Haifa, Israel) et al., *Physical Review B* **49**, No. 4, 2935-2938 (1994).

Effect of Atomic Oxygen on the Initial Growth Mode in Thin Epitaxial Cuprate Films, T. Frey (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review B* **49**, No. 5, 3483-3491 (1994).

Vertex Correction to Pairing at a Van Hove Singularity, H. R. Krishnamurthy (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review B* **49**, No. 5, 3520-3523 (1994).

Cu-63 Nuclear Transverse Relaxation Rate and Spin Correlations in YBa₂Cu₃O_{6.65}, M. Takigawa (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **49**, No. 6, 4158-4162 (1994).

Critical Scaling of Frequency Dependent Magnetic Susceptibility in YBa₂Cu₃O₇ Single Crystals Near the Vortex Glass Transition, D. S. Reed (Caltech, Pasadena, CA 91125) et al., *Physical Review B* **49**, No. 6, 4384-4387 (1994).

Kondo Coupling Induced Charge GAP in Ce₃Bi₄Pt₃, B. Bucher (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **72**, No. 4, 522-525 (1994).

Evidence of a Bose Glass Transition in Superconducting YBa₂Cu₃O₇ Single Crystals with Columnar Defects, W. Jiang (Caltech, Pasadena, CA 91125) et al., *Physical Review Letters* **72**, No. 4, 550-553 (1994).

Structure of Nanoscale Silicon Clusters, U. Rothlisberger (University of Pennsylvania, Philadelphia, PA 19104) et al., *Physical Review Letters* **72**, No. 5, 665-668 (1994).

Nonequilibrium Noise and Fractional Charge in the Quantum Hall Effect, C. L. Kane (University of Pennsylvania, Philadelphia, PA 19104) and M. P. A. Fisher, *Physical Review Letters* **72**, No. 5, 724-727 (1994).

Quantum Ferromagnetism and Phase Transitions in Double Layer Quantum Hall Systems, K. Yang (Indiana University, Bloomington, IN 47405) et al., *Physical Review Letters* **72**, No. 5, 732-735 (1994).

Absence of Metal Clusters and Appearance of New Electron States in Na₆C₆O, W. Andreoni (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Physical Review Letters* **72**, No. 6, 848-851 (1994).

Self-Aligned Sources for Dislocation Nucleation: The Key to Low Threading Dislocation Densities in Compositionally Graded Thin Films Grown at Low Temperature, F. K. Legoues (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review Letters* **72**, No. 6, 876-879 (1994).

Direct Determination of Impact Ionization Quantum Yield in Si by Ballistic Electron Emission Microscopy, A. Bauer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and R. Ludeke, *Physical Review Letters* **72**, No. 6, 928-931 (1994).

Cooperative Self-Assembly of Au Atoms and C(60) on Au(110) Surfaces, J. K. Gimzewski (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Physical Review Letters* **72**, No. 7, 1036-1039 (1994).

Symmetry of the Superconducting Order Parameter in YBa₂Cu₃O_{7-δ} Epitaxial Films, P. Chaudhari (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. Y. Lin, *Physical Review Letters* **72**, No. 7, 1084-1087 (1994).

Induced Spin Polarization in Cu Spacer Layers in Co/Cu Multilayers, M. G. Samant (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Physical Review Letters* **72**, No. 7, 1112-1115 (1994).

Comment on Quantum Contact in Gold Nanostructures by Scanning Tunneling Microscopy, H. J. Mamin (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and D. Rugar, *Physical Review Letters* **72**, No. 7, 1128 (1994).

Universal Trends in Extreme Type II Superconductors, T. Schneider (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) and H. Keller, *Physical Review Letters* **72**, No. 7, 1133 (1994).

H-Coverage Dependence of Si(001) Homoepitaxy, M. Copel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and R. M. Tromp, *Physical Review Letters* **72**, No. 8, 1236-1239 (1994).

Observation of Multiple Andreev Reflections in Superconducting Tunnel Junctions, A. W. Kleinsasser (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **72**, No. 11, 1738-1741 (1994).

Effective Field Theory of Electron Motion in the Presence of Random Magnetic Flux, S. C. Zhang (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and D. P. Arovas, *Physical Review Letters* **72**, No. 12, 1886-1889 (1994).

Bose Glass Melting in YBaCuO Crystals with Correlated Disorder, L. Krusin-Elbaum (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **72**, No. 12, 1914-1917 (1994).

Enhanced Acoustic Cavitation Following Laser-Induced Bubble Formation: Long-Term Memory Effect, O. Yavas (University of Konstanz, D-78434 Constance, Germany) et al., *Physical Review Letters* **72**, No. 13, 2021-2024 (1994).

Orientation Dependence of the Polar Kerr Effect in FCC and HCP CO, D. Weller (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Physical Review Letters* **72**, No. 13, 2097-2100 (1994).

Thermoplastic Toughened Styrenic Thermosets: Synthesis, Properties and Consequences of Radical-Based Cure Chemistry, J. L. Hedrick (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Polymer* **35**, No. 2, 291-299 (1994).

Physical Property Retention of PC ABS Blends, J. Kuczynski (IBM Corporation, 3605 Highway 52 N, Rochester, MN 55901) et al., *Polymer Degradation and Stability* **43**, No. 2, 285-291 (1994).

The Rheological Characterization of Fluorinated Thermoplastics Using Squeezing Flow Viscometry, Y. Deng (Syracuse University, Syracuse, NY 13244) et al., *Polymer Engineering and Science* **34**, No. 3, 213-220 (1994).

Imprecise Computations, J. W. S. Liu (University of Illinois, Urbana, IL 61801) et al., *Proceedings of the IEEE* **82**, No. 1, 83-94 (1994).

Real-Time Communication in Packet Switched Networks, C. M. Aras (IBM Corporation, Research Triangle Park, NC 27709) et al., *Proceedings of the IEEE* **82**, No. 1, 122-139 (1994).

On Real-Time Databases: Concurrency Control and Scheduling, P. S. Yu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Proceedings of the IEEE* **82**, No. 1, 140-157 (1994).

R

A Decomposition Approach to Nonpreemptive Real-Time Scheduling, X. P. G. Yuan (IBM Corporation, Research Triangle Park, NC 27709) et al., *Real-Time Systems* **6**, No. 1, 7-35 (1994).

The Gaseous Electronics Conference Radiofrequency Reference Cell: A Defined Parallel Plate Radiofrequency System for Experimental and Theoretical Studies of Plasma Processing Discharges, P. J. Hargis (Sandia National Labs, Albuquerque, NM 87185) et al., *Review of Scientific Instruments* **65**, No. 1, 140-154 (1994).

Construction of a High-Resolution Electron Energy Loss Spectrometer, T. Nagao (Waseda University, Shinjuku Ku, 2-8-26 Nishiwaseda, Tokyo 169, Japan) et al., *Review of Scientific Instruments* **65**, No. 2, 515-516 (1994).

Growth Kinetics, Polymerization and Protection of Cu₂BTe Films, V. Brusic (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Revue de Metallurgie-Cahiers D Informations Techniques* **90**, No. 12, 1631-1635 (1993).

S

Scanning Tunneling Microscopy: A Chemical Perspective, C. J. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Scanning Microscopy* **7**, No. 3, 793-804 (1993).

Superconducting Mercury-Based Cuprate Films with a Zero Resistance Transition Temperature of 124 Kelvin, C. C. Tsuei (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Science* **263**, No. 5151, 1259-1261 (1994).

Chain Pullout and Mobility Effects in Friction and Lubrication, H. R. Brown (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Science* **263**, No. 5152, 1411-1413 (1994).

High-Resolution Imaging of Magnetic Multilayers, D. J. Smith (Arizona State University, Tempe, AZ 85287) et al., *Scripta Metallurgica et Materialia* **30**, No. 6, 689-694 (1994).

Tight Upper and Lower Bounds on the Path Length of Binary Trees, A. Desantis (University of Salerno, I-84081 Baronissi, Italy) and G. Persiano, *SIAM Journal on Computing* **23**, No. 1, 12-23 (1994).

The Complexity of Decision Versus Search, M. Bellare (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. Goldwasser, *SIAM Journal on Computing* **23**, No. 1, 97-119 (1994).

Explicit Constructions of Depth-2 Majority Circuits for Comparison and Addition, N. Alon (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. Bruck, *SIAM Journal on Discrete Mathematics* **7**, No. 1, 1-8 (1994).

The Distributed Earth Model Orbiter Simulation (Demos) Three-Dimensional System at Johnson Space Center, G. R. Smith (IBM Federal Systems Company, Houston, TX 77058) et al., *Simulation* **61**, No. 1, 7-21 (1993).

Ultrahigh Vacuum CVD Process Makes SiGe Devices, B. S. Meyerson (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Solid State Technology* **37**, No. 2, 53+ (1994).

Moments of Order Statistics of the Cantor Distribution, J. R. M. Hosking (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Statistics and Probability Letters* **19**, No. 2, 161-165 (1994).

Density Functional Studies of Metal Surfaces and Metal Adsorbate Systems, N. D. Lang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface Science* **300**, Nos. 1-3, 284-297 (1994).

Leed and Clean Metal Surfaces: Personal Reminiscences and Opinions, P. M. Marcus (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface Science* **300**, Nos. 1-3, 447-453 (1994).

Electronic Structure of Semiconductor Surfaces and Interfaces, F. J. Himpsel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface Science* **300**, Nos. 1-3, 525-540 (1994).

Scanning Tunneling Microscopy: A Surface Science Tool and Beyond, H. Rohrer (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Surface Science* **300**, Nos. 1-3, 956-964 (1994).

Scanning Tunneling Spectroscopy, R. M. Feenstra (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface Science* **300**, Nos. 1-3, 965-979 (1994).

X-ray Diffraction from Anodic TiO₂ Films: *In Situ* and *Ex Situ* Comparison of the Ti(0001) Face, D. G. Wiesler (National Institute of Standards and Technology, Gaithersburg, MD 20899) et al., *Surface Science* **302**, No. 3, 341-349 (1994).

Chlorine Chemisorption On and the Onset of Etching of Cleaved GaAs(100) at Room Temperature, D. K. Shuh (University of California at Riverside, Riverside, CA 92521) et al., *Surface Science* **303**, Nos. 1-2, 89-100 (1994).

Surface Chemistry on Semiconductors Studied by Molecular Beam Reactive Scattering, M. L. Yu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and L. A. Delouise, *Surface Science Reports* **19**, Nos. 7-8, 289-380 (1994).

T

Infinite Cascades of Braids and Smooth Dynamical Systems, J. M. Gambaudo (Fac. Sci. Nice, Inln, F-06018 Nice 2, France) et al., *Topology* **33**, No. 1, 85-94 (1994).