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A

M. O. Aboelfotoh (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Electrical Characteristics of Ti/Si(100) Interfaces**, *Journal of Applied Physics* **64**, No. 8, 4046-4055 (1988).

D. W. Abraham, C. C. Williams, and H. K. Wickramasinghe (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Measurement of In-plane Magnetization by Force Microscopy**, *Applied Physics Letters* **53**, No. 15P, 1446-1448 (1988).

D. W. Abraham, C. C. Williams, and H. K. Wickramasinghe (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Noise Reduction Technique for Scanning Tunneling Microscopy**, *Applied Physics Letters* **53**, No. 16, 1503-1505 (1988).

R. W. Ade, E. R. Fossum (Columbia University, New York, NY 10027), and M. A. Tischler (IBM, Yorktown Heights, NY), **Fabrication of Epitaxial GaAs/AlGaAs Diaphragms by Selective Dry Etching**, *Journal of Vacuum Science and Technology B* **6**, No. 5, 1592-1594 (1988).

A. Aggarwal (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and J. S. Vitter (Brown University, Providence, RI), **The Input Output Complexity of Sorting and Related Problems**, *Communications of the ACM* **31**, No. 9, 1116-1127 (1988).

K. B. Alexander (Oak Ridge National Lab, Oak Ridge, TN 37831), F. K. LeGoues (IBM, Yorktown Heights, NY), H. I. Aaronson, and D. E. Laughlin (Carnegie Mellon University, Pittsburgh, PA), **On Representation of the GP Zone Solvus in Al-Ag Alloys**, *Scripta Metallurgica* **22**, No. 10, 1671-1672 (1988).

P. Arrowsmith and S. K. Hughes (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Entrainment and Transport of Laser Ablated Plumes for Subsequent Elemental Analysis**, *Applied Spectroscopy* **42**, No. 7, 1231-1239 (1988).

A. Aviram (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Preparation of Monomolecular Layers of Hemiquinones for Electric Field Switching**, *Journal of Molecular Electronics* **4**, No. 5, S99-S104 (1988).

B

J.-C. Baumert, G. C. Bjorklund, D. H. Jundt, M. C. Jurich, J. H. Looser, R. D. Miller, J. Rabolt, R. Sooriyakumaran, J. D. Swalen, and R. J. Twieg (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Temperature Dependence of the Third-Order Nonlinear Optical Susceptibility in Polysilanes and Polygermanes**, *Applied Physics Letters* **53**, No. 13, 1147-1149 (1988).

R. G. Bayer, P. A. Lazarou, and N. G. Payne (IBM Corporation, 1701 North Street, Endicott, NY 13760), **Evaluations of Grease Performance in a Fluorocarbon Atmosphere**, *Lubrication Engineering* **44**, No. 10, 866-871 (1988).

C. F. Beaulieu, J. I. Clark (University of Washington, Seattle, WA 98195), R. D. Brown III, M. Spiller, and S. H. Koenig (IBM, Yorktown Heights, NY), **Relaxometry of Calf Lens Homogenates, including Cross-Relaxation by Crystalline NH Groups**, *Magnetic Resonance in Medicine* **8**, No. 1, 45-57 (1988).

D. Bernstein (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), H. Boral (MCC, Austin, TX), and R. Y. Pinter (IBM Israel, Haifa, Israel), **Optimal Chaining in Expression Trees**, *IEEE Transactions on Computers* **37**, No. 11, 1366-1374 (1988).

Y. Birk and F. A. Tobagi (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **"Supernodes" in Networks Employing Spread Spectrum With Code Division Multiple Access**, *Computer Networks and ISDN Systems* **15**, No. 5, 341-357 (1988).

G. M. Blom (North America Philips Corporation, 345 Scarborough Road, Briarcliff Manor, NY 10510) and J. M. Woodall (IBM, Yorktown Heights, NY), **Effect of Iso-Electronic Dopants on the Dislocation Density of GaAs**, *Journal of Electronic Materials* **17**, No. 5, 391-396 (1988).

G. Boudon (IBM France, 91102 Corbeil-Essonnes, France), P. Mollier, J.-P. Nuez, F. Wallart, A. Bhattacharyya, and S. Ogura (IBM, Essex Junction, VT), **A 20K CMOS Array with 200-ps Gate Delay**, *IEEE Journal of Solid-State Circuits* **23**, No. 5, 1176-1181 (1988).

F. Bozso and Ph. Avouris (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Electron-Induced Chemical Vapor Deposition by Reactions Induced in Adsorbed Molecular Layers**, *Applied Physics Letters* **53**, No. 12, 1095-1097 (1988).

R. M. Bradley (Colorado State University, Ft. Collins, CO 80523), D. Kung, P. N. Streski (IBM, Yorktown Heights, NY), and S. Doniach (Stanford University, Stanford, CA), **Finite-Voltage Behavior of Highly Disordered Granular Superconductors**, *Physica B* **152**, Nos. 1&2, 282-287 (1988).

R. Brako (Rudjer Bosković Institute, 41001 Zagreb, Croatia, Yugoslavia), H. Winter, and D. M. Newns (IBM, Yorktown Heights, NY), **Anisotropic Excitation of Hydrogen 2p after Grazing Ion-Surface Scattering**, *Europhysics Letters* **7**, No. 3, 213-218 (1988).

D. Brand and V. S. Iyengar (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Timing Analysis Using Functional Analysis**, *IEEE Transactions on Computers* **37**, No. 10, 1309-1314 (1988).

J. L. Bredás and G. B. Street (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Theoretical Studies of the Structure of the Benzene Hydrogen Fluoride Complex**, *Journal of the American Chemical Society* **110**, No. 21, 7001-7005 (1988).

L. P. Brehm (IBM Corporation, 1701 North Street, Endicott, NY 13760), **Rapid Electromechanical Phase Shifting in Differential Holography**, *Review of Scientific Instruments* **59**, No. 9, 1920-1923 (1988).

H. R. Brown, A. C. M. Yang, T. P. Russell, W. Volksen (IBM Corporation, 650 Harry Road, San Jose, CA 95120), and E. J. Kramer (Cornell University, Ithaca, NY), **Diffusion and Self-Adhesion of the Polyimide PMDA-ODA**, *Polymer* **29**, No. 10, 1807-1811 (1988).

D. A. Buchanan, J. Batey, and E. Tierney (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Thin Film Transistors Incorporating a Thin, High-Quality PECVD SiO₂ Gate Dielectric**, *IEEE Electron Device Letters* **9**, No. 11, 576-578 (1988).

J. N. Burghartz, B. J. Ginsberg, S. R. Mader, T.-C. Chen, and D. L. Harnage (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Selective Epitaxy Base for Bipolar Transistors**, *Journal de Physique* **49**, No. 4, 367-370 (1988).

G. Burns, G. V. Chandrasekhar, F. H. Dacol, and M. W. Shafer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Raman Measurements of the Superconductor (La_{2-x}Sr_x)CuO₄**, *Solid State Communications* **68**, No. 1, 67-69 (1988).

C

S. R. Cain and L. J. Matienzo (IBM Corporation, 1701 North Street, Endicott, NY 13760), **Acid-Base Properties of Copper Oxides and Fluorides by Means of Band Calculations: Relevance to Metal-Polymer Adhesion**, *Journal of Adhesion Science and Technology* **2**, No. 5, 395-404 (1988).

G. S. Cargill (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Electron Beam Acoustic Imaging**, *Physical Acoustics* **18**, 125-165 (1988).

G. S. Cargill, J. Angilello (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), and K. L. Kavanagh (Massachusetts Institute of Technology, Cambridge, MA), **Lattice Compression from Conduction Electrons in Heavily Doped Si/As**, *Physical Review Letters* **61**, No. 15, 1748-1751 (1988).

J. M. Carroll (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and A. P. Aaronson (IBM, Franklin Lakes, NJ), **Learning by Doing with Simulated Intelligent Help**, *Communications of the ACM* **31**, No. 9, 1064-1079 (1988).

T. P. Carter (Florida State University, Tallahassee, FL 32306), D. E. Horne, and W. E. Moerner (IBM, San Jose, CA), **Pseudo-Stark Effect and FM/Stark Double-Modulation Spectroscopy for the Detection of Statistical Fine Structure in Alexandrite**, *Chemical Physics Letters* **151**, No. 1-2, 102-108 (1988).

V. Chandrasekhar, E. Prober (Yale University, P.O. Box 2157, New Haven, CT 06520), and P. Santhanam (IBM, Yorktown Heights, NY), **Effect of Measurement Geometry on Weak Localization in Short Wires**, *Physical Review Letters* **61**, No. 19, 2253-2256 (1988).

C.-A. Chang (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Reduced Moisture-Induced Degradation of YBaCuO Superconducting Films by Silver and High Deposition Temperatures**, *Applied Physics Letters* **53**, No. 12, 1113-1115 (1988).

D. Chazan, Y. Medan, and U. Shvadron (IBM Israel, Technion City, Haifa 32000, Israel), **Noise Cancellation for Hearing Aids**, *IEEE Transactions on Acoustics, Speech, and Signal Processing* **36**, No. 11, 1697-1705 (1988).

J. Cherry (Symbol Inc., Cambridge, MA 02142), D. Franke, A. R. Newton, C. Seaquist, W. Wolf, C. Radke, and J. Kukula (IBM, Poughkeepsie, NY), **CAD Software Development**, *IEEE Design and Test of Computers* **5**, No. 4, 49-58 (1988).

C. C. Chi, C. Vanneste, W. J. Gallagher, A. W. Kleinsasser, S. I. Raider, and R. L. Sandstrom (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **rf-Driven Josephson Junctions: Tails on the Shapiro Steps of the I-V Curves**, *Physical Review B* **38**, No. 13, 9227-9230 (1988).

B. L. Chow and D. J. Whittle (IBM Corporation, Research Triangle Park, NC 27709), **Wettability and Adhesion Studies of Plasma-Treated Plastic Substrates for Gelatin Holograms**, *Journal of Adhesion Science and Technology* **2**, No. 5, 363-368 (1988).

C.-T. Chuang, D. D. Tang, G. P. Li, R. L. Franch, M. B. Ketchen, T. H. Ning (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), K. H. Brown, and C. C. Hu (IBM, Essex Junction, VT), **A Subnanosecond 5-kbit Bipolar ECL RAM**, *IEEE Journal of Solid-State Circuits* **23**, No. 5, 1265-1267 (1988).

J. Clarke (University of California, Berkeley, CA 94720) and R. H. Koch (IBM, Yorktown Heights, NY), **The Impact of High-Temperature Superconductivity of SQUID Magnetometers**, *Science* **242**, No. 4876, 217-223 (1988).

H. Clemens, P. Ofner, G. Bauer (Institut für Physik, Montanuniversität Leoben, A-8700 Leoben, Austria), J. M. Hong, and L. L. Chang (IBM, Yorktown Heights, NY), **Epitaxial Growth of PbTe on (100) GaAs Substrates**, *Materials Letters* **7**, No. 4, 127-130 (1988).

E. Clementi (IBM Corporation, Neighborhood Road, Kingston, NY 12401), **Global Scientific and Engineering Simulations on Scalar, Vector and Parallel LCAP Type Supercomputers**, *Philosophical Transactions of the Royal Society of London A* **326**, No. 1591, 445-470 (1988).

G. Comelli, J. Stohr, C. J. Robinson, and W. Jark (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Structural Studies of Argon-Sputtered Amorphous Carbon Films by Means of Extended X-Ray Absorption Fine Structure**, *Physical Review B* **38**, No. 11, 7511-7519 (1988).

W. D. Cook (York University, Downsview M3J 1P3, Ontario, Canada), I. Golan (IBM, Haifa, Israel), A. Kazakov (Ministry of Transportation, Toronto, Ontario, Canada), and M. Kress (CEMA, Haifa, Israel), **A Case Study of a Non-Compensatory Approach to Ranking Transportation Projects**, *Journal of the Operational Research Society* **39**, No. 10, 901-910 (1988).

D. W. Cooper (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Rationale for Proposed Revisions to Federal Standard 209B**, *Journal of Environmental Science* **31**, No. 5, 38-42 (1988).

D. W. Cooper (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Sequential Sampling Statistics for Evaluating Low Concentrations**, *Journal of Environmental Science* **31**, No. 5, 33-36 (1988).

D. W. Cooper (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Statistical Analysis Relating to Recent Federal Standard 209**, *Journal of Environmental Science* **31**, No. 5, 48-52 (1988).

E. I. Cooper, E. A. Giess, and A. Gupta (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Bismuth Strontium Calcium Copper Oxide High- T_c Superconducting Films from Nitrate Precursors**, *Materials Letters* **7**, No. 1, 2, 5-8 (1988).

W. R. Creasy and J. T. Brenna (IBM Corporation, 1701 North Street, Endicott, NY 13760), **Large Carbon Cluster Ion Formation by Laser Ablation of Polyimide and Graphite**, *Chemical Physics* **126**, No. 2-3, 453-468 (1988).

D

S. D'hawan (IBM Corporation, Austin, TX 78758) and R. C. De Vries (University of New Mexico, Albuquerque, NM), **Design of Self-Checking Sequential Machines**, *IEEE Transactions on Computers* **37**, No. 10, 1280-1284 (1988).

W. Dahmen (Freie Universität Berlin, Arnimallee 2-6, 1000 Berlin 33, Federal Republic of Germany) and C. A. Micchelli (IBM, Yorktown Heights, NY), **The Number of Solutions to Linear Diphantine Equations and Multivariate Splines**, *Transactions of the American Mathematical Society* **308**, No. 2, 509-532 (1988).

D. P. Drolet, A. J. Lees (State University of New York, Binghamton, NY 13901), and A. D. Katnani (IBM, Endicott, NY), **An Ft-Ir and XPS Study of Copper (II)—Diazine Polymers**, *Inorganica Chimica Acta* **150**, No. 2, 197-201 (1988).

C. Dwork, D. Peleg, N. Pippenger, and E. Upfal (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Fault Tolerance in Networks of Bounded Degree**, *SIAM Journal on Computing* **17**, No. 5, 975-988 (1988).

E

K. Ebciouglu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **An Expert System for Harmonizing Four Part Chorales**, *Computer Music Journal* **12**, No. 3, 43-51 (1988).

J. Economy, W. Volksen, C. Viney, R. Geiss, R. Siemens, and T. Karis (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **The Nature of the Thermal Transitions in Poly(p-Oxybenzoate)**, *Macromolecules* **21**, No. 9, 2777-2781 (1988).

L. F. Escudero (IBM Germany, Sindelfingen, Federal Republic of Germany), **An Inexact Algorithm for the Sequential Ordering Problem**, *European Journal of Operational Research* **37**, No. 2, 236-249 (1988).

F

Ch. Fattering and D. Grischkowsky (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Point Source Terahertz Optics**, *Applied Physics Letters* **53**, No. 16, 1480-1482 (1988).

D. S. Fisher (Princeton University, Princeton, NJ 08544) and M. P. A. Fisher (IBM, Yorktown Heights, NY), **Onset of Superfluidity in Random Media**, *Physical Review Letters* **61**, No. 16, 1847-1850 (1988).

G. Frenking (Molecular Research Institute, 701 Welch Road, Palo Alto, CA 94304), W. Koch, and J. R. Collins (IBM, San Jose, CA), **Fixation of Nitrogen and Carbon-Monoxide by Beryllium-Oxide: Theoretical Investigation of the Structures and Stabilities of NNBeO , OCBeO , and COBeO** , *Journal of the Chemical Society, Chemical Communications* **17**, 1147-1148 (1988).

G

C. F. Gerlades, A. D. Sherry, W. P. Cacheris, K. T. Kuan (University of Texas, Richardson, TX 75083), R. D. Brown III, S. H. Koenig, and M. Spiller (IBM, Yorktown Heights, NY), **Number of Inner-Sphere Water Molecules in Gd^{3+} and Eu^{3+} Complexes of DTPA-Amide and -Ester Conjugates**, *Magnetic Resonance in Medicine* **8**, No. 2, 191-199 (1988).

M. Gesley and F. Hohn (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Emission Distribution, Brightness, and Mechanical Stability of the LaB_6 Triode Electron Gun**, *Journal of Applied Physics* **64**, No. 7, 3380-3392 (1988).

J. K. Gimzewski, B. Reihl, J. H. Coombs, and R. R. Schlittler (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), **Photon Emission with the Scanning Tunneling Microscope**, *Zeitschrift für Physik B* **72**, No. 4, 497-501 (1988).

M. C. Goh, J. M. Hicks, K. Kemnitz, G. R. Pinto, K. Bhattacharyya, T. F. Heinz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), and K. B. Eisenthal (Columbia University, New York, NY), **Absolute Orientation of Water Molecules at the Neat Water Surface**, *Journal of Physical Chemistry* **92**, No. 18, 5074-5075 (1988).

M. C. Golumbic (IBM Israel, Haifa, Israel), **Algorithmic Aspects of Intersection Graphs and Representation Hypergraphs**, *Graphs and Combinatorics* **4**, No. 4, 307-321 (1988).

C. Greengard (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and E. Thomann (Oregon State University, Corvallis, OR), **Singular Vortex Systems and Weak Solutions of the Euler Equations**, *Physics of Fluids* **31**, No. 10, 2810-2813 (1988).

P. Guéret, E. Marclay, and H. Meier (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), **Experimental Observation of the Dynamical Image Potential in Extremely Low GaAs/Al_{1-x}Ga_xAs/GaAs Tunnel Barriers**, *Applied Physics Letters* **53**, No. 17, 1617-1619 (1988).

D. Guidotti and H. J. Hovel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Model for Degradation of Band-Gap Photoluminescence in GaAs**, *Applied Physics Letters* **53**, No. 15P, 1411-1413 (1988).

H

R. Haight, J. A. Silberman, and M. I. Lilie (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Novel System for Picosecond Photoemission Spectroscopy**, *Review of Scientific Instruments* **59**, No. 9, 1941-1946 (1988).

V. M. Hallmark, A. Leone, S. Chiang, J. D. Swalen, and J. F. Rabolt (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Structure and Topography of Molecular Assemblies on Solid Substrates by Infrared Spectroscopy and Scanning Tunneling Microscopy**, *Mikrochimica Acta* **2**, Nos. 1-6, 39-42 (1988).

V. M. Hallmark, C. G. Zimba, J. D. Swalen, and J. F. Rabolt (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Ft-Raman Spectroscopy of Biological Molecules**, *Mikrochimica Acta* **2**, Nos. 1-6, 215-218 (1988).

B. Hamilton, A. R. Peaker (University of Manchester, Manchester, M13 9PL, United Kingdom), and S. T. Pantelides (IBM, Yorktown Heights, NY), **Entropy-Driven Metastabilities in Defects in Semiconductors**, *Physical Review Letters* **61**, No. 14, 1627-1630 (1988).

P. Heidelberger (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Discrete Event Simulations and Parallel Processing: Statistical Properties**, *SIAM Journal on Scientific and Statistical Computing* **9**, No. 6, 1114-1132 (1988).

K. Hermann (Technical University of Clausthal and Sonderforschungsbereich 126, D-3392 Clausthal/Göttingen, Federal Republic of Germany) and P. S. Bagus (IBM, San Jose, CA), **Size Dependence of Chemisorptive Properties Based on Surface Cluster Models CO/Cu(100) and CO/Al(100)**, *Applied Surface Science* **S33-4**, 252-253 (1988).

F. J. Himpsel, F. R. McFeely, A. Taleb-Ibrahimi, J. A. Yarmoff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), and G. Hollinger (École Centrale de Lyon, Ecully Cedex, France), **Microscopic Structure of the SiO₂/Si Interface**, *Physical Review B* **38**, No. 9, 6084-6096 (1988).

P. S. Ho and F. Faupel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Adhesion and Deformation Study of Metal/Polymer Structures by a Stretch Deformation Method**, *Applied Physics Letters* **53**, No. 17, 1602-1604 (1988).

F. A. Houle (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Photostimulated Desorption in Laser-Assisted Etching of Silicon**, *Physical Review Letters* **61**, No. 16, 1871-1874 (1988).

T. C. Huang, W. Y. Lee, V. Y. Lee, and R. Karimi (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Structure and Superconducting Properties of TiCa_{1-x}Ba_xCuNO₂N⁺³ Thin Films with Zero Resistance at Temperatures Above 100 K**, *Japanese Journal of Applied Physics* **27**, No. 8, Part 2, L1498-L1500 (1988).

E. Huber and E. E. Marinero (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Magneto-Optical Activity of Ag at the Plasma Frequency**, *Applied Physics A* **47**, No. 2, 131-135 (1988).

I

Y. Imry (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **How to Observe the AC Josephson-Type Oscillation Around the Quantum Hall Effect**, *Physica B* **152**, Nos. 1&2, 295-299 (1988).

S. Ishikawa, H. Kuwamoto, and S. Ozawa (IBM Japan, 5-19 Sanban-cho, Chiyoda-ku, Tokyo 102, Japan), **Visual Navigation of an Autonomous Vehicle Using White Line Recognition**, *IEEE Transactions on Pattern Analysis and Machine Intelligence* **10**, No. 5, 743-749 (1988).

A. Itai (Technion, Haifa, Israel) and M. Rodeh (IBM Israel, Haifa, Israel), **The Multi-Tree Approach to Reliability in Distributed Networks**, *Information and Computation* **79**, No. 1, 43-59 (1988).

B. R. Iyer, D. M. Dias, and P. S. Yu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Performability Comparison of Configurable Duplex Systems**, *Computer Systems, Science and Engineering* **3**, No. 4, 201-215 (1988).

J

J. M. Jaffe (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Hierarchical Clustering with Topology Databases**, *Computer Networks and ISDN Systems* **15**, No. 5, 329-339 (1988).

S. J. Jeng, G. S. Oehrlein, and G. J. Scilla (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Hydrogen Plasma Induced Defects in Silicon**, *Applied Physics Letters* **53**, No. 18, 1735-1737 (1988).

K

S. B. Kaplan (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Asymmetric Conductance and Coherence Effects in Mesoscopic Si Metal-Oxide-Semiconductor Field-Effect Transistors**, *Physical Review B* **38**, No. 11, 7558-7567 (1988).

L.-C. Kappe and R. F. Morse (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Groups with 3-Abelian Normal Closures**, *Archiv der Mathematik* **51**, No. 2, 104-110 (1988).

R. M. Karp, R. Motwahl (University of California, Berkeley, CA 94720), and P. Raghavan (IBM, Yorktown Heights, NY), **Deferred Data Structuring**, *SIAM Journal on Computing* **17**, No. 5, 883-902 (1988).

J. A. Kash, J. M. Hvam, J. C. Tsang, and T. F. Kuech (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598),

Localization and Wave-Vector Conservation for Optical Phonons in $\text{AlGa}_{1-x}\text{As}$ and Thin Layers of GaAs, *Physical Review B* **38**, No. 8, 5776-5779 (1988).

R. V. Kasowski, W. Y. Hsu (E. I. du Pont de Nemours and Company, Wilmington, DE 19898), and F. Herman (IBM, San Jose, CA), **Electronic Structure of the New High- T_c Superconductors $\text{Ti}_2\text{Ba}_2\text{CuO}_6$, $\text{Ti}_2\text{Ba}_2\text{CaCu}_2\text{O}_8$, $\text{Ti}_2\text{Ba}_2\text{Ca}_2\text{Cu}_3\text{O}_{10}$, and $\text{Ti}_2\text{Ba}_2\text{Ca}_3\text{Cu}_4\text{O}_{12}$** , *Physical Review B* **38**, No. 10, 6470-6477 (1988).

J. Kempf, M. Nonnenmacher, and H. H. Wagner (IBM Germany, D-7032 Sindelfingen, Federal Republic of Germany), **Thin Film Characterization by Laser Interferometry Combined with SIMS**, *Applied Physics A* **47**, No. 2, 137-145 (1988).

J. R. Kirtley, C. D. Tesche, W. J. Gallagher, A. W. Kleinsasser, R. L. Sandstrom, S. I. Raider, and M. P. A. Fisher (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Measurement of the Intrinsic Subgap Dissipation in Josephson Junctions**, *Physical Review Letters* **61**, No. 20, 2372-2375 (1988).

C. M. Knoedler, L. Osterling, and H. Shtrikman (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Reactive Ion Etching Damage to GaAs Layers with Etch Stops**, *Journal of Vacuum Science and Technology B* **6**, No. 5, 1573-1576 (1988).

W. Koch, B. Liu (IBM Corporation, 650 Harry Road, San Jose, CA 95120), and D. J. DeFrees (Molecular Research Institute, Palo Alto, CA), **The C_4H_4^+ Cation: A Theoretical Investigation**, *Journal of the American Chemical Society* **110**, No. 22, 7325-7328 (1988).

M. Koda (IBM Japan, 5-19 Sanban-cho, Chiyoda-ku, Tokyo 102, Japan), **Sensitivity Analysis of Descriptor Distributed Parameter Systems**, *International Journal of Systems Science* **19**, No. 10, 2103-2114 (1988).

S. H. Koenig and P. Gillis (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Traverse Relaxation ($1/T_2$) of Solvent Protons Induced by Magnetized Spheres and Its Relevance to Contrast Enhancement in MRI**, *Investigative Radiology*, **23**, No. 1, S224-S228 (1988).

D. T. Krick, P. M. Lenahan (Pennsylvania State University, University Park, PA 16802), and J. Kanicki (IBM, Yorktown Heights, NY), **Electrically Active Point Defects in Amorphous Silicon Nitride: An Illumination and Charge Injection Study**, *Journal of Applied Physics* **64**, No. 7, 3558-3568 (1988).

D. T. Krick, P. M. Lenahan (Pennsylvania State University, University Park, PA 16802), and J. Kanicki (IBM, Yorktown Heights, NY), **Nature of the Dominant Deep Trap in Amorphous Silicon Nitride**, *Physical Review B* **38**, No. 12, 8226-8229 (1988).

L. Krusin-Elbaum and M. Wittmer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Conducting Transition Metal Oxides: Possibilities for RuO_2 in VLSI Metallization**, *Journal of the Electrochemical Society* **135**, No. 10, 2610-2614 (1988).

C. P. Kruskal (University of Maryland, College Park, MD 20742), L. Rudolph (The Hebrew University, Jerusalem, Israel), and M. Snir (IBM, Yorktown Heights, NY), **Efficient Synchronization on Multiprocessors with Shared Memory**, *ACM Transactions on Programming Languages and Systems* **10**, No. 4, 579-601 (1988).

C. P. Kruskal (University of Maryland, College Park, MD 20742), M. Snir (IBM, Yorktown Heights, NY), and A. Weiss (AT&T Bell Laboratories, Murray Hill, NJ), **The Distribution of Waiting Times in Clocked Multistage Interconnection Networks**, *IEEE Transactions on Computers* **37**, No. 11, 1337-1352 (1988).

T. F. Kuech, M. A. Tischler, P.-J. Wang, G. Scilla, R. Potemski, and F. Cardone (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Controlled Carbon Doping of GaAs by Metallorganic Vapor Phase Epitaxy**, *Applied Physics Letters* **53**, No. 14, 1317-1319 (1988).

S. K. Kurinec, I. Toor, Y.-K. Chao, H. Shillingford, P. Holloway (University of Florida, Gainesville, FL 32611), S. Ray, and K. Beckham (IBM, Hopewell Junction, NY), **Effects of Heat Treating Au/Ni Thin Film Composites in Various Ambients**, *Thin Solid Films* **162**, No. 1-2, 247-255 (1988).

L

R. Landauer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Dissipation and Noise Immunity in Computation and Communication**, *Nature* **335**, No. 6193, 779-784 (1988).

R. E. Laporte, I. F. Gower, M. Rewers (University of Pittsburgh, Pittsburgh, PA 15261), J. Tuomilehto (National Public Health Institute, Helsinki, Finland), N. Tajima, Y. Akimoto (Jikei University, Tokyo, Japan), M. Aiso (National Public Health Institute, Helsinki, Finland), V. J. Grabauskas (Kaunas Medical Institute, Kaunas, Lithuania, USSR), and J. G. Williams (IBM Japan, Tokyo, Japan), **Telecommunication and International Health Research**, *American Journal of Epidemiology* **128**, No. 2, 439-442 (1988).

J. P. Laurenti (University of Montpellier 2, F-34060 Montpellier, France), P. Roentgen, K. Wolter, K. Seibert, H. Kurz, and J. Camassel (IBM, Rüschlikon, Switzerland), **Improvement of GaAs Epitaxial Layers by Indium Incorporation**, *Journal de Physique* **49**, No. 4, 693-696 (1988).

J.-F. Lee (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **A New Framework of Design Rules for Compaction of VLSI Layouts**, *IEEE Transactions on Computer-aided Design of Integrated Circuits and Systems* **7**, No. 11, 1195-1204 (1988).

R. K. Lenz and R. Y. Tsai (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Techniques for Calibration of the Scale Factor and Image Center for High Accuracy 3-D Machine Vision Metrology**, *IEEE Transactions on Pattern Analysis and Machine Intelligence* **10**, No. 5, 713-720 (1988).

G. P. Li, C. T. Chuang, and T. C. Chen (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **On the Narrow Emitter Effect of Advanced Shallow Profile Bipolar Transistors**, *IEEE Transactions on Electron Devices* **35**, No. 11, 1942-1950 (1988).

N. C. C. Lu, H. H. Chao, W. Hwang, W. H. Henkels, T. V. Rajeevaumar, H. I. Hanafi, L. M. Terman, and R. F. Franch (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **A 20-ns 128-kbit $\times$ 4 High Speed DRAM with 330-mbit/s Data Rate**, *IEEE Journal of Solid-State Circuits* **23**, No. 5, 1140-1149 (1988).

T. C. Lubensky (University of Pennsylvania, Philadelphia, PA 19104), S. Ramaswamy (Indian Institute of Science, Bangalore, India), and J. Toner (IBM, Yorktown Heights, NY), **Static and**

Dynamic Properties of Incommensurate Smectic-A_{1C} Liquid Crystals, *Physical Review A* **38**, No. 8, 4284-4298 (1988).

K. F. Ludwig, Jr. (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598). **Comment on "Speckle in the Diffraction Patterns of Hendricks Teller and Icosahedral Glass Models,"** *Physical Review Letters* **61**, No. 13, 1526 (1988).

K. F. Ludwig, Jr., G. B. Stephenson, J. L. Jordan-Sweet (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), J. Mainville, Y. S. Yang, and M. Sutton (McGill University, Montreal, Quebec, Canada), **Nucleated and Continuous Ordering in Cu₃Au**, *Physical Review Letters* **61**, No. 16, 1859-1862 (1988).

M

A. P. Malozemoff, L. Krusin-Elbaum, D. C. Cronmeyer, Y. Yeshurun, and F. Holtzberg (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Remanent Moment of High-Temperature Superconductors: Implications for Flux-Pinning and Glassy Models**, *Physical Review B* **38**, No. 10, 6490-6499 (1988).

A. P. Malozemoff, T. K. Worthington, Y. Yeshurun, F. Holtzberg (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), and P. H. Kes (State University, Leiden, The Netherlands), **Frequency Dependence of the AC Susceptibility in a Y-Ba-Cu-O Crystal: A Reinterpretation of HC₂**, *Physical Review B* **38**, No. 10, 7203-7206 (1988).

H. J. Mamin, D. Rugar, J. E. Stern, B. D. Terris, and S. E. Lambert (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Force Microscopy of Magnetization Patterns in Longitudinal Recording Media**, *Applied Physics Letters* **53**, No. 16, 1563-1565 (1988).

P. M. Marcus and V. L. Moruzzi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Stoner Model of Ferromagnetism and Total-Energy Band Theory**, *Physical Review B* **38**, No. 10, 6949-6953 (1988).

M. Maresca (University of Genova, 16145 Genova, Italy), M. A. Lavin, and H. W. Li (IBM, Yorktown Heights, NY), **Parallel Architectures for Vision**, *Proceedings of the IEEE* **76**, No. 8, 970-981 (1988).

F. Mehran, S. E. Barnes, G. V. Chandrasekhar, T. R. McGuire, and M. W. Shafer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Absence of Excited Triplets in the EPR of the High T_c Superconductors and the Antiferromagnetic Insulator CuO**, *Solid State Communications* **67**, No. 12, 1187-1189 (1988).

H. P. Meier, E. Vangieson, W. Walter, C. Harder, P. Buchmann, D. Webb, and A. Moser (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), **Low Threshold Current GaAs AlGaAs GRIN SCH Lasers Grown by Molecular Beam Epitaxy on Si₃N₄ Masked Substrates**, *Electronics Letters* **24**, No. 18, 1123-1125 (1988).

G. Meyer and N. M. Amer (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Novel Optical Approach to Atomic Force Microscopy**, *Applied Physics Letters* **53**, No. 12, 1045-1047 (1988).

R. Miles (Columbia University, New York, NY 10032), R. D. Traub, and R. K. S. Wong (IBM, Yorktown Heights, NY), **Spread of Synchronous Firing in Longitudinal Slices from the CA₁ Region of the Hippocampus**, *Journal of Neurophysiology* **60**, No. 4, 1481-1496 (1988).

R. D. Miller and R. Sooriyakumaran (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Alkoxy-Substituted Poly(Diarylsilanes): Thermochromism and Solvatochromism**, *Macromolecules* **21**, No. 10, 3120-3122 (1988).

J. Misewich, J. H. Glowina, J. E. Rothenberg, and P. P. Sorokin (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Subpicosecond UV Kinetic Spectroscopy: Photolysis of Thallium Halide Vapors**, *Chemical Physics Letters* **150**, No. 5, 374-379 (1988).

I. Morgenstern, K. A. Müller, and J. G. Bednorz (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), **Glassy Behavior in High-T_c Superconductors**, *Physica B* **152**, Nos. 1&2, 85-94 (1988).

A. Mühlebach, R. D. Johnson, J. Lierla, and J. Economy (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Diad Sequence Distribution in Copolyesters of 4-Hydroxybenzoic Acid and 6-Hydroxy-2-naphthoic Acid**, *Macromolecules* **21**, No. 10, 3115-3117 (1988).

N

D. M. Newns, P. C. Pattnaik (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), M. Rasolt (Oak Ridge National Laboratory, Oak Ridge, TN), and D. A. Papaconstantopoulos (Naval Research Laboratories, Washington, DC), **Theory of High-T_c Superconductors Within a Realistic Anderson Lattice Model**, *Physical Review B* **38**, No. 10, 7033-7036 (1988).

D. M. Newns (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), M. Rasolt (Oak Ridge National Laboratory, Oak Ridge, TN), and P. C. Pattnaik (IBM, Yorktown Heights, NY), **Theory of High-T_c Superconductors Within an Anderson Lattice Model**, *Physical Review B* **38**, No. 10, 6513-6530 (1988).

M. A. Novotny (IBM Corporation, Allégaten 36, N-5007 Bergen, Norway), **Equivalence of Transfer Matrices**, *Journal of Mathematical Physics* **29**, No. 10, 2280-2287 (1988).

P

A. Palma, S. Green (Columbia University, New York, NY 10027), D. J. DeFrees (Molecular Research Institute, Palo Alto, CA), and A. D. McLean (IBM, San Jose, CA), **Collisional Excitation of Interstellar Water**, *Astrophysical Journal Supplement* **68**, No. 2, 287-318 (1988).

S. S. P. Parkin, E. M. Engler, V. Y. Lee, A. I. Nazzari, Y. Tokura, J. B. Torrance, and P. M. Grant (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Magnetic Field Dependence of the Resistivity and Susceptibility of the Above-100-K Bi-Sr-Ca-Cu Superconductor**, *Physical Review B* **38**, No. 10, 7101-7104 (1988).

S. S. P. Parkin, V. Y. Lee, A. I. Nazzari, R. Savoy, T. C. Huang, G. Gorman, and R. Beyers (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Model Family of High-Temperature Superconductors: Tl_mCa_{n-1}Ba₂Cu₂O_{2(n+1)+m} (m = 1, 2; n = 1, 2, 3)**, *Physical Review B* **38**, No. 10, 6531-6537 (1988).

Y. Pastol, G. Arjavalingam, J. M. Halbout, and G. V. Kopcsay (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Characterisation of an Optoelectronically Pulsed Broadband Microwave Antenna**, *Electronics Letters* **24**, No. 21, 1318-1319 (1988).

Y. Pastol, J.-M. Halbout, P. May, and G. Compeau (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Noncontact Internal Waveform Measurements with Picosecond Time Resolution on a 0.5- μ m CMOS SRAM**, *IEEE Electron Device Letters* **9**, No. 10, 506-508 (1988).

C. R. Paul (University of Kentucky, Lexington, KY 40506) and K. B. Hardin (IBM Lexington, KY), **Diagnosis and Reduction of Conducted Noise Emissions**, *IEEE Transactions on Electromagnetic Compatibility* **30**, No. 4, 553-560 (1988).

O. Paz, C. C. Goldsmith, and A. Huber (IBM Corporation, Route 52, Hopewell Junction, NY 12533), **Reversal of X-Ray Diffraction Dislocation Contrast in Gallium Arsenide**, *Applied Physics Letters* **53**, No. 19, 1856-1858 (1988).

A. D. Podjarny, D. Moras (IBM France, 15 Rue R. Descartes, F-67084 Strasbourg, France), J. Navaza (Centre Universitaire Pharmaceutique, Châteney-Malabry, France), and P. M. Alzari (Institut Pasteur, Paris, France), **Low-Resolution Phase Extension and Refinement by Maximum Entropy**, *Acta Crystallographica A* **44**, Part 4, 545-551 (1988).

D. Popović (Brown University, Providence, RI 02912), F. F. Fang (IBM, Yorktown Heights, NY), and P. J. Stiles (Brown University, Providence, RI), **Dependence of Activation Energy on Subband Splitting and Magnetic Field in Silicon Inversion Layers**, *Solid State Communications* **68**, No. 1, 25-28 (1988).

P. M. Postal (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and G. K. Pullum (University of California, Santa Cruz, CA), **Expletive Noun Phrases in Subcategorized Positions**, *Linguistic Inquiry* **19**, No. 4, 635-670 (1988).

C. G. Prohazka (IBM Corporation, Research Triangle Park, NC 27709), **Bounding the Maximum Size of a Packet Radio Network**, *IEEE Transactions on Computers* **37**, No. 10, 1184-1190 (1988).

Q

C. Quenisset, R. Naslain (Université de Bordeaux, 33405 Talence, France), and P. Demoncey (IBM France, Corbeil-Essonnes, France), **Application of AES Microanalysis to Interface Characterization in Ti-Si Diffusion Couples: I—Phase Analysis**, *Surface and Interface Analysis* **13**, Nos. 2&3, 123-129 (1988).

C. Quenisset, R. Naslain (Université de Bordeaux, 33405 Talence, France), and P. Demoncey (IBM France, Corbeil-Essonnes, France), **Application of AES Microanalysis to Interface Characterization in Ti-Si Diffusion Couples: 2—Influence of Oxygen**, *Surface and Interface Analysis* **13**, Nos. 2&3, 130-134 (1988).

R

J. F. Rabolt, C. G. Zimba, V. M. Hallmark, J. D. Swalen (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Experimental Aspects of Fourier Transform Raman Spectroscopy**, *Mikrochimica Acta* **2**, Nos. 1-6, 219-222 (1988).

P. Raghavan (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Probabilistic Construction of Deterministic Algorithms: Approximating Packing Integer Programs**, *Journal of Computer and System Sciences* **37**, No. 2, 130-143 (1988).

P. Restle (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Individual Oxide Traps as Probes into Submicron Devices**, *Applied Physics Letters* **53**, No. 19, 1862-1864 (1988).

M. Robert (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and L. M. Keer (Northwestern University, Evanston, IL), **Stiffness of an Elastic Circular Cylinder of Finite Length**, *Journal of Applied Mechanics* **55**, No. 3, 560-565 (1988).

D. L. Rogers, J. M. Woodall, G. D. Pettit, and D. McInturff (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **High Speed 1.3- μ m GaInAs Detector Fabricated on GaAs Substrates**, *IEEE Electron Device Letters* **9**, No. 10, 515-517 (1988).

D. S. Rokhsar (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598) and S. A. Kivelson (State University of New York, Stony Brook, NY), **Superconductivity and the Quantum Hard-Core Dimer Gas**, *Physical Review Letters* **61**, No. 20, 2376-2379 (1988).

A. E. Rosenbluth (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Computer Search for Layer Materials that Maximize the Reflectivity of X-Ray Multilayers**, *Revue de Physique Appliquée* **23**, No. 10, 1599-1621 (1988).

M. J. Rothman (IBM Corporation, Route 52, Hopewell Junction, NY 12533), **AutoTool I: A Human Focus on the Development of Software for Tool Control**, *IEEE Transactions on Components, Hybrids, and Manufacturing Technology* **11**, No. 3, 240-244 (1988).

S

J. J. Sáenz, N. García (Universidad Autónoma de Madrid, 28049 Madrid, Spain), and J. C. Slonczewski (IBM, Yorktown Heights, NY), **Theory of Magnetic Imaging by Force Microscopy**, *Applied Physics Letters* **53**, No. 15, 1449-1451 (1988).

M. Salmony (IBM Germany, D-6900 Heidelberg, Federal Republic of Germany), **The Potential of Broad Band ISDN**, *Computer Standards* **8**, No. 1, 15-21 (1988).

R. L. Sandstrom, E. A. Giess, W. J. Gallagher, A. Segmüller, E. I. Cooper, M. F. Chisholm, A. Gupta, S. Shinde, and R. B. Laibowitz (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Lanthanum Gallate Substrates for Epitaxial High-Temperature Superconducting Thin Films**, *Applied Physics Letters* **53**, No. 19, 1874-1876 (1988).

P. Santhanam and C. C. Chi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Critical Behavior of Periodic Networks Containing Tiles with Irrational Ratio of Areas**, *Physica B* **152**, Nos. 1&2, 129-133 (1988).

J. K. Sass (Fritz-Haber-Institut der Max-Planck-Gesellschaft, Faradayweg 4-6, D-1000 Berlin 33, Federal Republic of Germany) and J. K. Gimzewski (IBM, Rüschlikon, Switzerland), **Proposal for the Simulation of Electrochemical Charge Transfer in the Scanning Tunneling Microscope**, *Journal of Electroanalytical Chemistry and Interfacial Electrochemistry* **251**, No. 1, 241-245 (1988).

D. J. Scalapino (University of California, Santa Barbara, CA 93106), D. R. Clarke, J. Clarke, R. E. Schwall, A. F. Clark, and D. K. Finnemore (IBM, Yorktown Heights, NY), **New Research Opportunities in Superconductivity**, *Cryogenics* **28**, No. 11, 711-723 (1988).

A. A. Schaffer (Stanford University, Stanford, CA 94305) and B. B. Simons (IBM, San Jose, CA), **Computing the Bump Number with Techniques from Two-Processor Scheduling**, *Order, A Journal on the Theory of Ordered Sets and Its Applications* **5**, No. 2, 131-141 (1988).

Z. Schlesinger, R. T. Collins, and J. A. Calise (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Superconducting Energy Gap of $\text{BaPb}_{1-x}\text{Bi}_x\text{O}_3$** , *Physical Review B* **38**, No. 13, 9284-9286 (1988).

T. Schneider and D. Baeriswyl (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), **Critical Temperature of Layered High- T_c Superconductors**, *Zeitschrift für Physik B* **73**, No. 1, 5-8 (1988).

H. P. Schuchmann (Max-Planck-Institut für Strahlenschutz, Stiftstrasse 34, D-4330 Mulheim, Federal Republic of Germany), C. von Sonntag, and R. Srinivasan (IBM, Yorktown Heights, NY), **The UV Photolysis ($\lambda = 254$ and $185/254$ nm) of Cyclohexene in Oxygen-Saturated and Oxygen-Free Cyclopentane Solution**, *Journal of Photochemistry and Photobiology A* **45**, No. 1, 49-63 (1988).

H. Shen, S. H. Pan, Z. Hang, J. Leng, F. H. Pollak (City University of New York, Brooklyn College, Brooklyn, NY 11210), J. M. Woodall (IBM, Yorktown Heights, NY), and R. N. Sacks (United Technologies Research Center, East Hartford, CT), **Photoreflectance of GaAs and $\text{Ga}_{0.82}\text{Al}_{0.18}\text{As}$ at Elevated Temperatures up to 600°C** , *Applied Physics Letters* **53**, No. 12, 1080-1082 (1988).

S. Shim, B. C. Clark, S. Hama (Ohio State University, Columbus, OH 43210), E. D. Cooper (McGill University, Montreal, Quebec, Canada), R. L. Mercer (IBM, Yorktown Heights, NY), L. Ray, and G. W. Hoffmann (University of Texas, Austin, TX), **Dirac Coupled-Channels Calculation for $p^{+40}\text{Ca}$ Inelastic Scattering Using the Relativistic Impulse Approximation**, *Physical Review C* **38**, No. 4, 1968-1970 (1988).

K. A. Singmaster (San Jose State University, San Jose, CA 95192), F. A. Houle, and R. J. Wilson (IBM, San Jose, CA), **Origin of Contaminants in Photochemically Deposited Chromium Films**, *Applied Physics Letters* **53**, No. 12, 1048-1050 (1988).

G. H. Sockut (IBM Corporation, P.O. Box 49023, San Jose, CA 95161) and A. Malhotra (IBM, Yorktown Heights, NY), **A Full Screen Facility for Defining Relational and Entity Relationship Database Schemas**, *IEEE Software* **5**, No. 6, 68-78 (1988).

E. Spiller (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Characterization of Multilayer Coatings by X-Ray Reflection**, *Revue de Physique Appliquée* **23**, No. 10, 1687-1700 (1988).

M. Srijayantha and R. F. Stengel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Determination of Nonlinear Aerodynamic Coefficients Using the Estimation-Before-Modeling Method**, *Journal of Aircraft* **25**, No. 9, 796-804 (1988).

R. Srinivasan and B. Braren (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Influence of Pulse Width on Ultraviolet Laser Ablation of Poly(Methyl Methacrylate)**, *Applied Physics Letters* **53**, No. 14, 1233-1235 (1988).

G. B. Stephenson (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Deformation During Interdiffusion**, *Acta Metallurgica* **36**, No. 10, 2663-2683 (1988).

W. Stoecklein, S. S. P. Parkin, and J. C. Scott (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Ferromagnetic Resonance Studies of Exchange-Biased Permalloy Thin Films**, *Physical Review B* **38**, No. 10, 6847-6855 (1988).

E. P. Stoll (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), **Why Do Dirty Tips Produce Higher Resolution Images When Graphite Is Scanned in a Scanning Tunnelling Microscope?**, *Journal of Physics C* **21**, No. 26, L921-L924 (1988).

P. Strobel, K. Kelleher, F. Holtzberg, and T. Worthington (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Crystal Growth and Characterization of the Superconducting Phase in the Bi-Sr-Cu-Cu-O System**, *Physica C* **156**, No. 3, 434-440 (1988).

J. Y.-C. Sun, R. Angelucci, C. Y. Wong, G. Scilla, and E. Landi (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Rapid Thermal Processing of Arsenic-Implanted Polysilicon on Very Thin Oxide**, *Journal de Physique* **49**, No. 4, 401-404 (1988).

J. Y.-C. Sun, S. Klepner, Y. Taur, H. Hanafi, P. Restle, T. Bucelot, K. Petrillo, R. Dennard, S. Schuster, T. Chappell, B. Chappell, and D. Heidel (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **A High Performance Liquid-Nitrogen CMOS SRAM Technology**, *Journal de Physique* **49**, No. 4, 25-28 (1988).

T

T. Takagi (Osaka University, 2-1 Yamada Oka, Suita, Osaka 565, Japan), M. Kamoda, M. Komiyama, and E. Ohno (IBM Japan, Shiga), **Numerical Computation and Its Comparison with Experiments on Vortex Formation and the Mixing Process in a Transient Jet**, *JSME International Journal Series II* **31**, No. 3, 437-443 (1988).

H. Takai and K. N. Tu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Dopant Effect on Intrinsic Diffusivity in Nickel Silicide**, *Physical Review B* **38**, No. 12, 8121-8130 (1988).

T. Takamori and D. B. Dove (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Simple Balance Technique for Determining the Transition Temperature of High T_c Superconducting Powders**, *Review of Scientific Instruments* **59**, No. 8, 1430-1432 (1988).

A. C. Tam and H. Schroeder (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Laser-Induced Thermal Desorption of Moisture from a Surface in Atmospheric Conditions**, *Journal of Applied Physics* **64**, No. 7, 3667-3671 (1988).

C. D. Tesche, L. Krusin-Elbaum (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), and W. D. Knowles (Cleveland Clinical Education Foundation, Cleveland, OH), **Simultaneous Measurement of Magnetic and Electric Responses of In vitro Hippocampal Slices**, *Brain Research* **462**, No. 1, 190-193 (1988).

Y. Tokura, J. B. Torrance, and A. I. Nazzari (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Broader Perspective on the High-Temperature Superconducting $\text{YBa}_2\text{Cu}_3\text{O}_x$ System: The Real Role of the Oxygen Content**, *Physical Review B* **38**, No. 10, 7156-7159 (1988).

R. M. Tromp, F. K. LeGoues, W. Krakow (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), and L. J. Schowalter (Rensselaer Polytechnic Institute, Troy, NY), **Structural Characterization of the $\text{Si}(111)\text{-CaF}_2$ Interface by High Resolution Transmission Electron Microscopy**, *Physical Review Letters* **61**, No. 19, 2274 (1988).

R. M. Tromp and M. C. Reuter (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Structure of the $\text{Si}(111)\text{-CaF}_2$ Interface**, *Physical Review Letters* **61**, No. 15, 1756-1759 (1988).

K. N. Tu and T. C. Chou (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Submicron Void Formation in Amorphous NiZr Alloys**, *Physical Review Letters* **61**, No. 16, 1863-1866 (1988).

V

C. G. Van de Walle, F. R. McFeely, and S. T. Pantelides (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Fluorine-Silicon Reactions and the Etching of Crystalline Silicon**, *Physical Review Letters* **61**, No. 16, 1867-1870 (1988).

B. J. Van Zeghbroeck, W. Patrick, J.-M. Halbout, and P. Vettiger (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), **105-GHz Bandwidth Metal-Semiconductor-Metal Photodiode**, *IEEE Electron Device Letters* **9**, No. 10, 527-529 (1988).

W

L. C. Wang, B. Zhang, F. Fang, E. D. Marshall, S. S. Lau (University of California, La Jolla, CA 92093), T. Sands (Bell Communications Research, Inc., Red Bank, NJ), and T. F. Kuech (IBM, Yorktown Heights, NY), **An Investigation of a Nonspiking Ohmic Contact to $n\text{-GaAs}$ Using the Si/Pd System**, *Journal of Materials Research* **3**, No. 5, 922-930 (1988).

R. Weil (Stevens Institute of Technology, Castle Point, Hoboken, NJ 07030) and J.-W. Chang (IBM, Yorktown Heights, NY), **The Effect of Additives on the Structure and Differential Double-Layer Capacitance of Electroplated Copper**, *Plating and Surface Finishing* **75**, No. 11, 60-65 (1988).

T. Williams, K. Beilstein, B. El Kareh, R. Flaker (IBM Corporation, P.O. Box A, Essex Junction, VT 05452), G. Gravenites (IBM, Manassas, VA), R. Lipa (University of Michigan, Ann Arbor, MI), H. S. Lee, J. Maslack, J. Pessetto, W. F. Pokorny, M. Roberge, and H. Zeller (IBM, Essex Junction, VT), **An Experimental One MBIT CMOS SRAM with Configurable Organization and Operation**, *IEEE Journal of Solid-State Circuits* **23**, No. 5, 1085-1094 (1988).

D. T. Wong, R. D. Adams, A. Bhattacharyya, J. Covino, J. A. Gabric, and G. M. Lattimore (IBM Corporation, P.O. Box A, Essex Junction, VT 05452), **An 11-ns $8\text{K} \times 19$ CMOS Static RAM with $0.5\text{-}\mu\text{m}$ Devices**, *IEEE Journal of Solid-State Circuits* **23**, No. 5, 1095-1103 (1988).

S. C. Wu, S. H. Lu, Z. Q. Wang, C. K. C. Lok, 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), **$\text{Cu}_2\text{O}(\text{Cu}_2\text{O})_2\text{-Pd}$: An Ordered Surface Alloy**, *Physical Review B* **38**, No. 8, 5363-5370 (1988).

X

P. Xhonneux, E. Courtens (IBM Corporation, Säumerstrasse 4, 8803 Rüschlikon, Switzerland), and H. Grimm (Kernforschungsanlage Jülich, Jülich, Federal Republic of Germany), **Static and Dynamic Central Peaks in the Freezing of a Structural Glass**, *Physical Review B* **38**, No. 13, 9331-9334 (1988).

Y

K. H. Yang and T. C. Chieu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Bipolar Switching of Layer Tilted State in Ferroelectric Liquid Crystals**, *Ferroelectrics* **85**, 541-549 (1988).

N. Yannoni (IBM Corporation, 650 Harry Road, San Jose, CA 95120), B. Kahr, and K. Mislow (Princeton University, Princeton, NJ), **Determination of the Central Bond Length in Hexaarylethanes by Nutation NMR Spectroscopy**, *Journal of the American Chemical Society* **110**, No. 20, 6670-6672 (1988).

N.-C. Yeh, K. N. Tu, S. I. Park, and C. C. Tsuei (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), **Effect of Oxygen Distribution on the Resistivity in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Oxides ($0 \leq \delta < 0.8$)**, *Physical Review B* **38**, No. 10, 7087-7090 (1988).

P. S. Yu (IBM Corporation, P.O. Box 218, Yorktown Heights, NY 10598), S. Balsamo (University of Pisa, Pisa, Italy), and Y. H. Lee (University of Florida, Gainesville, FL), **Dynamic Transaction Routing in Distributed Database Systems**, *IEEE Transactions on Software Engineering* **14**, No. 9, 1307-1318 (1988).

Z

C. G. Zimba, V. M. Hallmark, J. D. Swalen, and J. F. Rabolt (IBM Corporation, 650 Harry Road, San Jose, CA 95120), **Ft-Raman Studies of Langmuir-Blodgett Monolayer Components Containing Absorbing Chromophores**, *Mikrochimica Acta* **2**, Nos. 1-6, 235-238 (1988).

B. Zimmermann, E. Marclay, M. Illegems (Swiss Federal Institute of Technology, 1015 Lausanne, Switzerland), and P. Gueret (IBM, Rüschlikon, Switzerland), **Self-Consistent Calculations of Tunneling Currents in $n^+\text{-GaAs}/\text{I-Al}_x\text{Ga}_{1-x}\text{As}/n^+\text{-GaAs}$ Structures and Comparison with Measurements**, *Journal of Applied Physics* **64**, No. 7, 3581-3588 (1988).

B. Zoellner (IBM Corporation, Boca Raton, FL 33429), **When Is an Industrial Personal Computer a Must?**, *I&CS Control Technology for Engineers and Engineering Management* **61**, No. 10, 67-68 (1988).