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LAWRENCE BERKELEY LABORATORY
UNIVERSITY OF CALIFORNIA
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Technical Information Department

**RECENT PAPERS SUBMITTED AND
REPORTS ISSUED**

MARCH 1986

ACCELERATOR AND FUSION RESEARCH

Journal Submissions

- LBL-17732 Preprint (K) Plasma and Operational Conditions in a High Species Filter Bucket Source, Jan. 1986, 36p. Submitted to *Rev. Sci. Instrum.*, P.A. Pincosy, K.W. Ehlers, and A.F. Lietzke (LBL) UC34A
- LBL-19508 Preprint (K) Beam End Erosion, Jan. 1986, 12p. Submitted to *J. Appl. Phys.*, A. Faltens, E.P. Lee, and S.S. Rosenblum (LBL) UC34A
- LBL-21097 Preprint (K) Theory of Beat-Resonant Coupling of Electrostatic Modes, Dec. 1985, 41p. Submitted to *Phys. Fluids*, J.D. Crawford, and C. Oberman (UCSB) S. Johnston (Jackson St. Univ.) A.N. Kaufman (LBL and UCSB) UC34A

Conference Reports/Books

- LBL-18987 Rev. Report (K) Nonlinear Dynamics: A Personal Perspective, Dec. 1984, 63p. Presented at the 1st Joint US/CERN School on Particle Accelerator Nonlinear Dynamics, Santa Margherita di Pula, Sardinia, Italy, January 31–February 5, 1985; and to be published in the Proceedings, L.J. Laslett (LBL) UC34A
- LBL-20135 Report (K) Multilayer Reflectors for the Extreme Ultraviolet Spectral Region, Aug. 1985, 14p. Presented at the International Conference on X-Ray and VUV Synchrotron Radiation Instrumentation, Stanford, CA, July 29–August 2, 1985; and to be published in Nuclear Instruments and Methods in Physics Research, J.B. Kortright (LBL) UC25

Other Reports

- LBL-20759 Report (K) Heavy-Ion Fusion System Assessment Project: Quarterly Status Report, April 1–June 30, 1985, June 1985, 18p. 34A, E.P. Lee, J. Hovingh, and A. Faltens (LBL) UC34A
- LBL-20760 Report (K) Heavy-Ion Fusion System Assessment Project: Quarterly Status Report, July 1–September 30, 1985, Sept. 1985, 15p. 34A, E.P. Lee, J. Hovingh, and A. Faltens (LBL) UC34A

LBL-20946 Report (K) NC515: A New Dipole Cross-Section for SSC, Jan. 1986, 27p. 28, S. Caspi, M. Helm, L.J. Laslett, and C. Taylor (LBL) UC28

Abstracts

LBL-21154 Abs. (K) Multiple Ionization of Ne, Ar, Kr, and I by Nearly Relativistic U Ions, Mar. 1986, 1p. To be presented at the Meeting of American Physical Society, Eugene, OR, June 18-20, 1986, A.S. Schlachter, and J.D. Rasmussen (LBL), S. Kelbch, J. Ullrich, W. Rauch, and H. Schmidt-Bocking (IKF Univ. FFM), M. Horbatsch, and R.M. Dreizler (Thoe. Univ. FFM) S. Hagmann, P. Richard, and C.L. Cocke (KSU) R. Anholt, Ch. Stoller, and W.E. Meyerhof (Stanford Univ.), A. Muller (Univ. Giessen), R. Mann, (GSI Darmstadt), UC34A

LBL-21169 Abs. (K) Covariant Variational Approach to Electromagnetic Wave Propagation: Maslov Transforms, Polarization Transport, and Angular Momentum, Feb. 1986, 1p. To be presented at the Sherwood Theory Conference, New York City, NY, April 14-16, 1986, Y. Hui, A.N. Kaufman, and H. Ye (LBL and UCB), UC28

LBL-21230 Abs. (K) Evaluation of Various Fabrication Techniques for Fabrication of Fine Filament NbTi Superconductors, Mar. 1986, 3p. To be presented at the 1986 Applied Superconductivity Conference, Baltimore, MD, September 28-October 3, 1986, R.M. Scanlan, J. Royet, and R. Hannaford (LBL) UC34A

LBL-21292 Abs. (K) Magnetic Field Measurements of Model SSC Dipoles, Mar. 1986, 4p. To be presented at the 1986 Applied Superconductivity Conference, Baltimore, MD, September 28-October 3, 1986, W.V. Hassenzahl, W.S. Gilbert, M.I. Green, and P. Barale (LBL) UC28

LBL-21293 Abs. (K) Results of Heater Induced Quenches on a 1-m Long SSC Model Dipole, Mar. 1986, 3p. To be presented at the 1986 Applied Superconductivity Conference, Baltimore, MD, September 28-October 3, 1986, W.V. Hassenzahl, (LBL) UC34A

LBL-21294 Abs. (K) 1.8K Conditioning (Non-Quench Training) of a Model SSC Dipole, Mar. 1986, 4p. To be presented at the 1986 Applied Superconductivity Conference, Baltimore, MD, September 28-October 3, 1986, W.S. Gilbert, and W.V. Hassenzahl (LBL) UC34A

LBL-21295 Abs. (K) Manufacture of Keystoned Flat Superconducting Cables for Use in SSC Dipoles, Mar. 1986, 3p. To be presented at the 1986 Applied Superconductivity Conference, Baltimore, MD, September 28-October 3, 1986, J. Royet, and R.M. Scanlan (LBL) L.F. Goodrich, and J.W. Ekin (NBS) UC28

LBL-21296 Abs. (K) The Effect of Filament Magnetization in Superconducting Magnets as Calculated by POISSON, Mar. 1986, 3p. To be presented at the 1986 Applied Superconductivity Conference, Baltimore, MD, September 28-October 3, 1986, S. Caspi, W.S. Gilbert, M. Helm, and L.J. Laslett (LBL) UC34A

LBL-21297 Abs. (K) Development of a 40mm Bore Magnet Cross Section with High Field Uniformity for the 6.6T Dipole SSC, Mar. 1986, 4p. To be presented at the 1986 Applied Superconductivity Conference, Baltimore, MD, September 28-October 3, 1986, S. Caspi, W. Gilbert, M. Helm, L.J. Laslett, and C. Taylor (LBL) UC28

APPLIED SCIENCE

Journal Submissions

- LBL-17771 Preprint (J) Monitoring the Heat Output of a Wood-Burning Stove, Feb. 1986, 28p. Submitted to *Heat Transfer Eng.*, M.P. Modera (LBL) UC95d
- LBL-18622 Preprint (J) The LBL Residential Energy Model, Jan. 1986, 36p. Submitted to *Energy Syst. Policy*, J.E. McMahon (LBL) UC95c
- LBL-20121 Preprint (J) Low-Frequency Measurement of Leakage in Enclosures, Mar. 1986, 12p. Submitted to *Rev. Sci. Instrum.*, M. Sherman, and M. Modera (LBL) UC37
- LBL-20470 (J) A Comparative Study on the Effects of Ascorbic Acid Deficiency and Supplementation on Endurance and Mitochondrial Oxidative Capacities in Various Tissues of the Guinea Pig, May, 1985, 6p. Submitted to *Comp. Biochem. Physiol., B*, L. Packer (LBL and UCB) K. Gohil, and D. DeLumen (UCB) S.E. Terblanche (Univ. Port Elizabeth, S. Africa) UC48
- LBL-20954 Preprint (J) Sulfate and Carbonaceous Aerosols in Beijing, China, Jan. 1986, 17p. Submitted to *Atmos. Environ.*, R.L. Dod, R.D. Giauque, and T. Novakov (LBL) W. Su, Q. Zhang, and W. Song (Beijing, PRC) UC11,41
- LBL-20989 Preprint (J) Kinetics of Aqueous Polysulfide Solutions: Part I. Theory of Coupled Electrochemical and Chemical Reactions, Response to a Potential Step, Jan. 1986, 25p. Submitted to *J. Electrochem. Soc.*, P. Lessner, J. Winnick, F.R. McLarnon, and E.J. Cairns (LBL and UCB) UC94c
- LBL-20990 Preprint (J) Kinetics of Aqueous Polysulfide Solutions: Part II. Electrochemical Measurement of the Rates of Coupled Electrochemical and Chemical Reactions by the Potential Step Method, Jan. 1986, 27p. Submitted to *J. Electrochem. Soc.*, P. Lessner, J. Winnick, F.R. McLarnon, and E.J. Cairns (LBL and UCB) UC94c
- LBL-21062 (J) Metabolism of Diethylstilbestrol by Horseradish Peroxidase and Prostaglandin-H Synthase. Generation of a Free Radical Intermediate and Its Interaction with Glutathione, May 1985, 5p. Published in *J. Biol. Chem.*, 260, No. 30, pp. 16210-16214, 1985, D. Ross, P. Moldeus, and M.T. Smith (UCB) R.J. Mehlhorn (LBL and UCB) UC48
- LBL-21073 (J) Mutagenicity of Nitroxide Free Radicals, Jan. 1986, 20p. Submitted to *Science*, H. Sies (UCB) R. Mehlhorn (LBL and UCB) UC48
- LBL-21074 (J) Aggregation and Proton Release of Purple and White Membranes following Cleavage of the Carboxyl-Terminal Tail of Bacteriorhodopsin, May 1985, 9p. To be published in *Arch. Biochem. Biophys.*, 246, No. 1, 1986, B. Arrio, G. Johannin, and P. Volfin (Univ. Paris, France) M. Lefort-Tran (Gif-sur-Yvette, France) L. Packer, A.E. Robinson, and E. Hrabeta (LBL and UCB) UC48
- LBL-21142 (J) Oil Shale Retort-Water Ammonia Determination by Titrimetry, Phenate Colorimetry, Enzymatic Analysis, and Chromatographic Fractionation/Chemiluminescence, Feb. 1986, 29p. To be published in *Anal. Chem.*, C.G. Daughton, R.H. Sakaji, and G.W. Langlois (LBL and UCB) UC91

LBL-21220 (J) A Simple Non-Linear Least Squares Method for Estimating Langmuir Adsorption Isotherm Constants, Mar. 1986, 13p. Submitted to *Environ. Sci. Technol.*, P. Persoff (LBL) UC13

Conference Reports/Books

LBL-17598 Rev. Report (J) Evaluation of Indoor Aerosol Control Devices and Their Effects on Radon Progeny Concentrations, Nov. 1984, 20p. Presented at the 3rd International Conference on Indoor Air Quality and Climate, Stockholm, Sweden, August 20-24, 1984; and to be published in *Environment International*, R.G. Sextro, F.J. Offermann, W.W. Nazaroff, A.V. Nero, K.L. Revzan, and J. Yater (LBL) UC41

LBL-20080 Report (J) Advanced Optical Materials for Daylighting in Office Buildings, Dec. 1985, 11p. Presented at the 10th National Passive Solar Conference, Raleigh, NC, October 15-19, 1985, R. Johnson, D. Connell, S. Selkowitz, and D. Arasteh (LBL) UC95d

LBL-20217 Report (J) Parametric Analysis of Impact of Reflective Glazing and Movable Window Insulation on Heating and Cooling Loads and Space Conditioning Costs in Residential Buildings, Jan. 1986, 28p. Presented at the Third ASHRAE/DOE/BTECC Conference on the Thermal Performance of the Exterior Envelopes of Buildings III, Clearwater Beach, FL, December 2-5, 1985, I. Turiel, P. Albrand, Y.J. Huang, R. Ritschard, and D. Wilson (LBL) UC95c

LBL-20346 Report (J) Measured Net Energy Performance of Single Glazing under Realistic Conditions, Jan. 1986, 8p. Presented at the ASHRAE/DOE/BTECC Conference on Thermal Performance of the Exterior Envelopes of Buildings III, Clearwater Beach, FL, December 2-5, 1985, J.H. Klems, and H. Keller (LBL) UC95d

LBL-20347 Report (J) The Effect of Daylighting Strategies on Building Cooling Loads and Overall Energy Performance, Jan. 1986, 20p. Presented at the ASHRAE/DOE/BTECC Conference on Thermal Performance of the Exterior Envelopes of Buildings III, Clearwater Beach, FL, December 2-5, 1985, R. Johnson, D. Arasteh, D. Connell, and S. Selkowitz (LBL) UC95d

LBL-20950 Report (J) Measured Results of Energy Conservation Retrofits in Residential Buildings, July 1985, 22p. Presented at the 1986 ASHRAE Winter Meeting, San Francisco, CA, January 19-22, 1986, C.A. Goldman (LBL) UC95d

Other Reports

LBL-19337 Report (J) Seasonal Variation in Effective Leakage Area, Jan. 1986, 26p. 95d, J.B. Dickinson, and H.E. Feustel (LBL) UC95d

LBL-20737 Report (J) Investigation of a Vitreous Electrolyte for Use in Lithium/Sulfur Cells, Dec. 1985, 115p. *M.S., M.L. Smith*, F.R. McLarnon, and E.J. Cairns (LBL) UC94cc

LBL-20988 Report (J) Characterization and Treatment of Coal-Gasification Condensate Waters, Jan. 1986, 222p. *Ph.D., J.J. Senetar*, and C.J. King (LBL and UCB) UC90i

LBL-21103 Report (J) Fuel Injection System for Shock Tube Studies of the Ignition of Preheated Fuels, Feb. 1986, 19p. 4, M.D. Forsha, R.F. Sawyer, and A.K. Oppenheim (LBL and UCB) UC4

BIOLOGY AND MEDICINE

Journal Submissions

- LBL-20952 (B) Thermoregulation in Rodents Exposed to High-Intensity Stationary Magnetic Fields, Jan. 1986, 11p. To be published in *Bioelectromagnetics*, 7, No. 3, 1986, T.S. Tenforde (LBL) UC48
- LBL-21064 Preprint (B) Immunoreactive Erythropoietin Concentrations in Neonatal Rats and the Effects of Hypoxia, Feb. 1986, 20p. Submitted to *Blood*, G.K. Clemons, S.L. Fitzsimmons, and D. DeManincor (LBL) UC48
- LBL-21107 Preprint (B) Immunoreactive Erythropoietin Studies in Hypoxic Rats and the Role of the Salivary Glands, Jan. 1986, 19p. Submitted to *Exp. Hematol.*, G.K. Clemons, D. DeManincor, S.L. Fitzsimmons, and J.F. Garcia (LBL) UC48
- LBL-21114 (B) Human Lymphedema Fluid Lipoproteins: Particle Size, Cholesterol and Apolipoprotein Distributions, and Electron Microscope Structure, Apr. 1985, 13p. Published in *J. Lipid Res.*, 26, 1985, pp. 1399-1411, D. Reichl, J-L. Hong, D.N. Rudra, and J. Pflug (London, U.K.) T.M. Forte (LBL) UC48
- LBL-21119 (B) Genealogy of Principal Strains of the Yeast Genetic Stock Center, Dec. 1985, 21p. Submitted to *Genetics*, R.K. Mortimer (LBL and UCB) J.R. Johnston (Univ. Strathclyde, Scotland) UC48
- LBL-21138 (B) Thrombocytopoietic Response to Immunothrombocytopenia in Nude Mice, Feb. 1986, 29p. Submitted to *Blood*, S. Ebbe, J. Levin, K. Miller, T. Yee, F. Levin, and E. Phalen (LBL, VA Med. Ctr., and UCSF) UC48
- LBL-21164 (B) A Yeast Screening System for Simultaneously Monitoring Multiple Genetic Endpoints, Dec. 1985, 51p. Submitted to *Mutat. Res.*, M.L. Dixon, and R.K. Mortimer (LBL and UCB) UC48
- LBL-21222 (B) The Effect of Short Term Ozone Exposure on the Binding of Thyroxine to Thyroxine Binding Proteins in Rat Serum, Mar. 1986, 18p. Submitted to *Toxicol. Appl. Pharmacol.*, S.L. Fitzsimmons, and G.K. Clemons (LBL and UCB) UC48
- LBL-21271 (B) Functionally Abnormal Stromal Cells and Megakaryocyte Size, Ploidy, and Ultrastructure in S1/S1^d Mice: Normal Stromal Cells May Control Megakaryocytopoiesis, Mar. 1986, 27p. Submitted to *Blood Cells*, S. Ebbe, M. Bentfeld-Barker, C. Adrados, D. Carpenter, C. Mortensen, T. Yee, and E. Phalen (LBL and UCSF) UC48

Conference Reports/Books

- LBL-21219 Report (B) Lipoprotein Metabolism during Early Development of the Human, Mar. 1986, 64p. Submitted to **CRC Handbook of Human Growth and Developmental Biology**, Vol. 2, Chemical Rubber Company, Cleveland, OH, T.M. Forte, and O. Genzel-Boroviczeny (LBL) P.A. Davis (UCD) UC48

CENTER FOR ADVANCED MATERIALS

Journal Submissions

- LBL-20532 Preprint (L) Hole Scattering Mechanisms in Modulation-Doped Heterostructures, Nov. 1985, 14p. Submitted to *J. Appl. Phys.*, W. Walukiewicz (LBL) UC25
- LBL-21173 (L) Polycyclic Hydrocarbon Rearrangements in Zeolites: A Mechanistic Study, Feb. 1986, 43p. Submitted to *J. Am. Chem. Soc.*, G.C. Lau, and W.F. Maier (LBL and UCB) UC4
- LBL-21239 (L) Implications of Boundary Singularities in Complex Geometries, Jan. 1986, 16p. Submitted to *J. Non-Newtonian Fluid Mech.*, G.G. Lipscomb, R. Keunings, and M.M. Denn (LBL and UCB) UC38

Conference Reports/Books

- LBL-21156 Report (L) Theory of Strengthening by Ordered Precipitates, Feb. 1986, 16p. To be presented at the International Conference on Aluminum Alloys, Charlottesville, WV, June 15–20, 1986, J. Glazer, and J.W. Morris, Jr. (LBL and UCB) UC25

Other Reports

- LBL-20947 Report (L) Effect of Indium and Silicon Doping on the Deformation Behavior of GaAs Single Crystals, Jan. 1986, 80p. M.S., M.G. Tabache (LBL and UCB) UC25

Abstracts

- LBL-20690 Abs. (L) The Effect of Uniaxial Stress on FeB Pairs in Silicon, Dec. 1985, 2p. To be presented at the 1986 March Meeting of the American Physical Society, Las Vegas, NV, March 31–April 4, 1986, D.D. Nolte, and E.E. Haller (LBL) P. Omling (Univ. Lund, Sweden) UC25
- LBL-21049 Abs. (L) Pd_xGaAs/GaAs: Correlation Between Interface Morphology and Electrical Properties, Mar. 1986, 1p. To be presented at the Conference on Semiconductor-based Heterostructures: Interfacial Structure and Stability, Murray Hill, NJ, May 1–2, 1986, T. Sands (LBL and Murray Hill, NJ) K.M. Yu, and S.K. Cheung (LBL) V.G. Keramidas (Murray Hill, NJ) UC25
- LBL-21127 Ext. Abs. (L) Vitrification of Y Zeolite and Its Effects on HREM Images, Feb. 1986, 4p. To be presented at the Conference of the Electron Microscopy Society of America, Albuquerque, NM, August 10–15, 1986, R. Csencsits (LBL) UC25
- LBL-21208 Abs. (L) Microstructural and Chemical Components of the Fracture Energy of Ceramic-Metal Interfaces, Mar. 1986, 1p. To be presented at the Materials Research Society Spring Meeting, Palo Alto, CA, April 15–18, 1986, R.M. Cannon, V. Jayaram, B.J. Dalgleish, and R.M. Fisher (LBL) UC25
- LBL-21240 Abs. (L) Proton NMR of Hydrogen and Ammonia Chemisorbed on Mo₂N, Mar. 1986, 1p. Presented at the General Meeting of the American Physical Society, Las Vegas, NV, March 31, 1986, G.W. Haddix, J.A. Reimer, and A.T. Bell (LBL and UCB) UC4

LBL-21241 Abs. (L) Nuclear Magnetic Resonance Studies of Liquid Crystal Polymers in the Solid State, Mar. 1986, 1p. Presented at the General Meeting of the American Physical Society, Las Vegas, NV, March 31, 1986, K.R. Amundson, J.A. Reimer, and M.M. Denn (LBL and UCB) UC4

LBL-21242 Abs. (L) Fiber Orientation in Complex Flows, Jan. 1986, 1p. To be presented at the 2nd Annual Meeting of the Polymer Processing Society, Montreal, Quebec, Canada, April 1-4, 1986, G.G. Lipscomb, and M.M. Denn (LBL) UC38

CHEMICAL BIODYNAMICS

Journal Submissions

LBL-21085 (D) Photosensitized Reaction of ^3P Hg, Cd and Zn Atoms with Difluorochloroethene in Krypton Matrix, Jan. 1986, 31p. Submitted to *J. Phys. Chem.*, H.E. Cartland, and G.C. Pimentel (LBL) UC4

COMPUTING

Conference Reports/Books

LBL-20963 Report (P) Two Issues Concerning the Analysis of Grouped Data, Feb. 1986, 14p. To be presented at the Conference of the Society for Epidemiologic Research, Pittsburgh, PA, June 11-13, 1986, S. Selvin (LBL) UC32

Other Reports

LBL-14637 Report (P) Report 2A: Employment and Training Indicators. 1980 Census of Population, Idaho by County, June 1982, 29p. UC13,32

LBL-20708 Report (P) Further Results on Interpolation Searching of Databases, Feb. 1986, 23p. 32, Z.J. Li, and H.K.T. Wong (LBL) UC32

EARTH SCIENCES

Journal Submissions

LBL-20156 (W) A Thermodynamic Model of Extremely Concentrated Solutions in the System $\text{Na}^+ - \text{K}^+ - \text{OH}^- - \text{Acetate} - \text{Cl}^- - \text{H}_2\text{O}$ at 317°C , Sept. 1985, 26p. Submitted to *J. Phys. Chem.*, O. Weres, and L. Tsao (LBL) UC4

LBL-20316 (W) Lateral Variations in Mantle P Velocity from Tectonically Regionalized Tau Estimates, Jan. 1986, 26p. To be published in *Geophys. J.R. Astron. Soc.*, 1986 (in press), D.M. Tralli, and L.R. Johnson (LBL and UCB) UC11

LBL-21066 (W) Photophysical Studies of Uranyl Complexes. VIII. Luminescence Spectra of $\text{UO}_2\text{SO}_4 \cdot 3\frac{1}{2} \text{H}_2\text{O}$ and Two Polymorphs of Bis(urea) Uranyl Sulfate, Jan. 1984, 6p. Submitted to *J. Solid State Chem.*, 59, pp. 259-264 (1985) H.G. Brittain, and P. Ansari (Seton Hall Univ.) J. Toivonen, and L. Niinisto (Helsinki Univ., Finland) L. Tsao, and D.L. Perry (LBL) UC4

LBL-21140 (W) Thermodynamics of Electrolyte Mixtures. Enthalpy and the Effect of Temperature on the Activity Coefficient, Feb. 1986, 22p. Submitted to *J. Solution Chem.*, R.C. Phutela, and K.S. Pitzer (LBL and UCB) UC4

Conference Reports/Books

LBL-18553 Report (W) Mass Transfer in a Geologic Environment, Nov. 1984, 13p. Presented at the Materials Research Society, Scientific Basis for Nuclear Waste Management VIII Meeting, Boston, MA, November 1984, S.J. Zavoshy, P.L. Chambré, and T.H. Pigford (LBL and UCB) UC11

Other Reports

LBL-12670 Report (W) Assessment of Thermocouple Temperature Measurements During In Situ Heater Experiments at Stripa, Sweden, Oct. 1985, 119p. SAC-54. 70, E. Binnall, and M. McEvoy (LBL) UC70

LBL-20020 Report (W) Proceedings of the Workshop on Hydrologic and Geochemical Monitoring in The Long Valley Caldera, Oct. 1984, 85p. Presented at the Workshop on Hydrologic and Geochemical Monitoring in the Long Valley Caldera, Mammoth Lakes, CA, October 8-10, 1984, UC66b,11

Abstracts

LBL-21051 Abs. (W) Halite Liquidus and the Compositions of Halite- and Gas-saturated Liquids in the System NaCl-H₂O above 450°C, Feb. 1986, 1p. To be presented at the American Geophysical Union Meeting, Baltimore, MD, May 19-21, 1986, I.-M. Chou (USGS, Reston, VA) W.D. Gunter (Edmonton, Alberta, Canada) K.S. Pitzer (LBL and UCB) UC4

LBL-21065 Abs. (W) Evolution of the Notion of Transient Flow in Hydrogeology, Oct. 1985, 1p. Presented at the 1985 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 9-13, 1985; and published in *EOS Trans. Am. Geophys. Union*, T.N. Narasimhan (LBL) UC11

ENGINEERING

Journal Submissions

LBL-19407 (E) Vacuum Outgassing Rates of Plastics and Composites for Electrical Insulators, June 1985, 15p. Published in *J. Vac. Sci. Technol. A*, 4(1), 1986, pp. 107-110, S.S. Rosenblum (LBL and UCB) UC38

LBL-20869 Preprint (E) Time Resolution Performance Studies of Hamamatsu R1564U Microchannel Plate Photomultiplier, Aug. 1985, 4p. Submitted to *IEEE Trans. Nucl. Sci.*, B. Leskovar, and T.T. Shimizu (LBL) UC37

LBL-20881 Preprint (E) Beryllium-Hydrogen and Zinc-Hydrogen Shallow Acceptor Complexes in Germanium, Jan. 1986, 24p. Submitted to *Solid State Commun.*, R.E. McMurray, Jr., N.M. Haegel, J.M. Kahn, and E.E. Haller (LBL and UCB) UC25

LBL-21009 Preprint (E) Transient Response of Ge:Be and Ge:Zn Far-Infrared Photoconductors under Low Background Photon Flux Conditions, Jan. 1986, 30p. Submitted to *Infrared Phys.*, N.M. Haegel, and E.E. Haller (LBL and UCB) UC37,25

Conference Reports/Books

LBL-19675 Report (E) MARK II End Cap Calorimeter Electronics, Oct. 1985, 7p. Presented at the IEEE Nuclear Science Symposium, San Francisco, CA, October 23-25, 1985; and to be published in the Proceedings, R.C. Jared, J.S. Haggerty, D.A. Herrup, F.A. Kirsten, K.L. Lee, S.R. Olson, and D.R. Wood (LBL) UC37

LBL-20581 Report (E) Some New Ideas about Undulators, Nov. 1985, 11p. Presented at the First International Conference on Insertion Devices for Synchrotron Radiation Sources, Stanford, CA, October 28-30, 1985, K. Halbach, (LBL) UC34A

Abstracts

LBL-20687 Abs. (E) Copper-Dihydrogen Complex Shallow Acceptors in High-Purity Germanium, Dec. 1985, 2p. To be presented at the 1986 March Meeting of the American Physical Society, Las Vegas, NV, March 31-April 4, 1986, J.M. Kahn, E.E. Haller, and L.M. Falicov (LBL and UCB) UC25,37

MATERIALS AND MOLECULAR RESEARCH

Journal Submissions

LBL-18825 Preprint (H) Sulfur 1s Core-Level Photoionization of SF₆, Feb. 1986, 67p. Submitted to *Phys. Rev. A*, T.A. Ferrett, D.W. Lindle, P.A. Heimann, H.G. Kerkhoff, U.E. Becker, and D.A. Shirley (LBL and UCB) UC4

LBL-18934 Rev. Preprint (I) The Combined Effect of Acceleration Voltage and Incident Beam Orientation on the Characteristic X-ray Production in Thin Crystals, Feb. 1986, 21p. To be published in *Philos. Mag.*, K.M. Krishnan, P. Rez, and G. Thomas (LBL) Y. Yokota, and H. Hashimoto (Univ. Osaka, Japan) UC25

LBL-19359 Preprint (O) Oxygen Activity and Asymmetric Polarization at the Sodium/Beta"-Alumina Interface, Nov. 1985, 40p. Submitted to *J. Electrochem. Soc.*, C. Mailhe, S. Visco, and L. De Jonghe (LBL) UC94cc

LBL-19717 (I) The Structure of Rapidly Thermally Annealed Nitrogen-Implanted Silicon, Oct. 1985, 10p. Submitted to *Thin Solid Films*, 138 (1986), Z. Liliental (LBL and Arizona St. Univ.) R.W. Carpenter, J.C. Kelly (Arizona St. Univ.) UC25

LBL-19760 Preprint (H) The Conversion of Acetylene to Benzene Over Palladium Single Crystal Surfaces. II. The Effect of Additives, Jan. 1986, 33p. Submitted to *J. Phys. Chem.*, M.A. Logan, T.G. Rucker, T.M. Gentle, E.L. Muetterties, and G.A. Somorjai (LBL and UCB) UC90d

LBL-20130 (I) Method for Removing Surface Porosity on Glassy Carbon Tiles, Mar. 1986, 12p. Submitted to *Carbon*, L.H. Edelson, and A.M. Glaeser (LBL and UCB) UC25

- LBL-20144 Preprint (H) The Conversion of Acetylene to Benzene Over Palladium Single Crystal Surfaces. I. The Low Pressure Stoichiometric and the High Pressure Catalytic Reactions, Jan. 1986, 30p. Submitted to *J. Phys. Chem.*, T.G. Rucker, M.A. Logan, T.M. Gentle, E.L. Muettterties, and G.A. Somorjai (LBL and UCB) UC90d
- LBL-20530 Preprint (H) Photoelectron Branching Ratios and Partial Photoionization Cross Sections for Production of the $(2a_1)^{-1}$ State of H_2O up to 200 eV, Feb. 1986, 14p. Submitted to *Chem. Phys. Lett.*, C.E. Brion (Univ. British Columbia, Canada) D.W. Lindle, P.A. Heimann, T.A. Ferrett, M.N. Piancastelli, and D.A. Shirley (LBL and UCB) UC4
- LBL-20535 Preprint (H) Adsorbate Geometry Determination by Measurement and Analysis of ARPEFS Data: Application to $c(2 \times 2)S/Ni(001)$, Feb. 1986, 58p. Submitted to *Phys. Rev. B*, J.J. Barton, C.C. Bahr, S.W. Robey, Z. Hussain, E. Umbach, and D.A. Shirley (LBL and UCB) UC4
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- LBL-20795 (I) Comment on "Predicted Modifications in the Direct and Indirect Gaps of Tetrahedral Semiconductors," Feb. 1985, 6p. Submitted to *Phys. Rev. Lett.*, S.L. Richardson, M.L. Cohen, and S.G. Louie (LBL and UCB) J.R. Chelikowsky (Annandale, NJ) UC25
- LBL-20796 (I) Electron Charge Densities at Conduction Band Edges of Semiconductors, May 1985, 20p. Submitted to *Phys. Rev. B*, S.L. Richardson, M.L. Cohen, and S.G. Louie (LBL and UCB) J.R. Chelikowsky (Annandale, NJ) UC25
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- LBL-20798 (I) Theoretical Study of Stacking Faults in Silicon, Aug. 1985, 40p. Submitted to *Phys. Rev. B*, M.Y. Chou, M.L. Cohen, and S.G. Louie (LBL and UCB) UC25
- LBL-20799 (I) Theoretical Study of the Surface Energy and Surface Relaxation of W(001) Surface, Oct. 1985, 17p. Submitted to *Phys. Rev. B*, C.T. Chan, and S.G. Louie (LBL and UCB) UC25
- LBL-20801 (I) General Considerations on Optical Second-Harmonic Generation from Surfaces and Interfaces, Dec. 1985, 32p. Submitted to *Phys. Rev. B*, P. Guyot-Sionnest, W. Chen, and Y.R. Shen (LBL and UCB) UC25
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- LBL-20804 (I) Theoretical Study of the Cohesive and Structural Properties of Mo and W in bcc, fcc, and hcp Structures, Dec. 1985, 26p. Submitted to *Phys. Rev. B*, C.T. Chan, D. Vanderbilt, and S.G. Louie (LBL and UCB) J.R. Chelikowsky (Annandale, NJ) UC25

- LBL-20805 (I) Calculation of Anharmonic Phonon Couplings in C, Si, and Ge, Sept. 1985, 31p. Submitted to *Phys. Rev. B*, D. Vanderbilt (Harvard Univ.) S.G. Louie, and M.L. Cohen (LBL and UCB) UC34A
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- LBL-20848 Preprint (H) Raman Line Positions in Molecular Hydrogen: H₂, HD, HT, D₂, DT, and T₂, Mar. 1986, 46p. Submitted to *J. Mol. Spectros.*, D.K. Veirs, and G.M. Rosenblatt (LBL) UC34A
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Conference Reports/Books

- LBL-19007 (I) Methods of Evaluation, Dec. 1984, 6p. Published in **Handbook of Thermodynamic and Transport Properties of Alkali Metals**, R.W. Ohse, Ed., Blackwell Scientific Publications, pp. xix-xxiv, 1985, L. Brewer (LBL and UCB) UC4
- LBL-20065 Report (I) Basic Considerations on Surface Optical Nonlinearities, Jan. 1986, 3p. Presented at the Eighth International Conference on Lasers '85, Las Vegas, NV, December 2-6, 1985, P. Guyot-Sionnest, W. Chen, and Y.R. Shen (LBL and UCB) UC25
- LBL-20526 Report (I) Characterization of Chaotic Instabilities in an Electron-Hole Plasma in Germanium, Oct. 1985, 15p. Presented at the International Workshop on Dimensions and Entropies in Chaotic Systems, Pecos River, NM, September 11-16, 1985; and published in the Proceedings, G.A. Held and C.D. Jeffries (LBL and UCB) UC25
- LBL-20644 Report (I) Characterization of Long Period Polytypoid Structures in the Al_2O_3 -AlN System, Dec. 1985, 8p. Presented at the Materials Research Society Symposium on Defect Properties and Processing of High-Technology Nonmetallic Materials, Boston, MA, December 2-4, 1985, K.M. Krishnan, R.S. Rai, and G. Thomas (LBL) N.D. Corbin, and J.W. McCauley (Watertown, MA) UC25
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- LBL-20904 Report (O) Surface Chemistry, Jan. 1986, 183p. To be published as a chapter in **Encyclopedia of Physical Science and Technology**, M. Yelles, Ed., Academic Press, Inc., Orlando, FL, 1986, S.R. Bare and G.A. Somorjai (LBL and UCB) UC4
- LBL-20991 Report (H) Relativistic Quantum Chemistry, Jan. 1986, 58p. To be published as a chapter in **Electronic Structure Calculations**, K. Lawley, Ed., John Wiley & Sons, Inc., New York, NY, 1986, K. Balasubramanian (Arizona St. Univ.) K.S. Pitzer (LBL and UCB) UC4
- LBL-21010 Report (I) Schottky and "Ohmic" Au Contacts on GaAs, Microscopic and Electrical Investigation, Feb. 1986, 23p. Presented at the Conference on Physics and Chemistry of Semiconductor Interfaces, Pasadena, CA, January 28-30, 1986; and submitted to *Journal of Vacuum Science and Technology B*, Z. Liliental-Weber, R. Gronsky, J. Washburn (LBL) N. Newman, W.E. Spicer (Stanford Univ.) and E.R. Weber, (UCB) UC25

Other Reports

- LBL-20407 Report (I) Grain Boundary Structure in Body-Centered Cubic Materials, Oct. 1985, 219p. Ph.D., E.A. Kamenetzky (LBL and UCB) UC25

- LBL-21139 Preprint (F) Diagrammatic Expansions for the Yang-Mills Ground State, Feb. 1986, 11p. Submitted for publication, H.S. Chan (LBL and UCB) UC34D
- LBL-21152 (F) Limit on Hyperphoton by Particle Physics, Jan. 1986, 4p. To be submitted for publication, M. Suzuki (LBL and UCB) UC34D
- LBL-21176 Preprint (F) Supersymmetric Models of Particle Physics and Their Phenomenology, Feb. 1986, 32p. Submitted to *Ann. Rev. Nucl. Part. Sci.*, I. Hinchliffe (LBL) UC34D
- LBL-21198 Preprint (F) New Measurements of the Cosmic Background Radiation Temperature at 3.3 mm Wavelength, Feb. 1986, 28p. Submitted to *Astrophys. J.*, C. Witebsky, G. Smoot, G. De Amici, and S.D. Friedman (LBL and UCB) UC34B

Conference Reports/Books

- LBL-19246 Rev. Report (F) Two Phase Cooling for Superconducting Magnets, Jan. 1986, 13p. Presented at the Cryogenic Engineering Conference, Cambridge, MA, August 12–16, 1985; and to be published in the Proceedings, P.H.Eberhard, G.A. Gibson, M.A. Green, R.R. Ross, R.G. Smits, and J.D. Taylor (LBL), R.D. Watt (SLAC) UC38
- LBL-20492 Report (F) Properties of Supersymmetric Particles and Processes, Jan. 1986, 96p. Lectures presented at the 1985 SLAC Summer Institute on Particle Physics—Supersymmetry, Stanford, CA, July 29–August 9, 1985; and to be published in the Proceedings, R.M. Barnett (LBL) UC34D
- LBL-20747 Report (F) The Quest for Supersymmetry, Dec. 1985, 88p. Lectures given at the Summer School on “Architecture of Fundamental Interactions,” Les Houches, France, July–August 1985, I. Hinchliffe (LBL) UC34D
- LBL-21046 Report (F) Gauge-Fields and Integrated Quantum-Classical Theory, Jan. 1986, 11p. Presented at the Conference of New Ideas and Techniques in Quantum Measurement Theory, New York City, NY, January 21–24, 1986, H.P. Stapp (LBL) UC34D

Other Reports

- LBL-19445 Report (F) Physics Division: Annual Report, January 1–December 31, 1984, Oct. 1985, 72p. 34, UC34

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