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A

Why a Two Pass Front End?, J. C. Shepherd (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *ACM Sigplan Notices* **26**, No. 3, 88-94 (1991).

Efficient Delaunay Triangulation Using Rational Arithmetic, M. Karasick, D. Lieber, and L. R. Nackman (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *ACM Transactions on Graphics* **10**, No. 1, 71-91 (1991).

A Variable Order Runge-Kutta Method for Initial Value Problems with Rapidly Varying Right-Hand Sides, J. R. Cash (Imperial College, South Kensington, London SW7 2AZ, England) and A. H. Karp (IBM, Palo Alto, CA), *ACM Transactions on Mathematical Software* **16**, No. 3, 201-222 (1990).

Hot Electron Ballistic Transport in Two-Dimensional Structures, A. Palevski, U. Sivan, M. Heiblum, C. P. Umbach, and H. Strickman (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Acta Physica Polonica A* **79**, No. 1, 59-69 (1991).

The Interpolation Problem for k -Sparse Polynomials and Character Sums, A. Dress (University of Bielefeld, D-4800 Bielefeld, Federal Republic of Germany) and J. Grabmeier (IBM Germany, Heidelberg, Federal Republic of Germany), *Advances in Applied Mathematics* **12**, No. 1, 57-75 (1991).

Monotonicity Results for Queues with Doubly Stochastic Poisson Arrivals: Ross's Conjecture, C.-S. Chang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), X. L. Chao, (New Jersey Institute of Technology, Newark, NJ), and M. Pinedo (Columbia University, New York, NY), *Advances in Applied Probability* **23**, No. 1, 210-228 (1991).

Effect of Dispersion Quality on Particulate Magnetic Recording Disk Properties, M. J. Shah, T. E. Karis, and G. M. Cuka (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *AIChE Journal, American Institute of Chemical Engineers* **37**, No. 3, 394-402 (1991).

Subjective Organization of United States President, N. R. Brown (Carnegie Mellon University, Pittsburgh, PA 15213) and R. S. Siegler (IBM, Yorktown Heights, NY), *American Journal of Psychology* **104**, No. 1, 1-33 (1991).

Residual Stresses in Materials, I. C. Noyan and J. B. Cohen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *American Scientist* **79**, No. 2, 142-152 (1991).

Verification of Concurrent Programs: The Automata-Theoretic Framework, M. Y. Vardi (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Annals of Pure and Applied Logic* **51**, Nos. 1-2, 79-98 (1991).

Planning and Implementation of Microscope Work, M. G. Helander, E. J. Grossmith (State University of New York, Buffalo, NY 14260), and P. Prabhu (IBM, Yorktown Heights, NY), *Applied Ergonomics* **22**, No. 1, 36-42 (1991).

Laser Interferometric Thermometry for Substrate Temperature Measurement, K. L. Saenger and J. Gupta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Applied Optics* **30**, No. 10, 1221-1226 (1991).

Probing Depth of the Low Energy Cascade Electrons from a Transition Metal, M. Donath, D. Scholl, H. C. Siegmann, and E. Kay (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Applied Physics A* **52**, No. 3, 206-209 (1991).

Parallel and Perpendicular Hole Transport in Heterostructures with High AlAs Mole Fraction Barriers, R. A. Kiehl, H. Shtrikman, and J. Yates (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Applied Physics Letters* **58**, No. 9, 954-956 (1991).

GaAs-Oxide Removal Using an Electron Cyclotron Resonance Hydrogen Plasma, Z. Lu, M. T. Schmidt, D. Chen, R. M. Osgood, Jr. (Columbia University, New York, NY 10027), W. M. Holber (IBM, Yorktown Heights, NY), D. V. Podlesnik, and J. Forster (IBM, Hopewell Junction, NY), *Applied Physics Letters* **58**, No. 11, 1143-1145 (1991).

Formation of Highly n-Doped Gallium Arsenide Layers by Rapid Thermal Oxidation Followed by Rapid Thermal Annealing of Silicon-Capped Gallium Arsenide, D. K. Sadana, J. P. de Souza, and F. Cardone (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Applied Physics Letters* **58**, No. 11, 1190-1192 (1991).

Laser Deposition of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Films Using a Pulsed Oxygen Source, A. Gupta and B. W. Hussey (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Applied Physics Letters* **58**, No. 11, 1211-1213 (1991).

Temperature Dependence of Minority-Carrier Mobility and Recombination Time in p-Type GaAs, K. Beyzavi (Princeton University, Princeton, NJ 08544), K. Lee, D. M. Kim, M. I. Nathan (University of Minnesota, Minneapolis, MN), K. Wrenner, and S. L. Wright (IBM, Yorktown Heights, NY), *Applied Physics Letters* **58**, No. 12, 1268-1270 (1991).

Unusually Low Resistivity of Copper Germanide Thin Films Formed at Low Temperatures, L. Krusin-Elbaum and M. O. Aboelfotoh (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Applied Physics Letters* **58**, No. 12, 1341-1343 (1991).

Influence of Carbon on the Enhanced Oxygen Loss in Copper Oxide Films, J. Li, G. Vizkelethy, P. Revesz, J. W. Mayer (Cornell University, Ithaca, NY 14853), L. J. Matienzo, F. Emmi (IBM, Endicott, NY), C. Ortega, and J. Siejka (Universités Paris VI et VII, Paris, France), *Applied Physics Letters* **58**, No. 12, 1344-1346 (1991).

Antiferromagnetic Interlayer Exchange Coupling in Sputtered Fe/Cr Multilayers: Dependence on Number of Fe Layers, S. S. P. Parkin (IBM Corporation, 650 Harry Road, San Jose, CA 95120), A. Mansour, and G. P. Felcher (Argonne National Laboratory, Argonne, IL), *Applied Physics Letters* **58**, No. 14, 1473-1475 (1991).

Subpicosecond, Freely Propagating Electromagnetic Pulse Generation and Detection Using GaAs as Epilayers, A. C. Warren, N. Katzenellenbogen, D. Grischkowsky, J. M. Woodall (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), M. R. Melloch, and N. Otsuka (Purdue University, West Lafayette, IN), *Applied Physics Letters* **58**, No. 14, 1512-1514 (1991).

Patterning and Characterization of Large-Area Quantum Wire Arrays, K. Ismail (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), M. Burkhard, H. I. Smith (Massachusetts Institute of Technology, Cambridge, MA), N. H. Karam, and P. A. Sekula-Moise (Spire Corporation, Bedford, MA), *Applied Physics Letters* **58**, No. 14, 1539-1541 (1991).

Effect of Structural Parameters on Transport Characteristics of GaInAs/AlInAs Two-Dimensional Electron Gases Grown by Molecular Beam Epitaxy, M. A. Tischler and B. D. Parker (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Applied Physics Letters* **58**, No. 15, 1614-1616 (1991).

Thermally Stable and Nonspiking Pd/Sb(Mn) Ohmic Contact to p-GaAs, C. C. Han, X. Z. Wang, S. S. Lau (University of California, La Jolla, CA 92093), R. M. Potemski, M. A. Tischler, and T. F. Kuech (IBM, Yorktown Heights, NY), *Applied Physics Letters* **58**, No. 15, 1617-1619 (1991).

Structure, Properties, and Thermal Stability of *In Situ* Phosphorus-Doped Hydrogenated Microcrystalline Silicon Prepared by Plasma Enhanced Chemical Vapor Deposition, S. J. Jeng, D. E. Kotecki, J. Kanicki, C. C. Parks, and J. Tien (IBM Corporation, Route 52, Hopewell Junction, NY 12533), *Applied Physics Letters* **58**, No. 15, 1632-1634 (1991).

Fundamental Chemical Differences Among P_i Defects on (111) and (100) Silicon, J. H. Stathis (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and L. Dori (CNR-Istituto LAMEL, Bologna, Italy), *Applied Physics Letters* **58**, No. 15, 1641-1643 (1991).

Raman Microprobe Study of Narrow $\text{In}_{1-x}\text{Ga}_x\text{As}$ Stripes on Patterned GaAs(100) Substrates, W. C. Tang, H. J. Rosen (IBM Corporation, 650 Harry Road, San Jose, CA 95120), S. Guhan, and A. Madhukar (University of Southern California, Los Angeles, CA), *Applied Physics Letters* **58**, No. 15, 1644-1646 (1991).

Optimal Parameters for AlGaAs-InGaAs AlGaAs p-Channel Field-Effect Transistors, B. Laikhtman (Weizmann Institute of Science, IL-76100 Rehovot, Israel), R. A. Kiehl, and D. J. Frank (IBM, Yorktown Heights, NY), *Applied Physics Letters* **58**, No. 15, 1667-1669 (1991).

Magneto-optical Characterization of $\text{YBa}_2\text{Cu}_3\text{O}_7$ Film Uniformity, S. I. Raider, A. Gupta, B. W. Hussey, B. Oh (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), E. Batalla, E. G. Zwart, and L. S. Wright (Royal Military College, Kingston, Ontario, Canada), *Applied Physics Letters* **58**, No. 15, 1676-1678 (1991).

Crack Formation in Epitaxial [110] Thin Films of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ and $\text{PrBa}_2\text{Cu}_3\text{O}_{7-x}$ on [110] SrTiO_3 Substrates, E. Olsson, A. Gupta, M. D. Thouless, A. Segmüller (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), and D. R. Clarke (University of California, Santa Barbara, CA), *Applied Physics Letters* **58**, No. 15, 1682-1684 (1991).

Flexural Resonant Samples for Submonolayer Measurements of Oxygen on Si Surfaces, R. W. Dreyfus (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Applied Physics Letters* **58**, No. 16, 1721-1723 (1991).

Magnetocrystalline Anisotropy of (100) Face-Centered Cubic Co Structures Deposited on Cu/Si(100), C.-A. Chang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Applied Physics Letters* **58**, No. 16, 1745-1747 (1991).

Magnetic Hysteresis in Integrated Low T_c SQUID Gradiometers, R. H. Koch, M. B. Ketchen, W. J. Gallagher, R. L. Sandstrom, A. W. Kleinsasser (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), D. R. Gambrel, T. H. Field (IBM, Manassas, VA), and H. Matz (University of Karlsruhe, Karlsruhe, Federal Republic of Germany), *Applied Physics Letters* **58**, No. 16, 1786-1788 (1991).

FT-Raman Spectroscopy with Fiber-Optic Probes and a Diode-Bar-Pumped Nd:YAG Laser, C. G. Zimba and J. F. Rabolt (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Applied Spectrometry* **45**, No. 2, 162-165 (1991).

Fourier Transform Raman Spectroscopy Using a Tuneable Solid-State Laser and a Semiconductor Bandgap Filter, A. Schulte, T. J. Lenk, V. M. Hallmark, and J. F. Rabolt (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Applied Spectroscopy* **45**, No. 3, 325-327 (1991).

Floating Conclusions and Zombie Paths: Two Deep Difficulties in the "Directly Skeptical" Approach to Defeasible Inheritance Nets, D. Makinson (Les Etangs B2, Domaine de la Ronce F-92410 Ville d'Avray, France) and K. Schlechta (IBM Germany, Stuttgart, Federal Republic of Germany), *Artificial Intelligence* **48**, No. 2, 199-209 (1991).

B

Self-Describing Animated Icons for Human-Computer Interaction: A Research Note, S. R. Alpert (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Behavior & Information Technology* **10**, No. 2, 149-152 (1991).

C

Benzene: A Higher-Level Theoretical Evidence for the Weak Triple Bond, A. C. Scheiner (IBM Corporation, 1503 LBJ Freeway, Dallas, TX 75234) and H. F. Schaefer (University of Georgia, Athens, GA), *Chemical Physics Letters* **177**, No. 4, 471-476 (1991).

Correlation Energies in the Isoelectronic Series of He, Li, Be and Ne, A. Rizzo, E. Clementi (IBM Corporation, Neighborhood Road, Kingston, NY 12401), and M. Sekiya (IBM, San Jose, CA), *Chemical Physics Letters* **177**, No. 4, 477-482 (1991).

Crystal Structure of α -(Trimethylsilyl) Benzyl lithium-Tetramethylethylendiamin [$C_6H_5CH(SiMe_3) Li-TMEDA$] and α -(Phenylthio)-Benzyl lithium-3 Tetrahydrofuran [$C_6H_5CH(SPh) Li-(THF)$], W. Zarges, M. Marsch, K. Harms (Universität Marburg, Hans-Meerwein-Strasse, D-3550 Marburg, Federal Republic of Germany), W. Koch (IBM Germany, Heidelberg, Federal Republic of Germany), G. Frenking, and G. Boche (Universität Marburg, Marburg, Federal Republic of Germany), *Chemische Berichte* **124**, No. 3, 543-549 (1991).

Processing Effects on the Flow Orientation Properties of a Magnetic Particle Suspension, T. E. Karis and M. S. Jhon (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Colloids and Surfaces* **53**, No. 3-4, 393-410 (1991).

Monotonicity Properties of the Family of Trapezoidal Maps, K. M. Brucks (University of Wisconsin, Milwaukee, WI 53201), M. Misiurewicz (Institute for Advanced Study, Princeton, NJ), and C. Tresser (IBM, Yorktown Heights, NY), *Communications in Mathematical Physics* **137**, No. 1, 1-12 (1991).

Understanding Fault-Tolerant Distributed Systems, F. Christian, (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Communications of the ACM* **34**, No. 2, 56-78 (1991).

On Correcting for Variance Inflation in Kernel Density Estimation, M. C. Jones (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Computational Statistics & Data Analysis* **11**, No. 1, 3-15 (1991).

Confessions of a Used-Program Salesman, W. Tracz (IBM Corporation, Mail Drop 0210, Owego, NY 13827), *Computer* **24**, No. 4, 112 (1991).

Real-Time-Systems Performance in the Presence of Failures, J. K. Muppala (Duke University, Durham, NC 27706), S. P. Woolet (IBM, Yorktown Heights, NY), and K. S. Trivedi (Duke University, Durham, NC), *Computer* **24**, No. 5, 37-47 (1991).

Algorithms for Scheduling Imprecise Computation, J. W. S. Liu, K.-J. Lin, W.-K. Shih, A. C.-S. Yu (University of Illinois, 1304 W. Springfield Avenue, Urbana, IL 61801), J.-Y. Chung (IBM, Yorktown Heights, NY), and Z. Wei (Texas A&M University, College Station, TX), *Computer* **24**, No. 5, 58-68 (1991).

A Starvation-Free Access Protocol for a Full-Duplex Buffer Insertion Ring Local Area Network, R. R. Simha (College of William & Mary, Williamsburg, VA 23185) and Y. Ofek (IBM, Yorktown Heights, NY), *Computer Networks and ISDN Systems* **21**, No. 2, 109-120 (1991).

Tradeoffs Between Centralized and Geographically Distributed Transaction Processing Systems, D. M. Dias, P. S. Yu, and B. T. Bennett (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Computer Systems Science and Engineering* **6**, No. 1, 45-53 (1991).

Constructive Non-Regularized Geometry, J. R. Rossignac and A. A. Requicha (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Computer-Aided Design* **23**, No. 1, 21-32 (1991).

IBM and the Future of CIM Architecture, K. J. Maki (IBM Corporation, Boca Raton, FL 33432), *Control Engineering* **38**, No. 2, 44+ (1991).

D

Computing External Farthest Neighbors for a Simple Polygon, P. K. Agarwal (Courant Institute of Mathematics, New York, NY 10012), A. Aggarwal (IBM, Yorktown Heights, NY), B. Aronov (Courant Institute of Mathematics, New York, NY), S. R. Kosaraju (The Johns Hopkins University, Baltimore, MD), B. Schieber (IBM, Yorktown Heights, NY), and S. Suri (Bell Communication Research, Morristown, NJ), *Discrete Applied Mathematics* **31**, No. 2, 97-111 (1991).

Bounding the Number of k -Faces in Arrangements of Hyperplanes, K. Fukuda (University of Tsukuba, 3-29-1 Otsuka, Bunkyo-ku, Tokyo 112, Japan), S. Saito, A. Tamura (Tokyo Institute of Technology, Tokyo, Japan), and T. Tokuyama (IBM, Tokyo, Japan), *Discrete Applied Mathematics* **31**, No. 2, 151-165 (1991).

On Grid Intersection Graphs, I. B.-A. Hartman (IBM Israel, Haifa, Israel), I. Newman (Hebrew University, Jerusalem, Israel), and R. Ziv (Technion, Haifa, Israel), *Discrete Mathematics* **87**, No. 1, 41-52 (1991).

Consensus Algorithms with One-Bit Messages, A. Barnoy and D. Dolev (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Distributed Computing* 4, No. 3, 105-110 (1991).

Reaching Agreement on Processor Group Membership in Synchronous Distributed Systems, F. Christian (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Distributed Computing* 4, No. 4, 175-187 (1991).

E

The Effect of pH on the Electrocatalytic Properties of Adsorbed Metal Ions, P. Bindra, D. Light, and J. Molla (IBM Corporation, 1701 North Street, Endicott, NY 13760), *Electrochimica Acta* 36, No. 3/4, 529-536 (1991).

Eventual Factor Maps and Compositions of Closing Maps, B. Kitchens (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), B. Marcus (IBM, San Jose, CA), and P. Trow (University of California, Berkeley, CA), *Ergodic Theory and Dynamical Systems* 11, Part 1, 85-113 (1991).

The Weight-Per-Symbol Polytope and Scaffolds of Invariants Associated with Markov Chains, B. Marcus (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and S. Tuncel (University of Washington, Seattle, WA), *Ergodic Theory and Dynamical Systems* 11, Part 1, 129-180 (1991).

An Object-Centered Representation for Financial Analysis, C. Apte and J. Kastner (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Expert Systems with Applications* 3, No. 1, 19-25 (1991).

F

CIM in Circuit Board Manufacture, G. Sebillé (IBM Deutschland, Werk Sindelfingen, Federal Republic of Germany), *F&M-Feinwerktechnik & Messtechnik* 99, No. 3, 93-95 (1991).

G

Time Domain Behavior of Wide-Angle One-Way Wave Equations, A. H. Kamel (IBM Norway, Thormøhlensgate 55, N-5008 Bergen, Norway), *Geophysics* 56, No. 3, 382-384 (1991).

Computing Oriented Texture Fields, A. R. Rao (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and B. G. Schunck (University of Michigan, Ann Arbor, MI), *GVGIP, Graphical Models and Image Processing* 53, No. 2, 157-185 (1991).

H

Antiferromagnetic Order in $\text{PrBa}_2\text{Cu}_3\text{O}_x$ (x Almost Equal to 6.7), T. M. Riseman (University of British Columbia, Vancouver V6T 2A6, BC, Canada), J. H. Brewer, E. J. Ansaldo, P. M. Grant, M. E. Lopezmor, and B. M. Sternlief (IBM, San Jose, CA), *Hyperfine Interactions* 63, No. 1-4, 249-252 (1990).

Mu Sr in Oxygen Deficient $\text{YBa}_2\text{Cu}_3\text{O}_x$ (6.5 Less Than or Equal to x Less Than or Equal to 7.0), B. Pumpin (University of Zurich, CH-8001 Zurich, Switzerland), H. Keller, W. Kundig, I. M. Savic, J. W. Schneider, H. Simmler, P. Zimmerman, E. Kaldis, S. Rusiecki, and C. Rossel (IBM Switzerland, Rüschlikon, Switzerland), *Hyperfine Interactions* 633, No. 1-4, 25-32 (1990).

I

Algorithm for Generating Optimal Tests for Exclusive-Or Networks, W. H. Debany, Jr. (Rome Laboratory, Rome, NY 13441), C. R. P. Hartmann (Syracuse University, Syracuse, NY), and T. J. Snethen (IBM, Endicott, NY), *IEEE Proceedings E* 138, No. 2, 93-96 (1991).

Optical Interconnects Speed Interprocessor Nets, J. D. Crow (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Circuits and Devices Magazine* 7, No. 2, 20-25 (1991).

The Power of Connections, R. W. Keyes (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Circuits and Devices Magazine* 7, No. 3, 32-35 (1991).

The Compiled Logic Simulator, B. L. Keller, D. P. Carlson, and W. B. Maloney (IBM Corporation, P.O. Box 8008, Endicott, NY 13760), *IEEE Design & Test of Computers* 8, No. 1, 21-34 (1991).

VHDL as Input for High-Level Synthesis, R. Camposano (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), L. F. Saunders, and R. M. Tabet (IBM, Essex Junction, VT), *IEEE Design & Test of Computers* 8, No. 1, 43-49 (1991).

Reduction of Backgating in GaAs SISFET'S with a Low-Temperature Buffer, P. M. Solomon, S. L. Wright, and F. J. Casora (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Electron Device Letters* 12, No. 3, 117-119 (1991).

Sub-30-ps ECL Circuit Operation at Liquid-Nitrogen Temperature Using Self-Aligned Epitaxial SiGe-Base Bipolar Transistors, J. D. Cressler, J. H. Comfort, E. F. Crabbé, G. L. Patton, L. Wai, J. Y.-C. Sun, J. M. C. Stork, and B. S. Meyerson (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Electron Device Letters* 12, No. 4, 166-168 (1991).

Subnanosecond Probing of the Ablation of Soft Plaque from Arterial Wall by 308 nm Laser Pulses Delivered Through a Fiber, R. Srinivasan (UVTech Associates, Yorktown Heights, NY 10598), K. G. Casey (IBM, Yorktown Heights, NY), and J. D. Haller (New York, NY), *IEEE Journal of Quantum Electronics* 26, No. 12, 2279-2283 (1990).

A Comprehensive CAD System for High-Performance 300K-Circuit ASIC Logic Chips, J. H. Panner, R. P. Abato, R. W. Bassett, K. M. Carrig, P. S. Gillis, D. J. Hathaway, and T. W. Sehr (IBM Corporation, P.O. Box A, Essex Junction, VT 05452), *IEEE Journal of Solid-State Circuits* 26, No. 3, 300-309 (1991).

High-Density Central I/O Circuits for CMOS, R. P. Masleid (IBM Corporation, Austin, TX 78759), *IEEE Journal of Solid-State Circuits* **26**, No. 3, 431-435 (1991).

Full-Swing BICMOS Logic Circuits with Complementary Emitter-Follower Driver Configuration, H. J. Shin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Journal of Solid-State Circuits* **26**, No. 4, 578-584 (1991).

A 10-ns Hybrid Number System Data Execution Unit for Digital Signal Processing Systems, F.-S. Lai (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Journal of Solid-State Circuits* **26**, No. 4, 590-599 (1991).

NTL with Complementary Emitter-Follower Driver: A High-Speed Low-Power Push-Pull Logic Circuit, C.-T. Chuang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Journal of Solid-State Circuits* **26**, No. 4, 661-665 (1991).

Multimitter BICMOS Logic Circuit Family, G. Boudon, P. Mollier, I. Ong, J.-P. Nuez, D. Mauchauffee, D. Plassat, J.-L. Simonet, and F. Wallart (IBM France, 91102 Corbeil-Essonnes, France), *IEEE Journal of Solid-State Circuits* **26**, No. 4, 665-669 (1991).

Internal Node Probing of a DRAM with a Low-Temperature e-Beam Tester, K. A. Jenkins and W. H. Henkels (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Journal of Solid-State Circuits* **26**, No. 4, 672-675 (1991).

A High-Speed Low-Power JFET Pull-Down ECL Circuit, H. J. Shin, P.-F. Lu, and C.-T. Chuang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Journal of Solid-State Circuits* **26**, No. 4, 679-683 (1991).

High-Speed Low-Power Charge-Buffered Active-Pull-Down ECL Circuit, C. T. Chuang and K. Chin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Journal of Solid-State Circuits* **26**, No. 5, 812-815 (1991).

Design Considerations for High-Frequency Crystal Oscillators, M. Soyuer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Journal of Solid-State Circuits* **26**, No. 6, 889-893 (1991).

An M/G/1 Vacation Model of an FDDI Station, R. O. LaMaire (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Journal on Selected Areas in Communications* **9**, No. 2, 257-264 (1991).

An Efficient Solution Method for Markov Models of ATM Links with Loss Priorities, J.-Y. Leboudec (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *IEEE Journal on Selected Areas in Communications* **9**, No. 3, 408-417 (1991).

Throughput Analysis, Optimal Buffer Allocation, and Traffic Imbalance Study of a Generic Nonblocking Packet Switch, J. S.-C. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and T. E. Stern (Columbia University, New York, NY), *IEEE Journal on Selected Areas in Communications* **9**, No. 3, 439-449 (1991).

Ambiguity Properties of Quadratic Congruential Coding, E. L. Titlebaum, S. V. Marić (University of Rochester, Rochester, NY 14627), and J. R. Bellegarda (IBM, Yorktown Heights, NY), *IEEE Transactions on Aerospace and Electronic Systems* **27**, No. 1, 18-29 (1991).

The Hit Array: An Analysis Formalism for Multiple Access Frequency Hop Coding, J. R. Bellegarda (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and E. L. Titlebaum (University of Rochester, Rochester, NY), *IEEE Transactions on Aerospace and Electronic Systems* **27**, No. 1, 30-39 (1991).

Amendment to "Time-Frequency Hop Codes Based Upon Extended Quadratic Congruences", J. R. Bellegarda (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and E. L. Titlebaum (University of Rochester, Rochester, NY), *IEEE Transactions on Aerospace and Electronic Systems* **27**, No. 1, 167-172 (1991).

On Combining Multidimensional Target Location Ellipsoids, J. A. Rocker (IBM Corporation, 6300 Diagonal Highway, Boulder, CO 80301), *IEEE Transactions on Aerospace and Electronic Systems* **27**, No. 1, 175-177 (1991).

High Resolution Pole-Zero Analysis of Parkinsonian Speech, E. Yair (IBM Israel, 32000 Haifa, Israel) and I. Gath (Technion, Haifa, Israel), *IEEE Transactions on Biomedical Engineering* **38**, No. 2, 161-167 (1991).

Performance Study on an Input Queueing Packet Switch with Two Priority Classes, J. S.-C. Chen and R. Guérin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Communications* **39**, No. 1, 117-126 (1991).

Guided Scrambling: A New Line Coding Technique for High Bit Rate Fiber Optic Transmission Systems, I. J. Fair, W. D. Grover, W. A. Krzymien (Alberta Telecommunications Research Centre, Edmonton T6E 5Y4, Alberta, Canada), and R. I. MacDonald (IBM, Yorktown Heights, NY), *IEEE Transactions on Communications* **39**, No. 2, 289-297 (1991).

Connector Stability Test for Small System Connectors, W. D. Emmons, J. Chang, J. Stankus (IBM Corporation, Austin, TX 78758), W. H. Abbot (Battelle, Columbus, OH), R. Sharrar, T. Wutka (IBM, Boca Raton, FL), and M. Stackhouse (IBM, Owego, NY), *IEEE Transactions on Components, Hybrids and Manufacturing Technology* **14**, No. 1, 56-64 (1991).

Enhancement of Flip-Chip Fatigue Life by Encapsulation, D. Suryanarayana, R. Hsiao, T. P. Gall, and J. M. McCreary (IBM Corporation, 1701 North Street, Endicott, NY 13760), *IEEE Transactions on Components, Hybrids and Manufacturing Technology* **14**, No. 1, 218-223 (1991).

Reduced Offsets for Minimization of Binary-Valued Functions, A. A. Malik (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), R. K. Brayton, A. R. Newton, and A. Sangiovanni-Vincentelli (University of California, Berkeley, CA), *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems* **10**, No. 4, 413-426 (1991).

Square Meshes Are Not Always Optimal, A. Bar-Noy (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. Peleg (Weizmann Institute, Rehovot, Israel), *IEEE Transactions on Computers* **40**, No. 2, 196–204 (1991).

Influence of Localized Latent Defects on Electrical Breakdown of Thin Insulators, P. Olivo (Università di Bologna, 40136 Bologna, Italy), T. N. Nguyen (IBM, Hopewell Junction, NY), and B. Riccò (Università di Bologna, Bologna, Italy), *IEEE Transactions on Electron Devices* **38**, No. 3, 527–531 (1991).

Recombination Measurement of n-Type Heavily Doped Layer in High/Low Silicon Junctions, S. Bellone (University of Naples, 80145 Naples, Italy), G. Busatto (CNR, Naples, Italy), and C. M. Ransom (IBM, Yorktown Heights, NY), *IEEE Transactions on Electron Devices* **38**, No. 3, 532–537 (1991).

Monte Carlo Simulation of Transport in Technologically Significant Semiconductors of the Diamond and Zinc-Blende Structures—Part I: Homogeneous Transport, M. V. Fischetti (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Electron Devices* **38**, No. 3, 634–649 (1991).

Monte Carlo Simulation of Transport in Technologically Significant Semiconductors of the Diamond and Zinc-Blende Structures—Part II: Submicrometer MOSFET's, M. V. Fischetti and S. E. Laux (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Electron Devices* **38**, No. 3, 650–660 (1991).

Submicrometer Si and Si-Ge Epitaxial-Base Double-Poly Self-Aligned Bipolar Transistors, T. C. Chen, E. Ganin, H. Stock, B. Meyerson, J. D. Cressler, J. Warnock, D. Harame, G. Patton, G. P. Li, C. T. Chuang, and T. H. Ning (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Electron Devices* **38**, No. 4, 941–943 (1991).

A High-Resolution and High-Speed Ferroelectric Liquid-Crystal Shutter Array Print Head, T. C. Chieu, J. L. Sanford, and K.-H. Yang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Electron Devices* **38**, No. 6, 1316–1323 (1991).

The Design and Optimization of High-Performance, Double-Poly Self-Aligned p-n-p Technology, P.-F. Lu, J. D. Warnock, J. D. Cressler, K. A. Jenkins, and K. Y. Toh (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Electron Devices* **38**, No. 6, 1410–1418 (1991).

Electron-Beam Damage of Self-Aligned Silicon Bipolar Transistors and Circuits, K. A. Jenkins and J. D. Cressler (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Electron Devices* **38**, No. 6, 1450–1458 (1991).

Successive Refinement of Information, W. H. R. Equitz (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and T. M. Cover (Stanford University, Stanford, CA), *IEEE Transactions on Information Theory* **37**, No. 2, 269–275 (1991).

Maximum-Rank Array Codes and their Application to Crisscross Error Correction, R. M. Roth (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *IEEE Transactions on Information Theory* **37**, No. 2, 328–336 (1991).

On Repeated-Root Cyclic Codes, G. Castagnoli (IBM Switzerland, Rüschlikon, Switzerland), J. L. Massey (Swiss Federal Institute of Technology, Zurich, Switzerland), P. A. Schoeller, and N. von Seemann (GSM Gesellschaft für Synergie Management, Munich, Federal Republic of Germany), *IEEE Transactions on Information Theory* **37**, No. 2, 337–342 (1991).

Two Extensions of the Viterbi Algorithm, A. Bouloutas (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), G. W. Hart, and M. Schwartz (Columbia University, New York, NY), *IEEE Transactions on Information Theory* **37**, No. 2, 430–436 (1991).

Time-Domain Study of Proximity-Effect-Induced Transition Shifts, C. Tsang and Y.-S. Tang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *IEEE Transactions on Magnetics* **27**, No. 2, Part I, 795–802 (1991).

The Irreversibility Line of (Bi, Pb)₂Sr₂Ca₂Cu₃O₁₀ Determined by DC Magnetization, S. M. Green, C. J. Lobb (University of Maryland, College Park, MD 20742), and R. L. Greene (IBM, Yorktown Heights, NY), *IEEE Transactions on Magnetics* **27**, No. 2, Part II, 1061–1064 (1991).

Synthesis and Superconducting Properties of Tl-Ba-Ca-Cu-O Films, S. H. Liou, V. K. Chan, F. Foong (University of Nebraska, Lincoln, NE 68588), W. Y. Lee (IBM, San Jose, CA), Y. S. Gou, and T. M. Uen (National Chiao Tung University, Hsincho, Taiwan), *IEEE Transactions on Magnetics* **27**, No. 2, Part II, 1227–1230 (1991).

Influence of Surface Quality on Tunneling and Electrical Properties of NdCeCuO Thin Films, A. Kussmaul, J. S. Moodera, P. M. Tedrow (Massachusetts Institute of Technology, Cambridge, MA 02139), A. Gupta, and C. C. Tsuei (IBM, Yorktown Heights, NY), *IEEE Transactions on Magnetics* **27**, No. 2, Part II, 1325–1327 (1991).

Characteristics of YBa₂Cu₃O_{7-δ} Grain Boundary Junction DC-SQUIDS, R. Gross (Universität Tübingen, D-7400 Tübingen, Federal Republic of Germany), P. Chaudhari, M. Kawasaki, M. B. Ketchen, and A. Gupta (IBM, Yorktown Heights, NY), *IEEE Transactions on Magnetics* **27**, No. 2, Part III, 2565–2568 (1991).

Critical Currents of Semiconductor-Coupled Josephson Weak Links, A. W. Kleinsasser (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Magnetics* **27**, No. 2, Part III, 2589–2593 (1991).

Multichannel SQUID Systems for Brain Research, A. I. Ahonen, M. S. Hämäläinen, M. J. Kajola, J. E. Knuutila, O. V. Lounasmaa, J. T. Simola (Helsinki University, SF-02150 Espoo 15, Finland), C. D. Tesche (IBM, Yorktown Heights, NY), and V. A. Vilkmán (Helsinki University, Espoo, Finland), *IEEE Transactions on Magnetics* **27**, No. 2, Part III, 2786–2792 (1991).

Design Considerations for DC SQUIDS Fabricated in Deep Sub-micron Technology, M. B. Ketchen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *IEEE Transactions on Magnetism* 27, No. 2, Part III, 2916-2919 (1991).

28-Channel Hybrid System for Neuromagnetic Measurements, V. Foglietti, C. Del Gratta, A. Pasquarelli, A. Pizella, G. Torrioli (National Center of Scientific Research, Via Cineto Romano 42, Rome, Italy), G. L. Romani (Università di Chieti, Chieti, Italy), W. J. Gallagher, M. B. Ketchen, A. W. Kleinsasser, and R. L. Sandstrom (IBM, Yorktown Heights, NY), *IEEE Transactions on Magnetism* 27, No. 2, Part III, 2959-2962 (1991).

Low Noise dc SQUIDS Fabricated in Nb-Al₂O₃-Nb Trilayer Technology, M. B. Ketchen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), M. Bhushan (Massachusetts Institute of Technology, Cambridge, MA 02139), S. B. Kaplan, and W. J. Gallagher (IBM, Yorktown Heights, NY), *IEEE Transactions on Magnetism* 27, No. 2, Part III, 3005-3008 (1991).

Superconducting Transport Characteristics of YBa₂Cu₃O_{7-δ} Grain Boundary Junctions, R. Gross (Universität Tübingen, D-7400 Tübingen, Federal Republic of Germany), P. Chaudhari, M. Kawasaki, and A. Gupta (IBM, Yorktown Heights, NY), *IEEE Transactions on Magnetism* 27, No. 2, Part III, 3227-3230 (1991).

Josephson Solution Oscillator Arrays for SIS Mixers, A. Davidson (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), N. Groenbech-Jensen, and N. F. Pedersen (Technical University of Denmark, Lyngby, Denmark), *IEEE Transactions on Magnetism* 27, No. 2, Part III, 3347-3350 (1991).

Multiscale Optimization in Neural Nets, E. Mjolsness, C. D. Garrett (Yale University, P.O. Box 2158, Yale Station, New Haven, CT 06520), and W. L. Miranker (IBM, Yorktown Heights, NY), *IEEE Transactions on Neural Networks* 2, No. 2, 263-274 (1991).

On Three-Dimensional Surface Reconstruction Methods, R. M. Bolle (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and B. C. Vemuri (University of Florida, Gainesville, FL), *IEEE Transactions on Pattern Analysis and Machine Intelligence* 13, No. 1, 1-13 (1991).

Synthesis of Statistical Knowledge from Time-Dependent Data, D. K. Y. Chiu (University of Guelph, Guelph, Ontario N1G 2W1, Canada), A. K. C. Wong (University of Waterloo, Waterloo, Ontario, Canada), and K. C. C. Chan (IBM Canada, North York, Ontario, Canada), *IEEE Transactions on Pattern Analysis and Machine Intelligence* 13, No. 3, 265-271 (1991).

A Time-Varying Analysis Method for Rapid Transitions in Speech, K. S. Nathan (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), Y. T. Lee (Bellcore, Morristown, NJ), and H. F. Silverman (Brown University, Providence, RI), *IEEE Transactions on Signal Processing* 39, No. 4, 815-824 (1991).

An Efficient Method of Triangulating Equi-Valued Surfaces by Using Tetrahedral Cells, A. Doi and A. Koide (IBM Japan, Yamato 242, Japan), *IEICE Transactions on Communications, Electronics, Information and Systems* 74, No. 1, 214-224 (1991).

Fault Tolerant Distributed Match Making with Any Resiliency, A. Nakajima (IBM Japan Ltd., Tokyo 102, Japan), *IEICE Transactions on Communications, Electronics, Information and Systems* 74, No. 2, 427-434 (1991).

MRP II: In the Midst of a Continuing Evolution, J. Kessler (IBM Corporation, Research Triangle Park, NC 27709), *Industrial Engineering* 23, No. 3, 38-40 (1991).

You Can Use Simulation to Make the Correct Decisions, D. K. Singh (IBM Corporation, Research Triangle Park, NC 27709), *Industrial Engineering* 23, No. 5, 39-42 (1991).

Results on Learnability and the Vapnik-Chervonenkis Dimension, N. Linial (IBM Corporation, 650 Harry Road, San Jose, CA 95120), Y. Mansour, and R. L. Rivest (Massachusetts Institute of Technology, Cambridge, MA 02139), *Information and Computing* 90, No. 1, 33-49 (1991).

High Power and High Efficiency Lasers Grown on Channeled Substrates by MBE, E. van Gieson, H. P. Meier, A. Moser, H. Jackel, C. Harder, and W. Walter (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Institute of Physics Conference Series* 96, No. 96, 519-542 (1989).

Partitioning and Ordering of CMOS Circuits for Switch Level Analysis, M. Payer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Integration* 10, No. 2, 113-141 (1991).

Local Convective Heat Transfer from a Heated Surface to an Impinging, Planar Jet of Water, D. T. Vader (IBM Corporation, Boardman Road, Poughkeepsie, NY 12602), F. P. Incropera, and R. Viskanta (Purdue University, West Lafayette, IN), *International Journal of Heat and Mass Transfer* 34, No. 3, 611-623 (1991).

Modeling Groupware in the Electronic Office, S. Cook (Object Designers Ltd., Bishop's Stortford, Herts CM22 7TY, United Kingdom), A. Birch (Queen Mary and Westfield College, London, United Kingdom), A. Murphy, and J. Woolsey (IBM United Kingdom Ltd., Hursley Park, United Kingdom), *International Journal of Man-Machine Studies* 34, No. 3, 369-393 (1991).

Charge Vortex Binding, Fractional Quantum Hall Effect and Anyon Superconductivity, D. H. Lee (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *International Journal of Modern Physics B* 5, No. 1-2, 403-416 (1991).

Covalent and Ionic Contributions to the Bonding of Atomic and Molecular Adsorbates on Metal Surfaces: A Cluster Model Approach, G. Pacchioni, P. S. Bagus, M. R. Philpott (IBM Corporation, 650 Harry Road, San Jose, CA 95120), and C. J. Nelin (IBM, San Jose, CA), *International Journal of Quantum Chemistry* 38, No. 5, 675-689 (1990).

Dirac-Fock Self-Consistent Field Method for Closed-Shell Molecules with Kinetic Balance and Finite Nuclear Size, A. Mohanty and E. Clementi (IBM Corporation, Neighborhood Road, Kingston, NY 12401), *International Journal of Quantum Chemistry* **39**, No. 3, 487-517 (1991).

Design and Experimental Demonstration of Rapid, Precise End-Point Control of a Wrist Carried by a Very Flexible Manipulator, W. W. Chiang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), R. Kraft (Vancouver, WA), and R. H. Cannon (Stanford University, Stanford, CA), *International Journal of Robotics Research* **10**, No. 1, 30-40 (1991).

Asymptotic Variational Methods in Large Deflection Small Strain Plate Theory, L. J. Berg (IBM Corporation, Highway 52 and 37th Street, Rochester, MN 55901), *International Journal of Solids and Structures* **27**, No. 11, 1401-1417 (1991).

J

Dynamic Orientation Structures of Layer-Tilted Surface-Stabilized Ferroelectric Liquid Crystal Cells, T. C. Chieu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Japanese Journal of Applied Physics* **30**, No. 4, 747-753 (1991).

Atomic Structure Analysis of Amorphous Tb-Fe_{1-x}Co_x Films Systems, Y. Kato, S. Takayama (IBM Corporation, Chiyodaku, Tokyo 102, Japan), E. Matsubara, and Y. Waseda (Tohoku University, Sendai, Japan), *Japanese Journal of Applied Physics* **30**, No. 4, 764-767 (1991).

Adhesion and XPS Studies on a Fluoropolymer-Metal Interface, J. M. Park (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), L. J. Matienzo, and D. F. Spencer (IBM, Endicott, NY), *Journal of Adhesion Science and Technology* **5**, No. 2, 153-163 (1991).

Calculated Structures for [001] Symmetrical Tilt Grain Boundaries in Silicon, A. A. Levi, D. A. Smith, and J. T. Wetzell (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 4, 2048-2056 (1991).

Excimer Laser Ablation of Ferrites, A. C. Tam, W. P. Leung, and D. Krajnovich (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Applied Physics* **69**, No. 4, 2072-2075 (1991).

The Use of Azo-Compounds as Probes of Carbon Incorporation of Nominally Undoped Metalorganic Vapor Phase Epitaxy Grown GaAs, N. I. Buchan (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), T. F. Kuech (University of Wisconsin, Madison, WI), D. Beach, G. Scilla, and F. Cardone (IBM, Yorktown Heights, NY), *Journal of Applied Physics* **69**, No. 4, 2156-2160 (1991).

Surface Topography of Ultrathin Free-Standing [100] Gold Films, W. Krakow (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 4, 2206-2210 (1991).

Nucleation and Growth During Reactions in Multilayer Al/Ni Films: The Early State of Al₂Ni Formation, E. Ma, C. V. Thompson (Massachusetts Institute of Technology, Cambridge, MA 02139), and L. A. Clevenger (IBM, Yorktown Heights, NY), *Journal of Applied Physics* **69**, No. 4, 2211-2218 (1991).

Space-Charge-Limited Current Measurements in Semi-Insulating GaAs, M. Eizenberg and H. J. Hovel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 4, 2256-2263 (1991).

Studies of Photogeneration of Charge in Polysilanes Using Thermally Stimulated Current Measurements, L. M. Samuel, D. B. Dove, P. N. Sanda (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), R. D. Miller, and D. Thompson (IBM, San Jose, CA), *Journal of Applied Physics* **69**, No. 4, 2296-2299 (1991).

Thin-Oxide Dual-Electron-Injector Annealing Studies Using Conductivity and Electron Energy-Loss Spectroscopy, L. Doril (National Center of Scientific Research, Via Castagnoli 1, 40126 Bologna, Italy), J. Bruley, D. J. DiMaria, P. E. Batson, J. Tornello, and M. Arienzo (IBM, Yorktown Heights, NY), *Journal of Applied Physics* **69**, No. 4, 2317-2323 (1991).

Performance of Thin Hydrogenated Amorphous Silicon Thin-Film Transistors, J. Kanicki, F. R. Libsch, J. Griffith, and R. Polastre (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 4, 2339-2345 (1991).

WN Schottky Diodes on Plasma Treated GaAs, A. Paccagnella (Università di Padova, Via Gradenigo 6/A, 35131 Padova, Italy), A. Callegari (IBM, Yorktown Heights, NY), A. Carnera (Università di Padova, Padova, Italy), M. Gasser, E. Latta (IBM, Rüschlikon, Switzerland), M. Murakami, and M. Norcott (IBM, Yorktown Heights, NY), *Journal of Applied Physics* **69**, No. 4, 2356-2364 (1991).

Stability of Nonlinear Optical Characteristics and Dielectric Relaxations of Poled Amorphous Polymers with Main-Chain Chromophores, I. Teraoka, D. Jungbauer, B. Reck, D. Y. Yoon, R. Twieg, and C. G. Willson (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Applied Physics* **69**, No. 4, 2568-2576 (1991).

Ultraviolet Photoablation of p-Tetrafluoroethylene: Rotational Energy Distributions of the CF Radical and Time Resolved Mass Spectra, P. M. Goodwin and C. E. Otis (IBM Corporation, 1701 North Street, Endicott, NY 13760), *Journal of Applied Physics* **69**, No. 4, 2584-2588 (1991).

Temperature Distribution During Heating Using a High Repetition Rate Pulsed Laser, B. Haba, B. W. Hussey, and A. Gupta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 5, 2871-2876 (1991).

Chamber Material Effects on Actinometric Measurements in rf Glow Discharges, T. J. Cotler (IBM Corporation, Route 52, Hopewell Junction, NY 12533), M. L. Passow, J. P. Fournier, M. L. Brake, and M. E. Elta (University of Michigan, Ann Arbor, MI), *Journal of Applied Physics* **69**, No. 5, 2885-2888 (1991).

The Temperature Dependence of the Contact Resistivity of the Si/Ni(Mg) Nonspiking Contact Scheme on p-GaAs, C. C. Han, X. Z. Wang, S. S. Lau (University of California, La Jolla, CA 92093), R. M. Potemski, M. A. Tischler, and T. F. Kuech (IBM, Yorktown Heights, NY), *Journal of Applied Physics* **69**, No. 5, 3124-3129 (1991).

Comparison of Zirconia Thin Films Sputtered from Metal and Compound Targets by Reactive Ion-Beam Process, A. S. Kao (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Applied Physics* **69**, No. 5, 3309-3315 (1991).

On Schottky Barrier Inhomogeneities at Silicide/Silicon Interfaces, M. O. Aboelfotoh (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 5, 3351-3353 (1991).

Nonintrusive Wafer Temperature Measurement Using In Situ Ellipsometry, G. M. W. Kroesen, G. S. Oehrlein, and T. D. Bestwick (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 5, 3390-3392 (1991).

Determination of Grain-Boundary Defect-State Densities from Transport Measurements, P. V. Evans and S. F. Nelson (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 6, 3605-3611 (1991).

An Investigation of the Pd-In-Ge Nonspiking Ohmic Contact to n-GaAs Using Transmission Line Measurement, Kelvin, and Cox and Strack Structures, L. C. Wang, X. Z. Wang, S. N. Hsu, S. S. Lau (University of California, La Jolla, CA 92093), P. S. D. Lin, T. Sands, S. A. Schwarz (Bellcore, Red Bank, NJ), D. L. Plumton (Texas Instruments, Dallas, TX), and T. F. Kuech (IBM, Yorktown Heights, NY), *Journal of Applied Physics* **69**, No. 8, Part I, 4364-4372 (1991).

Crystallization of Sol-Gel Derived Lead Zirconate Titanate Thin Films, S. S. Dana, K. F. Etzold, and J. Clabes (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 8, Part I, 4398-4403 (1991).

Field-Effect Conductance of YBa₂Cu₃O₇, A. Levy, J. P. Falck, M. A. Kastner (Massachusetts Institute of Technology, Cambridge, MA 02139), W. J. Gallagher, A. Gupta, and A. W. Kleinsasser (IBM, Yorktown Heights, NY), *Journal of Applied Physics* **69**, No. 8, Part I, 4439-4441 (1991).

Magnetic Properties of Single-Crystal Y-Ba-Cu-O Containing Fe, T. R. McGuire, S. J. La Placa, R. F. Boehme, S. A. Shivashankar, and D. T. Keane (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5388-5390 (1991).

Design and Performance Considerations in High Areal Density Longitudinal Recording, C. Tsang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5393-5398 (1991).

Effects of Read/Write Misalignment and Asymmetric Side Reading on Magnetoresistive Head Off-Track Performance, J. K. Lee, A. Wallash, and A. L. Poon (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5399-5401 (1991).

Dependence of Magnetoresistive Head Readback Characteristics on Sensor Height, A. Wallash, M. Salo, J. K. Lee, D. Heim, and G. Garfunkel (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5402-5404 (1991).

Side-Writing Phenomena in Isotropic Film Media, J. L. Su, K. Ju, T. J. Gallagher, and L. Vo (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5405-5407 (1991).

Modeling of Horizontal Magnetoresistive Recording Heads, K. R. Mountfield, J. I. Guzman, M. H. Kryder (Carnegie Mellon University, Pittsburgh, PA 15213), and R. E. Jones (IBM, San Jose, CA), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5408-5410 (1991).

Field-Driven Domain-Wall Jumps in Thin-Film Heads, K. B. Klaassen and J. C. Lan Peppen (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5417-5419 (1991).

Generic Scale Invariance in Classical Nonequilibrium Systems, G. Grinstein (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5441-5446 (1991).

Bond-Orientational Anisotropy and Anelastic Deformation in Sputter-Deposited Amorphous TbFeCo Films, X. Yan, T. Egami (University of Pennsylvania, Philadelphia, PA 19104), and E. E. Marinero (IBM, San Jose, CA), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5448-5450 (1991).

High-Frequency Permeability of Laminated and Unlaminated, Narrow, Thin-Film Magnetic Stripes, B. C. Webb, M. E. Re, C. V. Jahnes, and M. A. Russak (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Applied Physics* **69**, No. 8, Part IIB, 5611-5615 (1991).

Characterization of Imidazole-Cured Epoxy-Phenol Resins, M. S. Heise, G. C. Martin (Syracuse University, Syracuse, NY 13244), and J. T. Gotro (IBM, Yorktown Heights, NY), *Journal of Applied Polymer Science* **42**, No. 6, 1557-1566 (1991).

Effect of Reagent Rotation on Product Energy Disposal in the Light Atom Transfer Reaction $O(^3P) + HCl(v=2, J=1,6,9) \rightarrow OH(v',N') + Cl(^2P)$, R. Zhang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), W. J. van der Zande, M. J. Bronikowski, and R. N. Zare (Stanford University, Stanford, CA), *Journal of Chemical Physics* **94**, No. 4, 2704-2712 (1991).

Mutual Polarization of Monomer Charge Distribution in $(HCN)_2$, $(HCN)_3$, and $(HCN)_n$, R. S. Ruoff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Chemical Physics* **94**, No. 4, 2717-2722 (1991).

Classical Model of Femtosecond Time-Resolved Absorption Spectra of Dissociating Molecules, R. E. Walkup, J. A. Misewich, J. H. Glowmia, and P. P. Sorokin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Chemical Physics* **94**, No. 5, 3389-3406 (1991).

On the Potential Energy Surface for Collinear OH_2^+ ($^4\Sigma^-$), F. Illas, P. S. Bagus (IBM Corporation, 650 Harry Road, San Jose, CA 95120), J. Rubio, and M. Gonzalez (Universidad de Barcelona, Barcelona, Spain), *Journal of Chemical Physics* **94**, No. 5, 3774–3777 (1991).

Orientation and Absolute Coverage of Furan and 2,5 Dihydrofuran on Ag(110) Determined by Near Edge X-Ray Absorption Fine Structure and X-Ray Photoelectron Spectroscopy, J. L. Solomon, R. J. Madix (Stanford University, Stanford, CA 94305), and J. Stöhr (IBM, San Jose, CA), *Journal of Chemical Physics* **94**, No. 5, 4012–4023 (1991).

Desorption Kinetics of Hydrogen from the Si(111)7×7 Surface, G. A. Reider (Technische Universität Wien, Gusshausstrasse 27, A-1040 Vienna, Austria), U. Höfer, and T. F. Heinz (IBM, Yorktown Heights, NY), *Journal of Chemical Physics* **94**, No. 5, 4080–4083 (1991).

Accurate *Ab initio* Calculations of the Quadrupole Moment of Acetylene: A Combined Study of Basis Set, Correlation, and Vibrational Effects, R. Lindh and B. Liu (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Chemical Physics* **94**, No. 6, 4356–4368 (1991).

The Calculation of Frequency-Dependent Polarizabilities as Pseudo-Energy Derivatives, J. E. Rice (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and N. C. Handy (University Chemical Laboratory, Cambridge, England), *Journal of Chemical Physics* **94**, No. 7, 4959–4971 (1991).

The Determination of Accurate Dipole Polarizabilities α and γ for the Noble Gases, J. E. Rice (IBM Corporation, 650 Harry Road, San Jose, CA 95120), P. R. Taylor (ELORET Institute, Palo Alto, CA), T. J. Lee (NASA Ames Research Center, Moffett Field, CA), and J. Almlof (University of Minnesota, Minneapolis, MN), *Journal of Chemical Physics* **94**, No. 7, 4972–4979 (1991).

The Dipole Moment of Carbon Monoxide, G. E. Scuseria (Rice University, Houston, TX 77251), M. D. Miller (IBM, San Jose, CA), and F. Jensen (Odense University, Odense, Denmark), *Journal of Chemical Physics* **94**, No. 10, 6660–6663 (1991).

Approximation Analytical Solutions for Particle Deposition in Viscous Stagnation-Point Flow in the Inertial-Diffusion Regime with External Forces, M. H. Peters (Florida State University, Tallahassee, FL 32306) and D. W. Cooper (IBM, Yorktown Heights, NY), *Journal of Colloid and Interface Science* **142**, No. 1, 140–148 (1991).

Investigation of Particle Pairing in Liquids, D. W. Cooper, J. S. Batchelder, and M. A. Taubenblatt (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Colloid and Interface Science* **144**, No. 1, 201–209 (1991).

Two-Electron Integral Evaluation for Uncontracted Geometrical-Type Gaussian Functions, M. W. Wong, G. Corongiu, and E. Clementi (IBM Corporation, Neighborhood Road, Kingston, NY 12401), *Journal of Computational Chemistry* **12**, No. 2, 215–219 (1991).

On the Determination of the Minimum on the Crossing Seam of Two Potential Energy Surfaces, A. Farazdel and M. Dupuis (IBM Corporation, Neighborhood Road, Kingston, NY 12401), *Journal of Computational Chemistry* **12**, No. 2, 276–282 (1991).

Frequency Dependent Nonlinear Optical Properties of Molecules: Formulation and Implementation in the HONDO Program, S. P. Karna and M. Dupuis (IBM Corporation, Neighborhood Road, Kingston, NY 12401), *Journal of Computational Chemistry* **12**, No. 4, 487–504 (1991).

Selective Epitaxy of GaAs, $\text{Al}_{1-x}\text{Ga}_x\text{As}$, and $\text{In}_{1-x}\text{Ga}_x\text{As}$, T. F. Kuech (University of Wisconsin, Madison, WI 53707), M. S. Goorsky, M. A. Tischler, A. Palevski, P. Solomon, R. Potemski (IBM, Yorktown Heights, NY), C. S. Tsai, J. A. Lebens, and K. J. Vahala (California Institute of Technology, Pasadena, CA), *Journal of Crystal Growth* **107**, Nos. 1–4, 116–128 (1991).

Selective Area MOVPE of GaInAs InP Heterostructures on Masked and Nonplanar {100} and {111} Substrates, Y. D. Galeuchet and P. Roentgen (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Crystal Growth* **107**, Nos. 1–4, 147–150 (1991).

Infrared Spectroscopic Determination of Substitutional Carbon in MOVPE Grown Films of GaAs, A. V. Annapragada, K. F. Jensen (Massachusetts Institute of Technology, Cambridge, MA 02139), and T. F. Kuech (IBM, Yorktown Heights, NY), *Journal of Crystal Growth* **107**, Nos. 1–4, 248–253 (1991).

Acceptor Doping of (Al,Ga)As Using Carbon by Metalorganic Vapor Phase Epitaxy, M. A. Tischler, R. M. Potemski, T. F. Kuech, F. Cardone, M. S. Goorsky, and G. Scilla (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Crystal Growth* **107**, Nos. 1–4, 268–273 (1991).

Epitaxial Growth of GaAs with $(\text{C}_2\text{H}_5)_2\text{GaCl}$ and AsH_3 in a Hot-Wall System, N. I. Buchan, T. F. Kuech, M. A. Tischler, and R. Potemski (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Crystal Growth* **107**, Nos. 1–4, 331–336 (1991).

Patterning and Overgrowth of Nanostructure Quantum Well Wire Arrays by LP-MOVPE, N. H. Karam, A. Mastrovito, V. Haven (Spire Corporation, Patriots Park, Bedford, MA 01730), K. Ismail (IBM, Yorktown Heights, NY), S. Pennycook (Oak Ridge National Laboratory, Oak Ridge, TN), and H. I. Smith (Massachusetts Institute of Technology, Cambridge, MA), *Journal of Crystal Growth* **107**, Nos. 1–4, 591–597 (1991).

MOVPE of AlGaInP/GaInP Heterostructures for Visible Lasers, P. Roentgen, W. Heuberger, G. L. Bona, and P. Unger (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Crystal Growth* **107**, Nos. 1–4, 724–730 (1991).

Carbon Incorporation in Metalorganic Vapor Phase Epitaxy Grown GaAs Using $\text{CH}_3\text{X}_{4-x}$, TMG and AsH_3 , N. I. Buchan, T. F. Kuech, G. Scilla, and F. Cardone (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Crystal Growth* **110**, No. 3, 405–414 (1991).

The Mercury Pressure Dependence of Arsenic Doping in HgCdTe, Grown by Organometallic Epitaxy (Direct Alloy Growth Process), N. R. Taskar, I. B. Bhat, K. K. Parat, S. K. Ghandhi (Rensselaer Polytechnic Institute, Troy, NY 12180), and G. J. Scilla (IBM, Yorktown Heights, NY), *Journal of Crystal Growth* **110**, No. 4, 692-696 (1991).

Micromechanism Approach to Model Creep Fatigue Interaction in Lead Tin Alloy, M. P. Robert (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193), A. Zubelewicz (Northwestern University, Evanston, IL), and L. M. Keer (IBM, San Jose, CA), *Journal of Engineering Mechanics* **117**, No. 3, 707-711 (1991).

Background Development in Electrophotography, L. B. Schein, G. Beardsley (IBM Corporation, 650 Harry Road, San Jose, CA 95120), and C. Eklund (IBM, Boulder, CO), *Journal of Imaging Technology* **17**, No. 2, 84-90 (1991).

Time Resolving Wavelength Chirp with Fabry-Perot Etalons and Gratings: A Theoretical Approach, C. M. Olsen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and H. Olesen (TFL, Telecommunication Research Laboratory, Horsholm, Denmark), *Journal of Lightwave Technology* **9**, No. 4, 436-441 (1991).

Nuclear Spin Flip Side Band in Optical Spectral Holeburning and Fluorescence Line Narrowing of the Er^{3+} Ion, R. Wannemacher, R. M. Macfarlane, Y. P. Wang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), D. Sox, D. Boye, and R. S. Meltzer (University of Georgia, Athens, GA), *Journal of Luminescence* **48/49**, 309-312 (1991).

Nonexponential Photon Echo Decay of Er^{3+} in Fluorides, R. M. Macfarlane, D. Wannemacher (IBM Corporation, 650 Harry Road, San Jose, CA 95120), D. Boye (University of Georgia, Athens, GA), Y. P. Wang (IBM, San Jose, CA), and R. S. Meltzer (University of Georgia, Athens, GA), *Journal of Luminescence* **48/49**, 313-317 (1991).

High Resolution Laser Spectroscopy of Rare Earth Doped CsCdBr_2 , J. P. Chaminade (University of Bordeaux 1, 35 Cours Libérat, F-33405 Talence, France), R. M. Macfarlane (IBM, San Jose, CA), F. Ramaz, and J. C. Vial (University of Grenoble, St. Martin d'Heres, France), *Journal of Luminescence* **48/49**, 531-535 (1991).

TbFeCoCr Magneto-optical Media with High Corrosion Resistance, S. Takayama (IBM Japan Ltd., 5-11 Sanbancho, Chiyoda-ku, Tokyo 102, Japan), T. Kawanabe (IBM Japan, Fujisawa, Kanagawa, Japan), T. Shimizu, K. Kato (IBM Japan Ltd., 5-11 Sanbancho, Chiyoda-ku, Tokyo 102, Japan), and M. Miyazaki (IBM Japan, Fujisawa, Kanagawa, Japan), *Journal of Magnetism and Magnetic Materials* **94**, No. 3, 357-361 (1991).

Properties and Microstructure of Tungsten Films Deposited by Ion-Assisted Evaporation, R. A. Roy, R. Petkie, and A. Boulding (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Materials Research* **6**, No. 1, 80-91 (1991).

Thermal, Mechanical and Chemical Effects in the Degradation of the Plasma Deposited α -SiC-H Passivation Layer in a Multilayer Thin Film Device, L. S. Chang, P. L. Gendler, and J. H. Jou (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Materials Science* **26**, No. 7, 1882-1890 (1991).

Hydrothermal Degradation of r.f. Sputter-Cleaned Chromium-Polyimide Interfaces, T. S. Oh, D. G. Kim, S. P. Kowalczyk, S. Molis, and J. Kim (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Materials Science Letters* **10**, No. 7, 374-376 (1991).

Modeling and Analysis of a Manipulator Joint Driven Through a Worm Gear Transmission, B. W. Mooring, D. C. May, and M. Schulte (IBM Corporation, Austin, TX 78758), *Journal of Mechanical Design* **112**, No. 4, 551-556 (1990).

A Tandem Lens Epifluorescence Macroscope Hundred Fold Brightness Advantage for Wide Field Imaging, E. H. Ratzlaff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. Grinvald (Weizmann Institute of Science, Rehovot, Israel), *Journal of Neuroscience Methods* **36**, No. 2-3, 127-137 (1991).

The Generation and Rearrangement of 2-(Diazocetyl) Cyclobutanones: The Formation of 5-Spirocyclopropyl-2(5H)-Furanones, R. D. Miller, W. Theis, G. Heilig, and S. Kirchmeyer (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Organic Chemistry* **56**, No. 4, 1453-1463 (1991).

Comparison of the Photochemistry of Diarylchloronium, Diarylbromonium, and Diaryliodonium Salts, J. L. Dektar and N. P. Hacker (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Organic Chemistry* **56**, No. 5, 1838-1844 (1991).

The Photochemistry of Diphenyliodonium Halides: Evidence for Reactions from Solvent-Separated and Tight Ion Pairs, N. P. Hacker, D. V. Leff, and J. L. Dektar (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Organic Chemistry* **56**, No. 7, 2280-2282 (1991).

The Design of a Stub Generator for Heterogeneous RPC Systems, Y.-H. Wei, A. D. Stoyenko, and G. S. Goldszmidt (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Parallel and Distributed Computing* **11**, No. 3, 188-197 (1991).

VLSI-Suited Orthogonal Solution of Systems of Linear Equations, J. Götze (Technical University Munich, Arcisstrasse 21, D-8000 Munich 2, Federal Republic of Germany) and U. Schwiegelshohn (IBM, Yorktown Heights, NY), *Journal of Parallel and Distributed Computing* **11**, No. 4, 276-283 (1991).

Nature of the Hydride Species on the Hydrogenated Si(111)-(7 $\times$ 7) Surface, J. J. Boland (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Physical Chemistry* **95**, No. 4, 1521-1524 (1991).

Computer Simulation of the Dynamics of Induced Polarization Fluctuations in Water, M. Sprik (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Physical Chemistry* **95**, No. 6, 2283-2291 (1991).

Application of Fourier Transform Mass Spectroscopy to Thin Film Radiation Chemistry, I. Haller (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Physical Chemistry* **95**, No. 7, 2832-2836 (1991).

Conductance Electron Spin Resonance of Pd and PdH_x Particles in Zeolite Nay, F. Blatter (University of Bern, Freiestrasse 3, CH-3012 Bern, Switzerland) and K. W. Blazey (IBM, Rueschlikon, Switzerland), *Journal of Physics and Chemistry of Solids* **52**, No. 4, 629–633 (1991).

Attractive Interatomic Force as a Tunneling Phenomenon, C. J. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Physics, Condensed Matter* **3**, No. 10, 1227–1245 (1991).

The Effect of Polymer Structure on the Efficiency of Acid Generation from Triarylsulfonium Salts, D. R. McKean, U. P. Schaedeli, P. H. Kasai, and S. A. MacDonald (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Polymer Science A* **29**, No. 3, 309–316 (1991).

Synthesis, Crystal Structure, and Properties of Metallic PrNiO₃, Comparison with Metallic NdNiO₃, and Semiconducting SmNiO₃, P. Lacorre, J. B. Torrance (IBM Corporation, 650 Harry Road, San Jose, CA 95120), J. Pannetier (Institute of Max van Laue Paul Langevin, Grenoble, France), A. I. Nazzari, P. W. Wang, and T. C. Huang (IBM, San Jose, CA), *Journal of Solid State Chemistry* **91**, No. 2, 225–237 (1991).

Embedding the Diamond in the Σ_2 Enumeration Degrees, S. Ahmad (IBM Canada, North York, Ontario M3C 1H7, Canada), *Journal of Symbolic Logic* **56**, No. 1, 195–212 (1991).

Dissociative Electron Capture of Propylene Oxide: Matrix Isolation ESR Study, P. H. Kasai (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of the American Chemical Society* **113**, No. 5, 1539–1544 (1991).

Electrochemical Properties of a Molecular Assembly Comprised of Multiple, Identical Interactive Redox Centers. Voltammetric Characterization of μ -Oxo-(tetra-*tert*-butylphthalocyaninato) silicon, D. C. Gale and J. G. Gaudiello (IBM Corporation, 1701 North Street, Endicott, NY 13760), *Journal of the American Chemical Society* **113**, No. 5, 1610–1618 (1991).

Solution Photochemistry of Poly(di-*n*-alkylsilane)s. An EPR-ENDOR Study of the Structure of the Persistent Radicals, A. J. McKinley, T. Karatsu (University of Texas, Austin, TX 78712), G. M. Wallraff, D. P. Thompson, R. D. Miller (IBM, San Jose, CA), and J. Michl (University of Texas, Austin, TX), *Journal of the American Chemical Society* **113**, No. 6, 2003–2010 (1991).

Ion Solvation in Polarizable Water: Molecular Dynamics Simulations, L. X. Dang, J. E. Rice (IBM Corporation, 650 Harry Road, San Jose, CA 95120), J. Caldwell, and P. A. Kollman (University of California, San Francisco, CA), *Journal of the American Chemical Society* **113**, No. 7, 2481–2486 (1991).

NMR Determination of the Bond Lengths in C₆₀, C. S. Yannoni, P. P. Bernier, D. S. Bethune, G. Meijer, and J. R. Salem (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of the American Chemical Society* **113**, No. 8, 3190–3192 (1991).

Electro-Oxidation of Some Soluble Alkyl and Aryl Substituted Polysilane Homopolymers, A. F. Diaz, M. Baier, G. M. Wallraff, R. D. Miller (IBM Corporation, 650 Harry Road, San Jose, CA 95120), J. Nelson, and W. Pietro (University of Wisconsin, Madison, WI), *Journal of the Electrochemical Society* **138**, No. 3, 742–747 (1991).

Plasma-Developed Images in a Polyamic Acid/Diazoquinone Photoresist, S. E. Greco and S. S. Miura (IBM Corporation, Route 52, Hopewell Junction, NY 12533), *Journal of the Electrochemical Society* **138**, No. 3, 810–814 (1991).

Constriction-Induced Local Electrodeposition, The Principle of Self-Induced Repair, C. J. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of the Electrochemical Society* **138**, No. 4, 969–976 (1991).

New High-Resolution and High-Sensitivity Deep UV, X-Ray, and Electron-Beam Resists, M. Hatzakis, K. J. Stewart, J. M. Shaw, and S. A. Rishton (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of the Electrochemical Society* **138**, No. 4, 1076–1079 (1991).

Substrate Trenching Mechanism during Plasma and Magnetically Enhanced Polysilicon Etching, S. V. Nguyen, D. Dobuzinsky, S. R. Stiffler, and C. Chrisman (IBM Corporation, P.O. Box A, Essex Junction, VT 05452), *Journal of the Electrochemical Society* **138**, No. 4, 1112–1117 (1991).

A Study of Luminescent Centers in Reactive-Ion-Etched Silicon, A. Henry, O. O. Awadelkarim, B. Monemar (Linköping University, S-58183 Linköping, Sweden), J. L. Lindström (National Defence Research Establishment, Linköping, Sweden), T. D. Bestwick, and G. S. Oehrlein (IBM, Yorktown Heights, NY), *Journal of the Electrochemical Society* **138**, No. 4, 1138–1143 (1991).

Selective Dry Etching of Germanium with Respect to Silicon and Vice Versa, G. S. Oehrlein, T. D. Bestwick, P. L. Jones, M. A. Jaso, and J. L. Lindström (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of the Electrochemical Society* **138**, No. 5, 1443–1452 (1991).

Electrical Studies on Annealed D, Plasma-Exposed Silicon, A. Henry, O. O. Awadelkarim, C. Hallin (Linköping University, S-58183 Linköping, Sweden), J. L. Lindström (National Defence Research Establishment, Linköping, Sweden), and G. S. Oehrlein (IBM, Yorktown Heights, NY), *Journal of the Electrochemical Society* **138**, No. 5, 1456–1460 (1991).

The Representation of Functions in Terms of Their Divided Differences at Chebyshev Nodes and Roots of Unity, K. G. Ivanov (Bulgarian Academy of Sciences, Sofia 1090, Bulgaria), T. J. Rivlin (IBM, Yorktown Heights, NY), and E. B. Staff (University of South Florida, Tampa, FL), *Journal of the London Mathematical Society* **42**, 309–328 (1990).

Detection of Sharp Absorption Lines in Thin NdF₃ Films, D. W. Shortt, M. L. Jones, A. L. Schawlow (Stanford University, Stanford, CA 94305), R. M. Macfarlane, and R. F. C. Farrow (IBM, San Jose, CA), *Journal of the Optical Society of America B* **8**, No. 5, 923–929 (1991).

Fractal Model of Elastic Plastic Contact Between Rough Surfaces, A. Majumdar (Arizona State University, Tempe, AZ 85287) and B. Bhushan (IBM, San Jose, CA), *Journal of Tribology* 113, No. 1, 1-11 (1991).

Compressible Navier Stokes Computations for Slider Air Bearings, W. D. Henshaw, L. G. Reyna, and J. A. Zufiria (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Tribology* 113, No. 1, 73-79 (1991).

P-Version Incompressible Lubrication Finite Element Analysis of Large Width Bearings, S. H. Nguyen (IBM Corporation, Rochester, MN 55901), *Journal of Tribology* 113, No. 1, 116-119 (1991).

On Stick Slip and Velocity Dependence of Friction at Low Speeds, N. V. Gitis (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193), *Journal of Tribology* 113, No. 1, 223 (1991).

Carbon Doping of GaP, GaInP, and AlInP in Metalorganic Molecular Beam Epitaxy Using Methyl and Ethyl Precursors, T. J. de Lyon, J. M. Woodall, P. D. Kirchner, D. T. McInturff, G. J. Scilla, and F. Cardone (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science and Technology B* 9, No. 1, 136-142 (1991).

Etching Reactions for Silicon with F Atoms: Product Distributions and Ion Enhancement Mechanisms, H. F. Winters and I. C. Plumb (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Vacuum Science and Technology B* 9, No. 2, Part I, 197-207 (1991).

Collimated Magnetron Sputter Deposition, S. M. Rosnagel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), D. Mikalsen, H. Kinoshita (University of Texas, Austin, TX), and J. J. Cuomo (IBM, Yorktown Heights, NY), *Journal of Vacuum Science and Technology* 9, No. 2, Part 1, 261-265 (1991).

Plasma Versus Ozone Photoresist Ashing: Temperature Effects on Process Induced Mobile Ion Contamination, C. K. Huynh (IBM Corporation, P.O. Box A, Essex Junction, VT 05452) and J. C. Mitchener (Fusion Semiconductor Systems, Rockville, MD), *Journal of Vacuum Science and Technology B* 9, No. 2, Part I, 353-356 (1991).

Luminescence in Scanning Tunneling Microscopy on III-V Nanostructures, S. F. Alvarado, P. Renaud, D. L. Abraham, C. Schönenberger, D. J. Arent, and H. P. Meier (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 409-413 (1991).

Atom-Resolved Surface Chemistry: The Early Steps of Si(111)-7 $\times$ 7 Oxidation, P. Avouris, I. W. Lyo, and F. Bozso (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 424-430 (1991).

A Scanning Tunneling Microscope Controlled Field Emission Microprobe System, T. H. P. Chang, D. P. Kern, M. A. McCord, and L. P. Muray (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 438-443 (1991).

Role of Atomic Force in Tunneling-Barrier Measurements, C. J. Chen and R. J. Hamers (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 503-505 (1991).

Near-Field Optics: Microscopy with Nanometer-Size Fields, W. Denk and D. W. Pohl (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 510-513 (1991).

Ultrafast Time Resolution in Scanned Probe Microscopes: Surface Photovoltage on Si(111)-(7 $\times$ 7), R. J. Hamers (University of Wisconsin, 1101 University Avenue, Madison, WI 53706) and D. G. Cahill (IBM, Yorktown Heights, NY), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 514-518 (1991).

Vacuum Tunneling of Spin-Polarized Electrons Detected by Scanning Tunneling Microscopy, R. Wiesendanger, D. Bürgler, G. Tarrach, A. Wadas, D. Brodbeck, H. J. Güntherodt (University of Basel, Klingelberstrasse 82, CH-4056 Basel, Switzerland), G. Güntherodt (RWTH Aachen, Aachen, Federal Republic of Germany), R. J. Gambino, and R. Ruf (IBM, Yorktown Heights, NY), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 519-524 (1991).

Scanning Chemical Potential Microscope: A New Technique for Atomic Scale Surface Investigation, C. C. Williams (University of Utah, Salt Lake City, UT 84112) and H. K. Wickramasinghe (IBM, Yorktown Heights, NY), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 537-540 (1991).

Scanning Tunneling Microscopy of Photoexcited Carriers at the Si(001) Surface, D. G. Cahill and R. J. Hamers (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 564-567 (1991).

Photon Emission Scanning Tunneling Microscope, R. Berndt, R. R. Schlittler, and J. K. Gimzewski (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 573-577 (1991).

Fundamental and Practical Aspects of Differential Scanning Tunneling Microscopy, E. P. Stoll and J. K. Gimzewski (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 643-647 (1991).

Application of Scanning Tunneling Microscope in Magnetic Storage Device Manufacturing, H. Strecker and G. Persch (IBM Germany Laboratories, D-6500 Mainz, Federal Republic of Germany), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 663-665 (1991).

Lateral Dopant Profiling in Semiconductors by Force Microscopy Using Capacitive Detection, D. W. Abraham, C. Williams, J. Slinkman, and H. K. Wickramasinghe (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 703-706 (1991).

Scanning Tunneling Microscopy and Spectroscopy of the Si(111)5×5 Surface, R. M. Feenstra and M. A. Lutz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 716–720 (1991).

The Driving Force Behind the Chemistry of Hydrogen of the Si(111)–7×7 Surface, J. J. Boland (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 764–769 (1991).

Successive Oxidation Stages and Annealing Behavior of the Si(111) 7×7 Surface Observed with Scanning Tunneling Microscopy and Scanning Tunneling Spectroscopy, J. P. Pelz and R. H. Koch (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 775–778 (1991).

Tunneling Microscopy and Spectroscopy on Cross Sections of Molecular-Beam-Epitaxy-Grown (Al)GaAs Multilayers, H. Salemink and O. Albrechtsen (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 779–782 (1991).

Observation of the Temporal Evolution of the (1×2) Reconstructed Au(110) Surface Using Scanning Tunneling Microscopy, J. K. Gimzewski, R. Berndt, and R. R. Schlittler (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 897–901 (1991).

Relaxed Diffusion Limited Aggregation of Ag on Au(111) Observed by Scanning Tunneling Microscopy, D. D. Chambliss and R. J. Wilson (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 928–932 (1991).

Ordered Nucleation of Ni and Au Islands of Au(111) Studied by Scanning Tunneling Microscopy, D. D. Chambliss, R. J. Wilson, and S. Chiang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 933–937 (1991).

A Low-Temperature Atomic Force/Scanning Tunneling Microscope for Ultrahigh Vacuum, F. J. Giessibl (IBM Corporation, Schellingstrasse 4, D-8000 Munich 40, Federal Republic of Germany), C. Gerber (IBM, Rüschlikon, Switzerland), and G. Binnig (IBM, Munich, Federal Republic of Germany), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 984–988 (1991).

Scanning Tunneling Microscopy of Various Graphitic Surfaces, L. M. Siperko (IBM Corporation, 1701 North Street, Endicott, NY 13760), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1061–1063 (1991).

Ring Structures on Natural Molybdenum Disulfide Investigated by Scanning Tunneling and Scanning Force Microscopy, W. M. Heckl, F. Ohnesorge, G. Binnig (IBM Corporation, Schellingstrasse 4, 8000 Munich 40, Federal Republic of Germany), M. Specht (University of Munich, Munich, Federal Republic of Germany), and M. Hashmi (MPIf. Plasmaphysics, Garching, Federal Republic of Germany), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1072–1078 (1991).

Molecular Imaging of Ordered and Disordered Naphthalene on Pt(111), V. M. Hallmark, S. Chiang, and C. Wöll (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1111–1114 (1991).

Defects in Alkylcyanobiphenyl Molecular Crystals Studied by Scanning Tunneling Microscopy, D. P. E. Smith (IBM Corporation, Schellingstrasse 4, 8000 Munich 40, Federal Republic of Germany), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1119–1125 (1991).

Electropolymerization of Glutaraldehyde Observed by Scanning Tunneling Microscopy and Its Implications for Scanning Tunneling Microscopy Imaging of Organic Material, W. M. Heckl and D. P. E. Smith (IBM Corporation, Schellingstrasse 4, 8000 Munich 40, Federal Republic of Germany), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1159–1161 (1991).

Force Microscopy on Living Cells, W. Häberle, J. K. H. Horber, and G. Binnig (IBM Corporation, Schellingstrasse 4, 8000 Munich 40, Federal Republic of Germany), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1210–1213 (1991).

Study of Tip Magnetization Behavior in Magnetic Force Microscope, K. Sueoka, K. Okuda, N. Matsubara, and F. Sai (IBM Corporation, 5-19 Sanbancho, Chiyoda-ku, Tokyo 102, Japan), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1313–1317 (1991).

Micromachined Silicon Sensors for Scanning Force Microscopy, O. Wolter, T. Bayer, and J. Greschner (IBM Germany, P.O. Box 266, 7032 Sindelfingen, Federal Republic of Germany), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1353–1357 (1991).

Scanning Force Microscopy with Micromachined Silicon Sensors, M. Nonnenmacher (University of Kassel, Heinrich-Plett-Strasse 40, 3500 Kassel, Federal Republic of Germany), J. Greschner, O. Wolter (IBM Germany, Sindelfingen, Federal Republic of Germany), and R. Kassing (University of Kassel, Kassel, Federal Republic of Germany), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1358–1362 (1991).

Gold Deposition from a Scanning Tunneling Microscope Tip, H. J. Mamin, S. Chiang, H. Birk, P. H. Guethner, and D. Rugar (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Vacuum Science and Technology B* 9, No. 2, Part II, 1398–1402 (1991).

Structural Analysis Consultation System Developed by Use of Knowledge Bases and Symbolic Manipulation, M. Kudoh (IBM Corporation, 5-19 Sanbancho, Chiyoda-ku, Tokyo 102, Japan) and S. Nakagiri (University of Tokyo, Tokyo, Japan), *JSME, International Journal Series I* 33, No. 3, 394–399 (1991).

L

Structure of an Ordered Self-Assembled Monolayer of Docosyl Mercaptan on Gold(111) by Surface X-Ray Diffraction, M. G. Samant, C. A. Brown, and J. G. Gordon (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Langmuir* 7, No. 3, 437–439 (1991).

Motion of Atomic Steps of Au(111) Films on Mica, E. Holloand-Moritz, J. Gordon, G. Borges, and R. Sonnenfeld (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Langmuir* **7**, No. 2, 301-306 (1991).

M

Thermoreversible Gelation in Binary Mixtures of Poly(di-n-alkylsilanes) and Aromatic Solvents, T. J. Lenk, R. L. Siemens, V. M. Hallmark, R. D. Miller, and J. F. Rabolt (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Macromolecules* **24**, No. 5, 1215-1217 (1991).

Synthesis and Solution Properties of Poly[N,N-(p-phenylene)-3,3',4,4'-Biphenyltetracarboxylic Acid Diamide], S. A. Swanson, P. M. Cotts, R. Siemens, and S. H. Kim (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Macromolecules* **24**, No. 6, 1352-1357 (1991).

Segment Density Distribution of Symmetrical Diblock Copolymers at the Interface Between Two Homopolymers as Revealed by Neutron Reflectivity, T. P. Russell, S. H. Anastasiadis, A. Menelle (IBM Corporation, 650 Harry Road, San Jose, CA 95120), G. P. Felcher (Argonne National Laboratory, Argonne, IL), and S. K. Satija (National Institute of Standards and Technology, Gaithersburg, MD), *Macromolecules* **24**, No. 7, 1575-1582 (1991).

Design of Polymeric Imaging Materials Based on Electrophilic Aromatic Substitution: Model Studies, H. D. H. Stover, S. Matuszczak (Cornell University, Ithaca, NY 14853), C. G. Willson (IBM, San Jose, CA), and J. M. J. Fréchet (Cornell University, Ithaca, NY), *Macromolecules* **24**, No. 8, 1741-1745 (1991).

Chemically Amplified Imaging Materials Based on Electrophilic Aromatic Substitution: Poly[(4-(acetoxymethyl)styrene-co-4-hydroxystyrene)], J. M. J. Fréchet, S. Matuszczak (Cornell University, Ithaca, NY 14853), B. Reck (IBM, San Jose, CA), H. D. H. Stover (McMaster University, Hamilton, Ontario, Canada), and C. G. Willson (IBM, San Jose, CA), *Macromolecules* **24**, No. 8, 1746-1754 (1991).

Critical Molecular Weight for Block Copolymer Reinforcement of Interfaces in a Two-Phase Polymer Blend, C. Creton, E. J. Kramer, and G. Hadzioannou (Cornell University, Ithaca, NY 14853), *Macromolecules* **24**, No. 8, 1846-1853 (1991).

Photochemistry of Triphenylsulfonium Salts in Poly[4-(tert-butoxycarbonyloxy)styrene]: Evidence for a Dual Photoinitiation Process, N. P. Hacker (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and K. M. Welsh (IBM, Hopewell Junction, NY), *Macromolecules* **24**, No. 8, 2137-2139 (1991).

Systematics in the Electronic Structure of Amorphous Transition Metal Tin Alloys, H. G. Boyen, G. Indlekofer, P. Oelhafen (University of Basel, Klingenbergstrasse 82, CH-4056 Basel, Switzerland), P. Haussler (Hoechst AG, Frankfurt, Federal Republic of Germany), F. Baumann (University of Karlsruhe, Karlsruhe, Federal Republic of Germany), and V. L. Moruzzi (IBM, Yorktown Heights, NY), *Materials Science and Engineering A* **133**, 107-110 (1991).

Solid State Amorphization of Re/Tm (Re = Ce, Er and Tm = Fe, Co) Multilayers, M. Matsuura (Miyagi National College of Technology, Miyagi 98112, Japan), R. Petkie, G. Singco, and K. N. Tu (IBM, Yorktown Heights, NY), *Materials Science and Engineering A* **133**, 551-554 (1991).

Nanocrystalline Materials by Crystallization of Metal Metalloid Glasses, U. Koster, U. Schunemann, M. Blakbawersdorff (University of Dortmund, D-4600 Dortmund, Federal Republic of Germany), S. Brauer, M. Sutton (McGill University, Montreal, Quebec, Canada), and G. B. Stephenson (IBM, Yorktown Heights, NY), *Materials Science and Engineering A* **133**, 611-615 (1991).

Local Dimension of Piecewise Polynomial Space, Syzygies, Solutions of Systems of Partial Differential Equations, W. Dahmen (Freie Universität Berlin, Arnimallee 2-6, 1000 Berlin 33, Federal Republic of Germany) and C. A. Micchelli (IBM, Yorktown Heights, NY), *Mathematische Nachrichten* **148**, 117-136 (1990).

N

Screw Dislocations in High-T_c Films, C. Gerber, D. Anselmetti, J. G. Bednorz, J. Mannhart, and D. G. Schlom (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Nature* **350**, No. 6316, 279-280 (1991).

'Life' Not Critical?, C. Bennett (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and M. S. Bourzutschky (California Institute of Technology, Pasadena, CA), *Nature* **350**, No. 6318, 468 (1991).

Is C₆₀ Stiffer Than Diamond?, R. S. Ruoff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. L. Ruoff (Cornell University, Ithaca, NY), *Nature* **350**, No. 6320, 663-664 (1991).

Ultrasensitive Laser Spectroscopy in Solids: Statistical Fine Structure and Single Molecule Detection, W. E. Moerner (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *New Journal of Chemistry* **15**, No. 2-3, 199-208 (1991).

Numerical Simulation of Three-Dimensional Mixed Convection Heat Transfer from a Finned Array of Discrete Sources, H. V. Mahaney (IBM Corporation, Austin, TX 78758), S. Ramadhyani, and F. P. Incropera (Purdue University, West Lafayette, IN), *Numerical Heat Transfer A* **19**, No. 2, 125-149 (1991).

O

Constructing the Minimization Diagram of a Two-Parameter Problem, D. Fernández-Baca (Iowa State University, Ames, IA 50011) and S. Srinivasan (IBM, Yorktown Heights, NY), *Operations Research Letters* **10**, No. 2, 87-93 (1991).

ASTA Implies an M/G/1-Like Load Decomposition for a Server with Vacations, Z. Rosberg (IBM Israel, 32000 Haifa, Israel) and H. R. Gail (IBM, Yorktown Heights, NY), *Operations Research Letters* **10**, No. 2, 95-97 (1991).

Neural Networks for Binarizing Computer-Generated Holograms, D. Just and D. T. Ling (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Optics Communications* **81**, No. 1,2, 1-5 (1991).

P

Image Segmentation by Successive Background Extraction, A. A. Rodriguez (IBM Corporation, Boca Raton, FL 33429) and O. R. Mitchell (University of Texas, Arlington, TX), *Pattern Recognition* **24**, No. 5, 409-420 (1991).

A Comparison of Splitting Methods for the Identification of Corner Points, R. Espelid and I. Jonassen (IBM Norway, Thormøhlensgate 55, N-5008 Bergen, Norway), *Pattern Recognition Letters* **12**, No. 2, 79-83 (1991).

On Representation of a Shape Skeleton, A. Sirjani (IBM Corporation, Rochester, MN 55901) and G. R. Gross (Washington State University, Pullman, WA), *Pattern Recognition Letters* **12**, No. 3, 149-154 (1991).

Structural Multiplicity Observed at $\sigma \Sigma = 5/[001] 53.1^\circ$ Tilt Boundary in Gold, W. Krakow (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Philosophical Magazine A* **63**, No. 2, 233-240 (1991).

Grain-Boundary States and Hydrogenation of Fine-Grained Polycrystalline Silicon Films Deposited by Molecular Beams, D. Jousse, S. L. Delage, and S. S. Iyer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Philosophical Magazine B* **63**, No. 2, 443-455 (1991).

Quantum Monte Carlo Perturbation Calculations of Interaction Energies, M. Caffarel (Université Pierre et Marie Curie, Paris VI Tour 22, 4 Place Jussieu, 75252 Paris Cedex 05, France) and O. Hess (IBM France, Paris, France), *Physical Review A* **43**, No. 5, 2139-2151 (1991).

Generation of Hard X Rays from Transition Radiation Using High-Density Foils and Moderate-Energy Electrons, M. A. Piestrup (Adelphi Technology Inc., 285 Hamilton Avenue, Suite 430, Palo Alto, CA 94301), M. J. Moran (University of California, Livermore, CA), D. G. Boyers, C. I. Pincus (Adelphi Technology, Inc., Palo Alto, CA), J. O. Kephart (IBM, Yorktown Heights, NY), G. A. Gearhart (Stanford Linear Accelerator Center, Stanford, CA), and X. K. Maruyama (Naval Postgraduate School, Monterey, CA), *Physical Review A* **43**, No. 5, 2387-2396 (1991).

Electron Energy Loss Spectroscopy of Layered Systems, V. Z. Kresin (University of California, Berkeley, CA 94750) and H. Morawitz (IBM, San Jose, CA), *Physical Review B* **43**, No. 4-A, 2691-2695 (1991).

Current-Voltage Characteristics of Double Normal Tunnel Junctions, B. Laikhtman (Weizmann Institute of Science, IL-76100 Rehovot, Israel), *Physical Review B* **43**, No. 4-A, 2731-2734 (1991).

Magnetic Relaxation in an Isotropic Extreme Type-II Superconductor, P. Svedlindh, K. Niskanen, P. Norling, P. Nordblad, L. Lundgren (University of Uppsala, Box 534, S-751 21 Uppsala, Sweden), C. Rossel (IBM, Rüschlikon, Switzerland), M. Sergent, R. Chevrel, and M. Potel (Université de Rennes, Rennes, France), *Physical Review B* **43**, No. 4-A, 2735-2741 (1991).

Model for the Reversible Magnetization of High- k Type-II Superconductors: Application to High- T_c Superconductors, Z. D. Hao, J. R. Clem (Iowa State University, Ames, IA 50011), M. W. McElfresh, L. Civale, A. P. Malozemoff, and F. Holtzberg (IBM, Yorktown Heights, NY), *Physical Review B* **43**, No. 4-A, 2844-2852 (1991).

Role of Van Hove Singularity in High-Temperature Superconductors: Mean Field, D. M. Newns, P. C. Pattnaik, and C. C. Tsuei (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **43**, No. 4-A, 3075-3084 (1991).

O 1s Core Levels in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ Single Crystals, F. Parmigiani (IBM Corporation, 650 Harry Road, San Jose, CA 95120), Z. X. Shen, D. B. Mitzi, I. Lindau, W. E. Spicer, and A. Kapitulnik (Stanford University, Stanford, CA), *Physical Review B* **43**, No. 4-A, 3085-3090 (1991).

Quasi-Two-Dimensional Ferromagnetism in Polycrystalline Fe, M. Donath, D. Scholl, H. C. Siegmann, and E. Kay (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Physical Review B* **43**, No. 4-B, 3164-3170 (1991).

General Validity of Jastrow-Laughlin Wave Functions, C. L. Kane, S. Kivelson, D. H. Lee, and S. C. Zhang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Physical Review B* **43**, No. 4-B, 3255-3258 (1991).

Origin of the Ba Core-Level Binding-Energy Difference Between Tetragonal and Orthorhombic $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$, F. Parmigiani (IBM Corporation, 650 Harry Road, San Jose, CA 95120), G. Pacchioni (Università di Milano, Milan, Italy), C. R. Brundle, D. E. Fowler, and P. S. Bagus (IBM, San Jose, CA), *Physical Review B* **43**, No. 4-B, 3695-3698 (1991).

Experimental Evidence for the Transition from Two- to Three-Dimensional Behavior of Excitons in Quantum-Well Structures, J.-P. Reithmaier (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), R. Höger, and H. Riechert (Siemens Research Laboratories, Munich, Federal Republic of Germany), *Physical Review B* **43**, No. 6, 4933-4938 (1991).

Surface Core-Level Spectroscopy of Cu(100) and Al(100), P. S. Bagus, G. Pacchioni, and F. Parmigiani (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Physical Review B* **43**, No. 6, 5172-5175 (1991).

Resonant Interband Tunneling Via Landau Levels in Polytype Heterostructures, E. E. Mendez, H. Ohno, L. Esaki (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), and W. I. Wang (Columbia University, New York, NY), *Physical Review B* **43**, No. 6, 5196-5199 (1991).

Start Quantization in Superlattices, R. Tsu (University of North Carolina, Charlotte, NC 28223) and L. Esaki (IBM, Yorktown Heights, NY), *Physical Review B* **43**, No. 6, 5204-5206 (1991).

Thickness Dependence of the Irreversibility Line in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Thin Films, L. Civale, T. K. Worthington, and A. Gupta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **43**, No. 7-A, 5425-5429 (1991).

Acoustic Study of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Thin Films, S.-G. Lee, C.-C. Chi, G. Koren, and A. Gupta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **43**, No. 7-A, 5459-5467 (1991).

d-Wave, Dimer, and Chiral States in the Two-Dimensional Hubbard Model, A. Parola, S. Sorella (International School for Advanced Studies, Strada Costiera 11, Trieste, Italy), M. Parrinello, and E. Tosatti (IBM, Rüschlikon, Switzerland), *Physical Review B* **43**, No. 7-B, 6190-6193 (1991).

Participation of Carbon in the Electronic Structure of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$, P. E. Batson, T. M. Shaw, D. Dimos, and P. R. Duncombe (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **43**, No. 7-B, 6236-6238 (1991).

Flux-Flow Hall Effect in Superconducting $\text{Tl}_2\text{Ba}_2\text{CaCu}_2\text{O}_8$ Films, S. J. Hagen, C. J. Lobb (University of Maryland, College Park, MD 20742), R. L. Greene (IBM, Yorktown Heights, NY), and M. Eddy (Superconductor Technologies Inc., Santa Barbara, CA), *Physical Review B* **43**, No. 7-B, 6246-6248 (1991).

Multilayer Relaxation of Pb(111) Surface, Y. S. Li, F. Jona (State University of New York, Stony Brook, NY 11794), and P. M. Marcus (IBM, Yorktown Heights, NY), *Physical Review B* **43**, No. 8, 6337-6341 (1991).

Low Energy Electron Diffraction and Photoemission Study of Epitaxial Films of Cu on Ag(001), H. Li, D. Tian, L. Quinn, Y. S. Li, F. Jona (State University of New York, Stony Brook, NY 11794), and P. M. Marcus (IBM, Yorktown Heights, NY), *Physical Review B* **43**, No. 8, 6342-6346 (1991).

Adsorption of Positronium on Metal Surfaces: Theory, T. Martin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), R. Bruinsma (University of California, Los Angeles, CA), and P. M. Platzman (AT&T Bell Laboratories, Murray Hill, NJ), *Physical Review B* **43**, No. 8, 6466-6473 (1991).

Analytic Solutions to the Boltzmann Equation for Electron Transport in Silicon, L. R. Logan, H. H. K. Tang, and G. R. Srinivasan (IBM Corporation, Route 52, Hopewell Junction, NY 12533), *Physical Review B* **43**, No. 8, 6581-6589 (1991).

Tip Related Electronic Artifacts in Scanning Tunneling Spectroscopy, J. P. Pelz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **43**, No. 8, 6746-6749 (1991).

Fine-Structure of the Ca 2p X-Ray-Absorption Edge for Bulk Compounds, Surfaces, and Interfaces, F. J. Himpsel, U. O. Karlsson, A. B. McLean, L. J. Terminello (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), F. M. F. de Groot, M. Abbate, J. C. Fuggle (University of Nijmegen, Nijmegen, The Netherlands), J. A. Yarmoff (University of California, Riverside, CA), B. T. Thole, and G. A. Sawatzky (University of Groningen, Groningen, The Netherlands), *Physical Review B* **43**, No. 9, 6899-6907 (1991).

Fermi-Level Pinning in an Al-Ge Metal-Semiconductor Junction, S. Ciraci, A. Baratoff (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), and I. P. Batra (IBM, San Jose, CA), *Physical Review B* **43**, No. 9, 7046-7052 (1991).

Theoretical Study of Transport Through a Quantum Point Contact, E. Tekman (Bilkent University, Bilkent 06533, Ankara, Turkey) and S. Ciraci (IBM, Rüschlikon, Switzerland), *Physical Review B* **43**, No. 9, 7145-7169 (1991).

Two-Dimensional Electronic Structure of the GaAs(110)-Bi System, A. B. McLean, R. Ludeke, M. Prietsch (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), D. Heskett, D. Tang (University of Rhode Island, Kingston, RI), and T. M. Wong (University of Pennsylvania, Philadelphia, PA), *Physical Review B* **43**, No. 9, 7243-7253 (1991).

Multilayer Relaxation of Clean Ag(001), H. Li, J. Quinn, Y. S. Li, D. Tian, F. Jona (State University of New York, Stony Brook, NY 11794), and P. M. Marcus (IBM, Yorktown Heights, NY), *Physical Review B* **43**, No. 9, 7305-7307 (1991).

Formation and Structure of Misfit Dislocations, A. S. Nandedkar, G. R. Srinivasan, and C. S. Murthy (IBM Corporation, Route 52, Hopewell Junction, NY 12533), *Physical Review B* **43**, No. 9, 7308-7311 (1991).

Resonant Suppression of the Quantized Hall Effect in Ballistic Junctions, C. J. B. Ford (Cavendish Laboratory, Cambridge CB3 0HE, United Kingdom), S. Washburn (IBM, Yorktown Heights, NY), R. Newbury (Cavendish Laboratory, Cambridge, United Kingdom), C. M. Knoedler, and J. M. Hong (IBM, Yorktown Heights, NY), *Physical Review B* **43**, No. 9, 7339-7342 (1991).

Second-Harmonic Generation and Origin of Polar Configuration in KTaO_3 , Li, G. A. Azzini, G. P. Banfi, E. Giolotto (University of Pavia, 27100 Pavia, Italy), and U. T. Höchli (IBM, Rüschlikon, Switzerland), *Physical Review B* **43**, No. 10-A, 7473-7480 (1991).

Scanning Tunneling Microscopy and Spectroscopy of Bi-Sr-Ca-Cu-O 2:2:1:2 High-Temperature Superconductors, C. K. Shih, R. M. Feenstra, and G. V. Chandrashekar (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **43**, No. 10-A, 7913-7922 (1991).

Elasticity and the Landau-Peierls Instability in the Smectic Twist-Grain-Boundary Phase, J. Toner (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **43**, No. 10-B, 8289-8296 (1991).

Response of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Grain-Boundary Junctions to Short Light Pulses, S. B. Kaplan, C. C. Chi, P. Chaudhari, D. Dimos, R. Gross, A. Gupta, and G. Koren (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **43**, No. 10-B, 8627-8630 (1991).

Dynamic Properties of a High- T_c Superconductor: Direct Evidence for Non-BCS Behavior, R. T. Collins, Z. Schlesinger, F. Holtzberg, C. Feild (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), U. Welp, G. W. Crabtree, J. Z. Liu, and Y. Fang (Argonne National Laboratory, Argonne, IL), *Physical Review B* **43**, No. 10-B, 8701-8704 (1991).

Low-Temperature Magnetic Relaxation in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$: Evidence for Quantum Tunneling of Vortices, L. Fruchter, A. P. Malozemoff, I. A. Campbell, J. Sanchez (Université Paris-Sud, Bâtiment 510, 91405 Orsay Cedex, France), M. Konczykowski (École Polytechnique, Palaiseau, France), R. Griessen (Free University, Amsterdam, The Netherlands), and F. Holtzberg (IBM, Yorktown Heights, NY), *Physical Review B* **43**, No. 10-B, 8709–8712 (1991).

Implications of Various Spin-One Relativistic Wave Equations for Intermediate-Energy Deuteron-Nucleus Scattering, V. K. Mishra, S. Hama, B. C. Clark (Ohio State University, Columbus, OH 43210), R. E. Kozack (Los Alamos National Laboratory, Los Alamos, NM), R. L. Mercer (IBM, Yorktown Heights, NY), and L. Ray (University of Texas, Austin, TX), *Physical Review C* **43**, No. 2, 801–811 (1991).

Ab initio Determination of Accurate Electron Affinities of B, C, O, and F, T. Noro, M. Yoshimine (IBM Corporation, 650 Harry Road, San Jose, CA 95120), M. Sekiya, and F. Sasaki (Itokkaido University, Sapporo, Japan), *Physical Review Letters* **66**, No. 9, 1157–1160 (1991).

Surface-Induced Ordering of an Aromatic Polyimide, B. J. Factor (Stanford University, Stanford, CA 94305), T. P. Russell, and M. F. Toney (IBM, San Jose, CA), *Physical Review Letters* **66**, No. 9, 1181–1184 (1991).

Imaging Xe with a Low-Temperature Scanning Tunneling Microscope, D. M. Eigler, P. S. Weiss, E. K. Schweizer (IBM Corporation, 650 Harry Road, San Jose, CA 95120), and N. D. Lang (IBM, Yorktown Heights, NY), *Physical Review Letters* **66**, No. 9, 1189–1192 (1991).

Observation of Polaron Dynamics in Magnetic Quantum Wells, D. D. Awschalom, M. R. Freeman (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), N. Samarth, H. Luo, and J. K. Furdyna (University of Notre Dame, Notre Dame, IN), *Physical Review Letters* **66**, No. 9, 1212–1215 (1991).

Collective Excitations in the Ginzburg–Landau Theory of the Fractional Quantum Hall Effect, D.-H. Lee (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. C. Zhang (IBM, San Jose, CA), *Physical Review Letters* **66**, No. 9, 1220–1223 (1991).

Scaling Behavior of Percolation Surfaces in Three Dimensions, P. N. Strenski (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), R. M. Bradley (Colorado State University, Fort Collins, CO), and J. M. Debierre (Université de Nancy, Vandoeuvre-les-Nancy, France), *Physical Review Letters* **66**, No. 10, 1330–1333 (1991).

Comment on “Single Pentacene Molecules Detected by Fluorescence Excitation in a *p*-Terphenyl Crystal,” W. E. Moerner and W. P. Ambrose (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Physical Review Letters* **66**, No. 10, 1376 (1991).

Ionized-Impurity Scattering of Quasi-Two-Dimensional Quantum-Confined Carriers, W. T. Masselink (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review Letters* **66**, No. 11, 1513–1516 (1991).

Nucleation of Ordered Ni Island Array on Au(111) by Surface-Lattice Dislocations, D. D. Chambliss, R. J. Wilson, and S. Chiang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Physical Review Letters* **66**, No. 13, 1721–1724 (1991).

Edge Excitations in the Fractional-Quantum-Hall Liquids, D.-H. Lee (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and X.-G. Wen (Institute for Advanced Study, Princeton, NJ), *Physical Review Letters* **66**, No. 13, 1765–1768 (1991).

THz Commensurate Echoes: Periodic Rephasing of Molecular Transitions in Free-Induction Decay, H. Harde, S. Keiding, and G. Grischkowsky (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review Letters* **66**, No. 14, 1834–1837 (1991).

Observation of the Photorefractive Effect in a Polymer, S. Ducharme, J. C. Scott, R. J. Twieg, and M. E. Moerner (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Physical Review Letters* **66**, No. 14, 1846–1849 (1991).

Anomalous Decay of Turbulence in Superfluid ^4He , K. W. Schwarz and J. R. Rozen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review Letters* **66**, No. 14, 1898–1901 (1991).

Transport Spectroscopy of a Coulomb Island in the Quantum Hall Regime, P. L. McEuen, E. B. Foxman, U. Meirav, M. A. Kastner, Y. Meir, N. S. Wingreen (Massachusetts Institute of Technology, Cambridge, MA 02139), and S. J. Wind (IBM, Yorktown Heights, NY), *Physical Review Letters* **66**, No. 14, 1926–1929 (1991).

Interference and Dephasing by Electron–Electron Interaction on Length Scales Shorter than the Elastic Mean Free Path, A. Yacoby, U. Sivan, C. P. Umbach, and J. M. Hong (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review Letters* **66**, No. 14, 1938–1941 (1991).

Surface Diffusion of Hydrogen on $\text{Si}(111)7\times7$, G. A. Reider (Technische Universität Wien, Gusshausstrasse 27, A-1040 Vienna, Austria), U. Höfer, and T. F. Heinz (IBM, Yorktown Heights, NY), *Physical Review Letters* **66**, No. 15, 1994–1997 (1991).

Synchrotron X-Ray Diffraction Study of the Disordering of the $\text{Ge}(111)$ Surface at High Temperatures, A. Mak (Massachusetts Institute of Technology, Cambridge, MA 02139), K. W. Evans-Lutterodt (AT&T Bell Laboratories, Murray Hill, NJ), K. Blom, D. Y. Noh, J. D. Brock (Massachusetts Institute of Technology, Cambridge, MA), G. A. Held (IBM, Yorktown Heights, NY), and R. J. Birgeneau (Massachusetts Institute of Technology, Cambridge, MA), *Physical Review Letters* **66**, No. 15, 2002–2005 (1991).

Oscillatory Magnetic Exchange Coupling through Thin Copper Layers, S. S. P. Parkin, R. Bhadra, and K. P. Roche (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Physical Review Letters* **66**, No. 16, 2152–2155 (1991).

Observation of Critical Scaling Behavior in the ac Impedance at the Onset of Superconductivity in a Large Magnetic Field, H. K. Olsson (Chalmers University of Technology, S-41296 Gothenburg, Sweden), R. H. Koch, W. Eidelloth, and R. P. Robertazzi (IBM, Yorktown Heights, NY), *Physical Review Letters* **66**, No. 20, 2661-2664 (1991).

Obstructed Flow Between Shrouded Co-rotating Disks, H.-M. Tzeng and C.-J. Chang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Physics of Fluids A* **3**, No. 3, 484-486 (1991).

Information Is Physical, R. Landauer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physics Today* **44**, No. 5, 23-29 (1991).

Imide-Aryl Ether Phenylquinoxaline Random Copolymers, J. L. Hedrick, J. W. Labadie, T. P. Russell, and T. Palmer (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Polymer* **32**, No. 5, 950-958 (1991).

Laser Interferometry: A Measurement Technique for Diffusion Studies in Thin Polymer Films, K. L. Saenger and H. M. Tong (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Polymer Engineering and Science* **31**, No. 6, 432-435 (1991).

R

Rapid Programmable 300 ps Optical Delay Scanner and Signal-Averaging System for Ultrafast Measurements, D. C. Edelstein, R. B. Romney, and M. Scheuermann (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Review of Scientific Instruments* **62**, No. 3, 579-583 (1991).

Prediction of Optical Disk Tracking Servo Signals from Surface Microtopography Measured by Scanning Tunneling Microscopy, M. E. Best, T. E. Karis, J. A. Logan, J. R. Lyerla, R. T. Lynch, and R. P. McCormack (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Review of Scientific Instruments* **62**, No. 4, 993-995 (1991).

Origin of the Self Reinforcement in PDMS Bimodal Networks, T. L. Smith, B. Haidar, and J. L. Hedrick (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Rubber Chemistry and Technology* **63**, No. 2, 256-264 (1990).

S

Auger Electron Angular Distributions from Surfaces: Direct Comparison with Isoenergetic Photoelectrons, L. J. Terminello (Lawrence Livermore National Laboratory, Livermore, CA 94550) and J. J. Barton (IBM, Yorktown Heights, NY), *Science* **251**, No. 4998, 1218-1220 (1991).

Folding and Unbinding Transitions in Tethered Membranes, F. F. Abraham (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and M. Kardar (Massachusetts Institute of Technology, Cambridge, MA), *Science* **252**, No. 5004, 419-422 (1991).

Interpolation and Approximation of Sparse Multivariate Polynomials Over $GF(2)$, R. M. Roth (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and G. M. Benedek (Rosh Intelligent Systems, Inc., Mevasseret Zion, Israel), *SLAM Journal on Computing* **20**, No. 2, 291-314 (1991).

Lower Bounds for Computations with the Floor Operation, Y. Mansour (Massachusetts Institute of Technology, Cambridge, MA 02139), B. Schieber (IBM, Yorktown Heights, NY), and P. Tiwari (University of Wisconsin, Madison, WI), *SLAM Journal on Computing* **20**, No. 2, 315-327 (1991).

Efficient Parallel Algorithms for Testing k -Connectivity and Finding Disjoint s - t Paths in Graphs, S. Khuller (Cornell University, Ithaca, NY 14853) and B. Schieber (IBM, Yorktown Heights, NY), *SLAM Journal on Computing* **20**, No. 2, 352-375 (1991).

Incommensurate Epitaxial Growth of Cu on Pd{111}, H. Li, D. Tian, F. Jona (State University of New York, Stony Brook, NY 11794), and P. M. Marcus (IBM, Yorktown Heights, NY), *Solid State Communications* **77**, No. 9, 651-655 (1991).

A New Correlation for T_c from Cu 2p Absorption, M. Ronay, A. Santoni, A. G. Schrott, L. J. Terminello, S. P. Kowalczyk, and F. J. Himpsel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Solid State Communications* **77**, No. 9, 699-702 (1991).

Anomalous Electro-absorption in the Low-Temperature Phase of $(C_{10}H_{21}NH_3)_2PbI_4$, C.-Q. Xu, S. Y. Fukuta, H. Sakakura, T. Kondo, R. Ito (University of Tokyo, Tokyo 113, Japan), Y. Takahashi, and K. Kumata (IBM Japan, Tokyo, Japan), *Solid State Communications* **77**, No. 12, 923-926 (1991).

Measuring Information Provided by Language Model and Acoustic Model in Probabilistic Speech Recognition Theory and Experimental Results, M. Ferretti, G. Maltese, and S. Scarci (IBM European Center for Scientific and Engineering Computing, Via Giorgione 159, 00147 Rome, Italy), *Speech Communications* **9**, No. 5-6, 531-539 (1990).

Non-Logarithmic Magnetic Relaxation of Bi-Sr-Ca-Cu-O Single Crystals, K. Niskanen, P. Norling, P. Svedlindh, P. Nordblad, L. Lundgren (Uppsala University, Box 534, S-751 21 Uppsala, Sweden), C. Rossel (IBM, Rüschlikon, Switzerland), and G. V. Chandrashekar (IBM, Yorktown Heights, NY), *Superconductor Science & Technology* **4**, No. 1S, S109-S111 (1991).

Noise in $YBa_2Cu_3O_{7-x}$ Grain Boundary Junction dc SQUIDS, R. Gross (Universität Tübingen, D-7400 Tübingen, Federal Republic of Germany), P. Chaudhari, M. Kawasaki, M. B. Ketchen, and G. Gupta (IBM, Yorktown Heights, NY), *Superconductor Science & Technology* **4**, No. 1S, S148-S150 (1991).

Superconducting Transport Properties of $YBa_2Cu_3O_{7-x}$ Grain Boundary Junctions, R. Gross (Universität Tübingen, D-7400 Tübingen, Federal Republic of Germany), P. Chaudhari, M. Kawasaki, and G. Gupta (IBM, Yorktown Heights, NY), *Superconductor Science & Technology* **4**, No. 1S, S253-S255 (1991).

Spatially Resolved Measurements of the Current Transport in $\text{YBa}_2\text{Cu}_3\text{O}_x$ -Films, D. Koelle, F. Kober, R. Gross, R. P. Huebener (Universität Tübingen, D-7400 Tübingen, Federal Republic of Germany), A. Gupta (IBM, Yorktown Heights, NY), J. Mannhart (IBM, Rüschlikon, Switzerland), and B. Roas (Universität Erlangen, Erlangen, Federal Republic of Germany), *Superconductor Science & Technology* **4**, No. 1S, S115-S117 (1991).

Local Hall Probe Magnetometry: A New Technique for Investigation of Magnetic Flux Penetration, Exclusion and Trapping in HTSC, M. Konczykowski (École Polytechnique, 91128 Palaiseau, France), F. Holtzberg (IBM, Yorktown Heights, NY), and P. Lejay (CNRS, Grenoble, France), *Superconductor Science & Technology* **4**, No. 1S, S331-S333 (1991).

Quantitative Time-of-Flight Secondary Ion Mass Spectrometry of a Perfluorinated Polyether, D. E. Fowler, R. D. Johnson (IBM Corporation, 650 Harry Road, San Jose, CA 95120), D. van Leyen, and A. Benninghoven (Universität Münster, Münster, Federal Republic of Germany), *Surface and Interface Analysis* **17**, No. 3, 125-136 (1991).

Probing and Inducing Surface Chemistry with the STM: The Reactions of $\text{Si}(111)-7 \times 7$ with H_2O and O_2 , P. Avouris and I.-W. Lyo (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface Science* **242**, Nos. 1-3, 1-11 (1991).

Characterization of Organic Ultra-Thin Films by Penning Ionization Electron Spectroscopy During Layer-by-Layer Preparation: TFTCNQ, TMTSF and Their Charge Transfer Complex, Y. Harada, H. Hayashi, S. Masuda, T. Fukuda, N. Sato, S. Kato, K. Kobayashi (University of Tokyo, Meguro, Tokyo 153, Japan), H. Kuroda (IBM Japan, Yamato, Japan), and H. Ozaki (Nagoya University, Nagoya, Japan), *Surface Science* **242**, Nos. 1-3, 95-101 (1991).

Peierls Instability Consideration for Alkali Metal Chains on $\text{Si}(001)-2 \times 1$, I. P. Batra (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Surface Science* **242**, Nos. 1-3, 354-357 (1991).

Two-Dimensional Imaging of Photodesorbed Species from Surfaces and the Desorption Dynamics, R. Schwarzwald, A. Mödl, and T. J. Chuang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Surface Science* **242**, Nos. 1-3, 437-443 (1991).

Electronic Structure of the $\text{InP}(110)$ Surface: An Inverse Photoemission Study, J. M. Nicholls, K. O. Magnusson, and B. Reihl (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), *Surface Science* **243**, Nos. 1-3, L31-L36 (1991).

Pressure Dependence of Oxide Growth Rate on Silicon and Metal Silicides, L. J. Terminello, J. A. Yarmoff, F. H. d'Heurle, and F. R. McFeely (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface Science* **243**, Nos. 1-3, 127-131 (1991).

Kinetics of the $\text{Si}(111)2 \times 1$ and 7×7 Transformation Studied Scanning Tunneling Microscopy, R. M. Feenstra and M. A. Lutz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface Science* **243**, Nos. 1-3, 151-165 (1991).

The Importance of Structure and Bonding in Semiconductor Surface Chemistry: Hydrogen on the $\text{Si}(111)-7 \times 7$ Surface, J. J. Boland (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface Science* **244**, Nos. 1/2, 1-14 (1991).

Structural and Electronic Properties Induced by Hydrogen Adsorption on the $\text{GaAs}(110)$ Surface, A. F. Wright, C. Y. Fong (University of California, Davis, CA 95616), and I. P. Batra (IBM, San Jose, CA), *Surface Science* **244**, Nos. 1/2, 51-57 (1991).

Metal-Metal Epitaxy on Germanium Near Room Temperatures: $\text{Ni}(100)/\text{Cu}(100)/\text{Ge}(100)$, C.-A. Chang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Surface Science* **245**, Nos. 1/2, 12-16 (1991).

T

Grain Boundary Migration and the Texture of Films, I. M. Fisher and D. A. Smith (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Textures and Microstructures* **13**, No. 2-3, 91-99 (1991).

Word Games in Free Lie Algebras: Some Bases and Formulas, P.-V. Koseleff (IBM France, 3-5 Place Vendôme, 75001 Paris, France), *Theoretical Computer Science* **79**, No. 1, 241-256 (1991).

Segregation Behavior for Co-Cu Multilayers, Q. Chen, M. Onellon (University of Wisconsin, Madison, WI 53706), and A. Wall (IBM, Rochester, MN), *Thin Solid Films* **196**, No. 1, 103-110 (1991).

Compositional Changes During Magnetron Sputtering of Alloys, S. M. Rossmagel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), I. Yang (Massachusetts Institute of Technology, Cambridge, MA), and J. J. Cuomo (IBM, Yorktown Heights, NY), *Thin Solid Films* **199**, No. 1, 59-69 (1991).

Soft X-Ray Diffraction Studies on Polymeric Langmuir-Blodgett Films, W. Jark (Sincrotrone Trieste, Padriciano 99, 34012 Trieste, Italy), T. P. Russell, G. Comelli, J. Stöhr (IBM, San Jose, CA), C. Ederlen, H. Ringsdorf, and J. Schneider (Universität Mainz, Mainz, Federal Republic of Germany), *Thin Solid Films* **199**, No. 1, 161-172 (1991).

Stepwise Software Development with Algebraic Specifications, C. Beierle (IBM Deutschland, D-7000 Stuttgart 80, Federal Republic of Germany) and A. Voss (Gesell Math & Datenverarbeitung, St. Augustin, Federal Republic of Germany), *TSI Technique et Science Informatiques* **10**, No. 1, 35-51 (1991).

U

Existence of Hermite Interpolatory End Point Constrained Rational Approximation, J. D. Lawson (Algoma University, St. Marie P6A 2G4, Ontario, Canada), T. C. Lau (IBM Canada, Don Mills, Ontario, Canada), and G. D. Taylor (Colorado State University, Ft. Collins, CO), *Utilitas Mathematica* **38**, No. NOV, 27-31 (1990).

X

Thin Film Characterization by X-Ray Fluorescence, T. C. Huang (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *X-Ray Spectrometry* **20**, No. 1, 29-33 (1991).

Z

High-Temperature Superconductivity in the Apex-Oxygen Model: A Quantum Monte Carlo Study, M. Frick (KFA Jülich, Postfach 1913, W-5170 Jülich, Federal Republic of Germany), I. Morgenstern (IBM, Rüschlikon, Switzerland), and W. von der Linden (Max-Planck Institute for Plasma Physics, Garching, Federal Republic of Germany), *Zeitschrift für Physik B* **82**, No. 3, 339-345 (1991).