

Recent publications by IBM authors

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A

Living Free Radical Polymerization: A Unique Technique for the Preparation of Controlled Macromolecular Architectures, C. J. Hawker (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Accounts of Chemical Research* **30**, No. 9, 373–382 (1997).

Experiences with Nonnumeric Applications on Multithreaded Architectures, A. Sodan (GMD First, Rudower Chaussee 5, D-12489 Berlin, Germany) et al., *ACM SIGPLAN Notices* **32**, No. 7, 124–135 (1997).

Performance Implications of Communication Mechanisms in All-Software Global Address Space Systems, B. H. Lim (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *ACM SIGPLAN Notices* **32**, No. 7, 230–239 (1997).

Non-Skip-Free M/G/1- and G/M/1-Type Markov Chains, H. R. Gail (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Advances in Applied Probability* **29**, No. 3, 733–758 (1997).

Parallel Searching in Generalized Monge Arrays, A. Aggarwal (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Algorithmica* **19**, No. 3, 291–317 (1997).

Polarization Response of Asymmetric-Spiral Infrared Antennas, C. Fumeaux (ETH Zurich, CH-8093 Zurich, Switzerland) et al., *Applied Optics* **36**, No. 25, 6485–6490 (1997).

Dislocation-Related Photoluminescence Peak Shift Due to Atomic Interdiffusion in SiGe/Si, K. Shum (City University of New York, New York, NY 10031) et al., *Applied Physics Letters* **71**, No. 8, 1074–1076 (1997).

Low-Field Magnetoresistive Properties of Polycrystalline and Epitaxial Perovskite Manganite Films, X. W. Li (Brown University, Providence, RI 02912) et al., *Applied Physics Letters* **71**, No. 8, 1124–1126 (1997).

Enhanced Luminance in Polymer Composite Light-Emitting Devices, S. A. Carter (University of California, Santa Cruz, CA 95064) et al., *Applied Physics Letters* **71**, No. 9, 1145–1147 (1997).

Lithium-Aluminum Contacts for Organic Light-Emitting Devices, E. I. Haskal (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Applied Physics Letters* **71**, No. 9, 1151–1153 (1997).

Growth and Structural Characterization of Highly Oriented Sputter Deposited (111)Co/Cu, (110)Co/Cu, and (100)Co/Cu Superlattices, D. J. Smith (Arizona State University, Tempe, AZ 85287) et al., *Applied Physics Letters* **71**, No. 11, 1480–1482 (1997).

Negative Differential Conductance in Strained Si Point Contacts and Wires, S. J. Koester (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **71**, No. 11, 1528–1530 (1997).

High Coercivity, Epitaxial Sm-Co Films with Uniaxial Inplane Anisotropy, E. E. Fullerton (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Applied Physics Letters* **71**, No. 11, 1579–1581 (1997).

Mg in GaN: Incorporation of a Volatile Species at High Temperatures During Molecular Beam Epitaxy, S. Guha (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Applied Physics Letters* **71**, No. 12, 1685–1687 (1997).

B

Corba, Java, and the Object Web, R. Orfali (IBM Corporation, New Orchard Road, Armonk, NY 10504) et al., *Byte* **22**, No. 10, 95+ (1997).

C

The Science and Technology of Condensed Matter Physics: From Atomic Imaging to Space Research, N. C. Yeh (California Institute of Technology, Pasadena, CA 91125), *Chinese Journal of Physics* **35**, No. 4, 373-386 (1997).

The Industrial Virtual Enterprise, M. Hardwick (Rensselaer Polytechnic Institute, Troy, NY 12181) and R. Bolton, *Communications of the ACM* **40**, No. 9, 59-60 (1997).

On the Number of Inner Iterations Per Outer Iteration of a Globally Convergent Algorithm for Optimization with General Nonlinear Inequality Constraints and Simple Bounds, A. R. Conn (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Computational Optimization and Applications* **7**, No. 1, 41-69 (1997).

The State-of-the-Art in Electronic Payment Systems, N. Asokan (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Computer* **30**, No. 9, 28+ (1997).

How Multimedia Workloads Will Change Processor Design, K. Diefendorff (Apple Computer Inc., 1 Infinite Loop, Cupertino, CA 95014) and P. K. Dubey, *Computer* **30**, No. 9, 43+ (1997).

Superspeculative Microarchitecture for Beyond AD-2000, M. H. Lipasti (Carnegie Mellon University, Pittsburgh, PA 15213) and J. P. Shen, *Computer* **30**, No. 9, 59+ (1997).

D

Knowledge-Based Programs, R. Fagin (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Distributed Computing* **10**, No. 4, 199-225 (1997).

E

A Path: From Electroplating Through Lithographic Masks in Electronics to LIGA in MEMS, L. Romankiw (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Electrochimica Acta* **42**, No. 20-2, 2985-3005 (1997).

Electrochemical Micromachining: An Environmentally Friendly, High-Speed Processing Technology, M. Datta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and D. Harris, *Electrochimica Acta* **42**, No. 20-2, 3007-3013 (1997).

Correlation Satellite Driven by Reduced Dimensionality, O. Rider (BESSY, Lentzeallee 100, D-14195 Berlin, Germany) et al., *Europhysics Letters* **39**, No. 4, 429-434 (1997).

G

On Ambiguities in the Interpretation of Game Trees, J. Y. Halpern (Cornell University, Ithaca, NY 14853), *Games and Economic Behavior* **20**, No. 1, 66-96 (1997).

I

Multimedia File Serving with the OS/390 LAN Server, M. G. Kienzle (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *IBM Systems Journal* **36**, No. 3, 374-392 (1997).

Multimedia Resource Management in OS/390 LAN Server, A. Dan (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *IBM Systems Journal* **36**, No. 3, 393-410 (1997).

A Method for On-Line Reorganization of a Database, G. H. Sockut (IBM Corporation, P.O. Box 49023, San Jose, CA 95161) et al., *IBM Systems Journal* **36**, No. 3, 411-436 (1997).

IBM Business Frameworks: San Francisco Project Technical Overview, V. D. Arnold (IBM Corporation, Rochester, MN 55901) et al., *IBM Systems Journal* **36**, No. 3, 437-445 (1997).

Iterative Approach to Optimizing Convergence Routing Priorities, B. Yener (New Jersey Institute of Technology, Newark, NJ 07102) et al., *IEEE ACM Transactions* **5**, No. 4, 530-542 (1997).

Cost-Driven Ranking of Memory Elements for Partial Intrusion, M. Abadir (Motorola Somerset, 6200 Bridgepoint Parkway, Austin, TX 78730) and R. Kapur, *IEEE Design & Test of Computers* **14**, No. 3, 45-50 (1997).

IC Failure Analysis: The Importance of Test and Diagnostics, D. P. Vallett (IBM Corporation, Essex Junction, VT 05452), *IEEE Design & Test of Computers* **14**, No. 3, 76-82 (1997).

Operation of a Novel Negative Differential Conductance Transistor Fabricated in a Strained Si Quantum Well, S. J. Koester (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Electron Device Letters* **18**, No. 9, 432-434 (1997).

Integrated Enhancement Mode and Depletion Mode FET in Modulation-Doped Si/SiGe Heterostructures, K. Ismail (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Electron Device Letters* **18**, No. 9, 435-437 (1997).

A Scalable High-Frequency Noise Model for Bipolar Transistors with Application to Optimal Transistor Sizing for Low-Noise Amplifier Design, S. P. Voinigesu (Northern Telecom Electronics, Ltd., Ottawa, Ontario K1Y 4H7, Canada) et al., *IEEE Journal of Solid-State Circuits* **32**, No. 9, 1430-1439 (1997).

Integrated RF Components in a SiGe Bipolar Technology, J. N. Burghartz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Journal of Solid-State Circuits* **32**, No. 9, 1440-1445 (1997).

An 11-GHz 3-V SiGe Voltage-Controlled Oscillator with Integrated Resonator, M. Soyuer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Journal of Solid-State Circuits* **32**, No. 9, 1451-1454 (1997).

Temperature Dependence of Q and Inductance in Spiral Inductors Fabricated in a Silicon-Germanium/BiCMOS Technology, R. Groves (IBM Corporation, Hopewell Junction, NY 12533) et al., *IEEE Journal of Solid-State Circuits* **32**, No. 9, 1455-1459 (1997).

A Flexible Security System for Using Internet Content, N. Islam (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *IEEE Software* **14**, No. 5, 52+ (1997).

Modeling Thermally Induced Viscoplastic Deformation and Low-Cycle Fatigue of CBGA Solder Joints in a Surface Mount Package, B. Z. Hong (IBM Corporation, Hopewell Junction, NY 12533) and L. G. Burrell, *IEEE Transactions on Components Packaging and Manufacturing Technology Part A* **20**, No. 3, 280-285 (1997).

The Farthest Point Strategy for Progressive Image Sampling, Y. Eldar (IBM Israel, IL-31905 Haifa, Israel) et al., *IEEE Transactions on Image Processing* **6**, No. 9, 1305-1315 (1997).

Optimal Multiplexing on a Single Link: Delay and Buffer Requirements, L. Georgiadis (Aristotelian University Thessaloniki, P.O. Box 435, Thessaloniki 54006, Greece) et al., *IEEE Transactions on Information Theory* **43**, No. 5, 1518-1535 (1997).

Establishing the Relevancy of the Bookkeeping Libraries to the Functional Testing of Computer Implementations, S. Vassiliadis (Delft University of Technology, NL-2600 EA Delft, Netherlands) et al., *IEEE Transactions on Knowledge and Data Engineering* **9**, No. 4, 646-652 (1997).

Electronic Abatement of Thermal Interference in (G)MR Head Output Signals, K. B. Klaassen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. C. Van Peppen, *IEEE Transactions on Magnetics* **33**, No. 5, 2611-2616 (1997).

Novel NRRO Minimization Algorithm for an Ultra-High-Density Servo Track Writer, K. Noda (IBM Japan, Ltd., 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan) and M. Naoe, *IEEE Transactions on Magnetics* **33**, No. 5, 2626-2628 (1997).

TMR Considerations at 5 GB/in² and 10 MB/s, P. Arnett (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2674-2676 (1997).

The Dependence of Overwrite on Nonlinear Transition Shift, A. Taratorin (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2689-2691 (1997).

Timing Acquisition for DFE Detection, Y. X. Lee (Data Storage Institute, 10 Kent Ridge Crescent, Singapore 119260, Singapore) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2761-2763 (1997).

Performance and Error Propagation of Two DFE Channels, J. Ashley (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2773-2775 (1997).

An Experimental MDE Detector, J. Hong (Data Storage Institute, 10 Kent Ridge Crescent, Singapore 119260, Singapore) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2776-2778 (1997).

High-Performance Write Head Using NiFe-45/55, N. Robertson (IBM Corporation, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2818-2820 (1997).

Recording Studies of Submicron Write Heads by Focused Ion Beam Trimming, G. L. Gorman (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2824-2826 (1997).

Modeling Assessment of the Side Writing Properties of a Notch Write Head, T. Chang (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193), *IEEE Transactions on Magnetics* **33**, No. 5, 2842-2844 (1997).

5 GB/in² Recording Demonstration with Conventional AMR Dual Element Heads and Thin-Film Disks, C. Tsang (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2866-2871 (1997).

Magnetic and Electrical Properties of Co-Sm Thin Films Deposited by DC Magnetron Sputtering, H. S. Cho (University of Alabama, Tuscaloosa, AL 35487) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2890-2892 (1997).

Thermal and Electrical Reliability of Dual-Stripe MR Heads, H. G. Zolla (IBM Corporation, San Jose, CA 95193), *IEEE Transactions on Magnetics* **33**, No. 5, 2914-2916 (1997).

Coupling and Crystallographic Effects in Thin-Film Cobalt Alloy Recording Media, P. Dova (University College of North Wales, Bangor LL57 1UT, Gwynedd, Wales) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2953-2955 (1997).

Quantification and Spatial Distribution of Noise in Written Transitions Measured with Magnetic Force Microscopy, M. Alex (HMT Technologies, Fremont, CA 94538) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 2956-2958 (1997).

High Signal-to-Noise Ratio of a Cr-Rich CoCrPt Perpendicular Medium with a Large Medium Thickness, Y. Ikeda (IBM Japan, Ltd., 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 3079-3081 (1997).

Novel Composite Perpendicular Recording Medium with CO₇₈Cr₂₂ over Cr-Rich CO₇₂Cr₂₈ for Merged MR Heads, Y. Sonobe (IBM Japan, Ltd., 1623-14 Shimotsuruma, Yamato, Kanagawa 242, Japan) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 3088-3090 (1997).

Determining Critical Loads for Ultra-Thin Overcoats Using a Depth Sensing Nanoindentation Multiple Sliding Technique, H. Deng (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 3151-3153 (1997).

Laser Texturing of Glass Disk Substrates, A. C. Tam (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 3181–3183 (1997).

Tribology of Laser-Textured Disks with Thin Overcoat, R. H. Wang (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 3184–3186 (1997).

Tribology of Laser-Textured and Mechanically Textured Media, A. Khurshudov (University of California, San Diego, CA 92093), *IEEE Transactions on Magnetics* **33**, No. 5, 3190–3192 (1997).

Modeling Stiction Performance of Laser Texture, T. D. Bennett (University of California, Santa Barbara, CA 93106) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 3205–3207 (1997).

Origin of Strong Intrinsic Kerr Effect in FePt and FePd Ordered Compounds, G. Armelles (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 3220–3222 (1997).

Natural Oxide Formation on Cobalt Investigated with the Magneto-optical Kerr Effect, B. Rellinghaus (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 3238–3240 (1997).

Switchable Lossey/Non-Lossey Permalloy Thin Films, C. A. Grimes (University of Kentucky, Lexington, KY 40506) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 3996–3998 (1997).

Inter-Track Interference Studies Using MFM Image Reconstruction, R. Madabhushi (IBM Corporation, 5600 Cottle Road, San Jose, CA 95193) et al., *IEEE Transactions on Magnetics* **33**, No. 5, 4053–4055 (1997).

Data Storage Channel Equalization Using Neural Networks, S. K. Nair (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. Moon, *IEEE Transactions on Neural Networks* **8**, No. 5, 1037–1048 (1997).

A Theoretical Study of Linear and Nonlinear Equalization in Nonlinear Magnetic Storage Channels, S. K. Nair (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and J. Moon, *IEEE Transactions on Neural Networks* **8**, No. 5, 1106–1118 (1997).

Parallel Execution of Hash Joins in Parallel Databases, H. I. Hsiao (IBM Corporation, P.O. Box 704, Yorktown Heights, NY 10598) et al., *IEEE Transactions on Parallel and Distributed Systems* **8**, No. 8, 872–883 (1997).

On Postponement Strategies for Product Families with Multiple Points of Differentiation, A. Garg (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and C. S. Tang, *IEEE Transactions* **29**, No. 8, 641–650 (1997).

High-Frequency Vortex Critical Dynamics of Superconducting Amorphous MO_3Si Films, N. C. Yeh (California Institute of Technology, Pasadena, CA 91125) et al., *International Journal of Modern Physics B* **11**, No. 18, 2141–2155 (1997).

Inducing, Slopes, and Conjugacy Classes, R. Galeeva (Northwestern University, Evanston, IL 60208) et al., *Israel Journal of Mathematics* **99**, 123–147 (1997).

J

Numerical Simulation of Etching and Deposition Processes, S. Hamaguchi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Japanese Journal of Applied Physics Part I* **36**, No. 7B, 4762–4768 (1997).

X-ray Magnetic Circular Dichroism Spectroscopy of Transition Metal Multilayers, J. Stohr (IBM Corporation, 650 Harry Road, San Jose, CA 95120) and R. Nakajima, *Journal de Physique IV* **7**, No. NC2, 47–57 (1997).

Light-Emitting Diodes Based on Poly-P-Phenylene-Vinylene I. Charge-Carrier Injection and Transport, S. Karg (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Journal of Applied Physics* **82**, No. 4, 1951–1960 (1997).

Light-Emitting Diodes Based on Poly-P-Phenylene-Vinylene II. Impedance Spectroscopy, M. Meier (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Journal of Applied Physics* **82**, No. 4, 1961–1966 (1997).

The Role of Extra-Atomic Relaxation in Determining Si 2P Binding-Energy Shifts at Silicon-Silicon-Oxide Interfaces, K. Z. Zhang (University of Michigan, Ann Arbor, MI 48109) et al., *Journal of Applied Physics* **82**, No. 5, 2298–2307 (1997).

Off-Axis Electron Holography of Epitaxial FePt Films, M. R. McCartney (Arizona State University, Tempe, AZ 85287) et al., *Journal of Applied Physics* **82**, No. 5, 2461–2465 (1997).

Imide-Dimethylsiloxane Block Copolymers: Design and Synthesis of a Permanent Buried Oxygen Ion Etch Barrier, W. Volksen (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Applied Polymer Science* **66**, No. 1, 199–208 (1997).

Light-Scattering Study on the Effect of Polymer Composition on the Structural Properties of PEO-PPO-PEO Micelles, S. L. Nolan (University of California, Davis, CA 95616) et al., *Journal of Colloid and Interface Science* **191**, No. 2, 291–302 (1997).

Stochastic Complexity in Learning, J. Rissanen (IBM Corporation, 650 Harry Road, San Jose, CA 95120), *Journal of Computer and System Sciences* **55**, No. 1, 89–95 (1997).

Crystallographic Texture of C54 Titanium Disilicide as a Function of Deep Submicron Structure Geometry, V. Svilar (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Journal of Electronic Materials* **26**, No. 9, 1090–1095 (1997).

Marangoni Mechanism in Pulsed Laser Texturing of Magnetic Disk Substrates, T. D. Bennett (University of California, Berkeley, CA 94720) et al., *Journal of Heat Transfer* **119**, No. 3, 589–596 (1997).

Logic and Algebraic Languages for Interoperability in Multidatabase Systems, L. V. S. Lakshmanan (Concordia University, Montreal, Quebec H3G 1M8, Canada) et al., *Journal of Logic Programming* **33**, No. 2, 101–149 (1997).

Strategies for Construction Contractors to Reduce Workers' Compensation Costs, P. Agarwal (IBM Corporation, 27 Commerce Drive, Cranford, NJ 07016) and J. G. Everett, *Journal of Management Engineering* **13**, No. 5, 70–75 (1997).

Threaded Runtime Support for Execution of Fine Grain Parallel Code on Coarse Grain Multiprocessors, R. Neves (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and R. B. Schnabel, *Journal of Parallel and Distributed Computing* **42**, No. 2, 128–142 (1997).

Fault-Tolerant Convergence Routing, B. Yener (New Jersey Institute of Technology, Newark, NJ 07102) et al., *Journal of Parallel and Distributed Computing* **42**, No. 2, 173–183 (1997).

Electric Dipole Hyperfine Matrix Elements of the Ground State of the TLF Molecule in the Dirac-Fock Approximation, F. A. Parpia (IBM Corporation, Poughkeepsie, NY 12601), *Journal of Physics B* **30**, No. 17, 3983–4001 (1997).

Spatiotemporal Patterns of Gamma-Frequency Oscillations Tetanically Induced in the Rat Hippocampal Slice, M. A. Whittington (University of Birmingham, Vincent Drive, Birmingham B15 2TT, West Midlands, England) et al., *Journal of Physiology—London* **502**, No. 3, 591–607 (1997).

Online Routing of Virtual Circuits with Applications to Load Balancing and Machine Scheduling, J. Aspnes (Yale University, P.O. Box 2158, New Haven, CT 06520) et al., *Journal of the Association for Computing Machinery* **44**, No. 3, 486–504 (1997).

Instability Dynamics in Three-Dimensional Fracture: An Atomistic Simulation, F. F. Abraham (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of the Mechanics and Physics of Solids* **45**, No. 9, 1461–1471 (1997).

A Molecular Dynamics Investigation of Rapid Fracture Mechanics, F. F. Abraham (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of the Mechanics and Physics of Solids* **45**, No. 9, 1595+ (1997).

Electron Holography of Individual DNA Molecules, H. W. Fink (University of Basel, Klingelbergstrasse 82, CH-4056 Basel, Switzerland) et al., *Journal of the Optical Society of America A* **14**, No. 9, 2168–2172 (1997).

Microstructure Control in Semiconductor Metallization, J. M. E. Harper (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and K. P. Rodbell, *Journal of Vacuum Science & Technology B* **15**, No. 4, 763–779 (1997).

Probeless Voltage Contrast Using a Focused Ion Beam for Opens and Shorts Defect Isolation of Ultralarge Scale Integration Technologies, K. J. Giewont (IBM Corporation, Route 52, Hopewell Junction, NY 12533) et al., *Journal of Vacuum Science & Technology B* **15**, No. 4, 916–920 (1997).

Investigation of Existing Defects and Defect Generation in Device-Grade SiO₂ by Ballistic Electron Emission Spectroscopy, H. J. Wen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and R. Ludeke, *Journal of Vacuum Science & Technology B* **15**, No. 4, 1080–1088 (1997).

Atomic Force Microscope-Based Data Storage Using Replicated Media, B. D. Terris (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Journal of Vacuum Science & Technology B* **15**, No. 4, 1584–1587 (1997).

L

An Alternative Way to Establish the Necessity Part of the Classical Result on the Statistical Independence of Quadratic Forms, D. A. Harville (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and O. Kempthorne, *Linear Algebra and Its Applications* **264**, 205–215 (1997).

On the Existence of Sequences and Matrices with Prescribed Partial Sums of Elements, D. Hershkovitz (Technion, Israel Institute of Technology, IL-32000 Haifa, Israel) et al., *Linear Algebra and Its Applications* **265**, 71–92 (1997).

M

The Mechanism of Phenolic Polymer Dissolution: A New Perspective, P. C. Tsiartas (University of Texas, Austin, TX 78712) et al., *Macromolecules* **30**, No. 16, 4656–4664 (1997).

Effects of Ion Irradiation on Ferromagnetic Thin Films, J. E. E. Baglin (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Materials Science* **F248**, 87–93 (1997).

Ion-Induced Passivation of Metal Surfaces: The Phenomenon and Its Origins, J. E. E. Baglin (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Materials Science* **F248**, 155–158 (1997).

Recent Progress in Unconstrained Nonlinear Optimization Without Derivatives, A. R. Conn (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Mathematical Programming* **79**, No. 1–3, 397–414 (1997).

Stability of Interfaces in Gold-Silicon System Regarding Equilibrium Segregation, A. Rolland (CNRS, UMR 6518, Case 511, F-13397 Marseilles 20, France) et al., *Microscopy Microanalysis Microstructures* **8**, No. 2, 137–143 (1997).

Computer Models of the Sagittarius Dwarf Interaction with the Milky Way, D. J. Edelson (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and B. G. Elmegreen, *Monthly Notices of the Royal Astronomical Society* **290**, No. 1, 7–14 (1997).

High-Resolution Imaging of Liquid Structures: Wetting and Capillary Phenomena at the Nanometer Scale, M. Salmeron (University of California, Berkeley, CA 94720) et al., *MRS Bulletin* **22**, No. 8, 36–41 (1997).

N

Application of Scanning SQUID Petrology to High-Pressure Materials Science, B. A. Scott (Columbia University, Palisades, NY 10964) et al., *Nature* **389**, No. 6647, 164–167 (1997).

Superconductivity Enhanced by Hg Fission, L. Krusinbaum (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Nature* **389**, No. 6648, 243–244 (1997).

O

Intensity Dependence and White-Light Gating of Two-Color Photorefractive Gratings in LiNbO₃, H. Guenther (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Optics Letters* **22**, No. 17, 1305–1307 (1997).

P

Pinning and the Intrinsic Magnetic Field Dependence of the Mixed State Hall Conductivity in Amorphous MO₂Si and YBa₂Cu₃O_{7-x}, A. W. Smith (University of Maryland, College Park, MD 20742) et al., *Physical Review B* **56**, No. 6, 2944–2947 (1997).

Spinodal Decomposition During Step-Flow Growth, J. Tersoff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review B* **56**, No. 8, 4394–4397 (1997).

Universality of the Kolmogorov Constant in Numerical Simulations of Turbulence, P. K. Yeung (Georgia Institute of Technology, Atlanta, GA 30332) and Y. Zhou, *Physical Review E* **56**, No. 2, 1746–1752 (1997).

Inertial Range Scalings of Dissipation and Enstrophy in Isotropic Turbulence, S. Y. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) et al., *Physical Review Letters* **79**, No. 7, 1253–1256 (1997).

Anomalous Dependence of Resistance on Length in Atomic Wires, N. D. Lang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), *Physical Review Letters* **79**, No. 7, 1357–1360 (1997).

Measurement of Pair Interactions and 1.5- μ m Emission from Er³⁺ Ions in a C-82 Fullerene Cage, R. M. Macfarlane (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Physical Review Letters* **79**, No. 7, 1397–1400 (1997).

Metal Insulator Transition in Two Dimensions: Effects of Disorder and Magnetic Field, D. Popovic (City University of New York, New York, NY 10031) et al., *Physical Review Letters* **79**, No. 8, 1543–1546 (1997).

Dislocation Patterns in Strained Layers from Sources on Parallel Glide Planes, K. W. Schwarz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and F. K. Legoues, *Physical Review Letters* **79**, No. 10, 1877–1880 (1997).

Forward Recoil Spectrometry Study of the Diffusion of PMDA/ODA-Based Poly(amic Ethyl Esters), N. C. Stoffel (Cornell University, Ithaca, NY 14853) et al., *Polymer* **38**, No. 20, 5073–5078 (1997).

The Effect of Laminating Factors on the Thermal Properties of Unfired Multilayer Glass-Ceramic and Alumina Substrates, T. C. K. Yang (University of Missouri, Columbia, MO 65211) et al., *Polymer Composites* **18**, No. 4, 539–548 (1997).

An Identity Authentication System Using Fingerprints, A. K. Jain (Michigan State University, East Lansing, MI 48824) et al., *Proceedings of the IEEE* **85**, No. 9, 1365–1388 (1997).

S

Intermixing and Growth Kinetics of the First Co Monolayers on Cu(001), J. Fassbender (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland) et al., *Surface Science* **383**, No. 2–3, L742–L748 (1997).

T

ATM Cell Encryption and Key Update Synchronization, J. P. Gray (IBM Corporation, Research Triangle Park, NC 27709) et al., *Telecommunication Systems* **7**, No. 4, 391–408 (1997).

Calculations of the Structure and Spectra of the Putative Transient Peroxide Intermediates of Peroxidases, G. H. Loew (Molecular Research Institute, 845 Page Mill Road, Palo Alto, CA 94304) et al., *Theochem* **398**, 497–505 (1997).

Tantalum Plasma Etching with Minimum Effect on Underlying Nickel Iron Thin Film, R. Hsiao (IBM Corporation, 650 Harry Road, San Jose, CA 95120) et al., *Thin Solid Films* **304**, No. 1–2, 381–385 (1997).