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RECENT PAPERS SUBMITTED AND
REPORTS ISSUED

September 1987

ACCELERATOR AND FUSION RESEARCH

Journal Submissions

LBL-23609 Preprint (K) Steady State Discharge Test of Coaxial LaB_6 Cathode, July 1987, 25p.
Submitted to *Rev. Sci. Instrum.*, S. Tanaka, K.N. Leung, P. Purgalis, M.D. Williams, (LBL)
UC34A

Conference Reports/Books

LBL-23709 Report (K) H^- Formation Process in a Multicusp Ion Source, July 1987, 10p.
Presented at the IAEA Topical Committee Meeting on Negative Ion Beam Heating,
Abingdon, England, July 15-17, 1987, K.N. Leung, W.B. Kunkel, (LBL) UC34A

LBL-23777 Report (K) A Water-Cooled Mirror System for Synchrotron Radiation, June 1987,
27p. Presented at the 5th National Conference on Synchrotron Radiation Instrumentation,
Madison, WI, June 21-25, 1987, R. DiGennaro, B. Gee, J. Guigli, H. Hogrefe, M. Howells,
(LBL) H. Rarback, (BNL) UC28

LBL-23865 Report (K) Fusion Diagnostics with Neutral Atomic Beams, July 1987, 4p.
Presented at the IAEA Topical Committee Meeting on Negative Ion Beam Heating,
Abingdon, England, July 15-17, 1987, A.S. Schlachter, W.S. Cooper III, (LBL) UC34A

Abstracts

LBL-23772 Absts. (K) Abstracts Submitted for the Twenty-Ninth Annual Meeting, Division of
Plasma Physics, 1-25, Aug. 1987, 28p. To be presented at the Twenty-Ninth Annual
Meeting of the American Physical Society Division of Plasma Physics, San Diego, CA,
November 2-6, 1987, Magnetic Fusion Energy Group, (LBL) UC34A

APPLIED SCIENCE

Journal Submissions

- LBL-22061 Preprint (J) The Effects of Infiltration and Insulation on the Source Strengths and Indoor Air Pollution from Combustion Space Heating Appliances, June 1987, 21p. Submitted to *J. Air Pollut. Control Assoc.*, G.W. Traynor, M.G. Apte, A.R. Carruthers, J.F. Dillworth, R.J. Prill, D.T. Grimsrud, B.H. Turk, (LBL) UC95d
- LBL-23847 (J) Spectral Behaviour of Velocity Fluctuations in Premixed Turbulent Flames, July 1987, 24p. Submitted to *Combust. Flames*, I. Gokalp, (Orleans, France) I.G. Shepherd, (UCB) R.K. Cheng, (LBL) UC34A

Other Reports

- LBL-21577 Report (J) Effects of Low-Emissivity Glazings on Energy Use Patterns in Nonresidential Daylighted Buildings, Dec. 1986, 16p. Presented at the ASHRAE Winter Meeting, Symposium on Fenestration Performance, New York, NY, January 18-21, 1987, and to be published in the Proceedings, G. Sweitzer, D. Arasteh, S. Selkowitz, (LBL) UC95d
- LBL-22109 Report (J) A Thermal Analysis of Homes in Bonneville Power Administration's Residential Standards Demonstration Program, Sept. 1986, 67p. A. Meier, B. Nordman, C. Conner, J. Busch, (LBL) UC95d
- LBL-22156 Report (J) Windows and Lighting Program FY 1986 Annual Report, May 1987, 34p. 95d, UC95d
- LBL-23455 Report (J) Development and Implementation of Survey Techniques for Assessing In-Situ Appliance Efficiencies, May 1987, 97p. M.H. Sherman, R.F. Szydlowski, P.G. Cleary, M.P. Modera, M.D. Levine, (LBL) UC95d
- LBL-23495 Report (J) Technology Base Research Project for Electrochemical Energy Storage: Annual Report for 1986, July 1987, 61p. 94c, UC94c

BIOLOGY AND MEDICINE

Journal Submissions

- LBL-23824 (B) Differential Polarization Microscopy (CD and LD) of Polytene Chromosomes and Nucleoli from the Dipteran *Sarcophaga* Footpad, July 1987, 16p. Submitted to *Biopolymers*, F. Livolant, (Ivry-sur-Seine, France) W. Mickols, (LBL and UCB) M.F. Maestre, (LBL) UC48
- LBL-23858 (B) Pluripotential Stem Cells with Normal or Reduced Self Renewal Survive Lethal Irradiation, Aug. 1987, 16p. Submitted to *Exp. Hematol.*, G. Brecher, S. Neben, M. Yee, E.P. Cronkite, (LBL and BNL) UC48
- LBL-23893 (B) High Resolution Electron Diffraction of Reconstituted PhoE Porin, July 1987, 8p. Submitted to *J. Mol. Biol.*, B.K. Jap, (LBL) UC48

Conference Reports/Books

- LBL-23835 Report (B) NMR and PET Imaging in Beam Localisation, Apr. 1987, 8p. Presented at the Fifth Annual PTCOG Meeting and International Workshop on Biomedical Accelerators, LBL, Berkeley, CA, December 1-2, 1986, P.E. Valk, (LBL) UC48
- LBL-23860 Report (B) Magnetic Field Interactions with Phospholipid Bilayer Membranes, Aug. 1987, 2p. To be presented at the 9th Annual Conference of IEEE Engineering in Medicine and Biology, Boston, MA, November 13-16, 1987, and to be published in the Proceedings, R.P. Liburdy, T.S. Tenforde, (LBL) UC48

Other Reports

- LBL-23809 Report (B) Reaction Analogues in the Radiation-Induced Deamination and Dephosphorylation of Bio-Organic Molecules: Oxygen-Free Systems, Aug. 1987, 10p. 48, W.M. Garrison, (LBL) UC48

CHEMICAL BIODYNAMICS

Journal Submissions

- LBL-23295 (D) Specific Labelling of Putrescine Dihydrochloride by Heterogeneous Hydrogenation with Deuterium or Tritium Gas in Dimethyl Sulfoxide, June 1987, 22p. Submitted to *J. Labelled Compd. Radiopharm.*, M. Saljoughian, H. Morimoto, P.G. Williams, H. Rapoport, (LBL) UC48
- LBL-23885 Preprint (D) Photophysical and Photochemical Aspects of the Binding of Zinc Porphyrin to Sodium Poly(Styrene Sulfonate), Aug., 1987, 29p. Submitted to *J. Am. Chem. Soc.*, K. Goswami, T.E. Casti, J.W. Otvos, M. Calvin, (LBL and UCB) UC61G
- LBL-23899 (D) Light Regulation of the Cell Cycle in *Euglena gracilis bacillaris*, July 1987, 18p. Submitted to *J. Cell Biol.*, M. Yee, J.C. Bartholomew, (LBL) UC48

Other Reports

- LBL-23453 Report (D) Proceedings of the Eleventh DOE Solar Photochemistry Research Conference, Tahoe City, CA, June 7-11, 1987, July 1987, 202p. UC13

EARTH SCIENCES

Journal Submissions

- LBL-21888 Preprint (W) Hydrologic Detection of Abandoned Wells near Proposed Injection Wells for Hazardous Waste Disposal, June 1987, 45p. Submitted to *Water Resour. Res.*, I. Javandel, C.F. Tsang, P.A. Witherspoon, (LBL) D. Morganwalp, (EPA, Washington, DC) UC11
- LBL-22044 (W) Snap-Off of Gas Bubbles in Smoothly Constricted Noncircular Capillaries, June 1986, 13p. Published in *AIChE J.*, May 1987, Vol. 33, No. 5, 753-765, T.C. Ransohoff, P.A. Gauglitz, (UCB) C.J. Radke, (LBL and UCB) UC4

LBL-23935 (W) Epicentral Confidence Regions of Nuclear Test Events at Teleseismic Distances, May 1987, 12p. Submitted to *Bull. Seismol. Soc. Am.*, D.M. Tralli, (CIT) L.R. Johnson, (LBL and UCB) UC11

LBL-23941 (W) Wellbore Breakout, Aug. 1987, 29p. Submitted to *J. Geophys. Res.*, Z. Zheng, (LBL) UC11

Conference Reports/Books

LBL-23544 Report (W) A New Approach to Modeling and Interpreting Electromagnetic Sounding Data, May 1987, 13p. To be presented at the Mexican Geophysical Union Conference, Ensenada, Mexico, November 10-13, 1987, K.H. Lee, (LBL) UC11

LBL-23723 Report (W) A Multi-Feedzone Wellbore Simulator, June 1987, 5p. To be presented at the Geothermal Resources Council 1987 Annual Meeting, Sparks, NV, October 12-14, 1987, G. Bjornsson, (Reykjavik, Iceland) G.S. Bodvarsson, (LBL) UC66b

ENGINEERING

Journal Submissions

LBL-22963 Preprint (E) Stopping Rule for the MLE Algorithm Based on Statistical Hypothesis Testing, Feb. 1987, 23p. Submitted to *IEEE Trans. Med. Imaging*, E. Veklerov, J. Llacer, (LBL) UC32

LBL-23845 Preprint (E) Resonant Raman Scattering as a Source of Increased Background in Synchrotron Induced X-Ray Fluorescence, Aug. 1987, 10p. Submitted to *Anal. Chem.*, J.M. Jaklevic, R.D. Giaque, A.C. Thompson, (LBL) UC34A

LBL-23892 Preprint (E) Measurement of Femtogram Quantities of Trace Elements Using an X-Ray Microprobe, Aug. 1987, 15p. Submitted to *Anal. Chem.*, R.D. Giaque, A.C. Thompson, J.H. Underwood, Yan Wu, (LBL) K.W. Jones, (BNL) M.L. Rivers, (Univ. Chicago) UC37

LBL-23932 (E) Reliability of Redundant Systems with Unreliable Switches, June 1987, 13p. Submitted to *IEEE Trans. Reliab.*, E. Veklerov, (LBL) UC32

Conference Reports/Books

LBL-22417 Report (E) The Maximum Likelihood Estimator Method of Image Reconstruction: Its Fundamental Characteristics and Their Origin, May 1987, 15p. Presented at the X Information Processing in Medical Imaging (IMPI) International Conference, Utrecht, The Netherlands, June 22-26, 1987, and to be published in the Proceedings, J. Llacer, E. Veklerov, (LBL) UC37

LBL-23244 Report (E) Far Infrared Fourier Transform Spectroscopy of Semiconductors, July 1987, 33p. Presented at the 6th FTS Conference 1987, Vienna, Austria, August 24-28, 1987, E.E. Haller, (LBL and UCB) UC25

INFORMATION AND COMPUTING SCIENCES

Journal Submissions

LBL-23731 (P) Prologue to the Standardization of User-System Interfaces for Office Systems, July 1987, 11p. To be submitted for publication, D.F. Stevens, (LBL) UC32

Conference Reports/Books

LBL-23656 Report (P) Networking Requirements and Future Alternatives, June 1987, 15p. Presented at the Workshop on Computer Networks, San Diego, CA, February 17-19, 1987, and to be published in "A Report to the Congress on Computer Networks to Support Research in the United States: A Study of Critical Problems and Future Options," Federal Coordinating Council on Science, Engineering, and Technology (FCCSET), Volume II, 1987, A. Brown, (Cornell Univ.) A.F. Fath, (Boeing Comp. Serv.) J. Fitzgerald, (LLNL) P. Gross, (Mitre Corp.) D. Hall, S. Merola, D. Stevens, (LBL) J. Haverty, (BBN Commun. Corp.) C.M. Kennedy, (U.S. Army Ballistic Res. Lab.) T. Lasinski, (NASA Ames Res. Ctr.) F. McClain, (San Diego Supercomputer Ctr.) P. McGregor, (Contel Business Networks) H. Montgomery, (FNAL) S.G. Munshi, (United Telecom) G. Ricart, (Univ. Maryland) R.T. Roca, (AT&T Bell Lab.) S. Ruttenberg, (Univ. Corp. Atmos. Res.) B. Wilhelmson, (Nat'l Ctr. of Supercomputing Appl.) UC32

LBL-23733 Report (P) Thermodynamic Tables for Nuclear Waste Isolation: Reference Values and Neptunium, July 1987, 35p. Presented at the International Conference on Thermodynamics of Aqueous Systems with Industrial Applications, Warrenton, VA, May 10-14, 1987, S.L. Phillips, F.V. Hale, (LBL) UC70

Other Reports

LBL-23861 Report (P) Managing Distributed Derived Data: A Preliminary Proposal, Aug. 1987, 15p. 32, M.C. Murphy, (LBL and UCSF) UC32

MATERIALS AND CHEMICAL SCIENCES

Journal Submissions

LBL-20353 Rev. Preprint (L) Importance of Stable Effort for Research Productivity, Aug. 1987, 10p. Submitted to *IEEE Trans. Eng. Manage.*, J.J. Gilman, (LBL) UC5

LBL-22829 (H) On the Mechanism of Singlet-Triplet Transitions, Jan. 1987, 15p. Submitted to *Chem. Phys. Lett.*, V.Z. Kresin, W.A. Lester Jr., (LBL) UC4

LBL-23126 Preprint (L) Effect of Prolonged High-Temperature Exposure on the Fatigue and Fracture Behavior of Aluminum-Lithium Alloy 2090, June 1987, 22p. Submitted to *Mater. Sci. Eng.*, K.T. Venkateswara Rao, R.O. Ritchie, (LBL and UCB) UC25

LBL-23164 (I) Fatigue, Crack Propagation in Transformation-Toughened Zirconia Ceramic, Mar. 1987, 18p. Submitted to *J. Am. Ceram. Soc.*, R.H. Dauskardt, W. Yu, R.O. Ritchie, (LBL and UCB) UC25

- LBL-23529 Preprint (I) Sintering and Microstructure of Mullite Aerogels, July 1987, 17p. Submitted to *J. Am. Ceram. Soc.*, M.N. Rahaman, L.C. DeJonghe, S. Shinde, P.H. Tewari, (LBL and UCB) UC25
- LBL-23559 (H) An Extended Study of the Lowest Π Bending Vibration-Rotation Spectrum of Ar-HCl by Intracavity Far Infrared Laser/Microwave Double Resonance Spectroscopy, Sept. 1987, 27p. Submitted to *J. Chem. Phys.*, R.L. Robinson, D. Ray, D.-H. Gwo, R.J. Saykally, (LBL and UCB) UC4
- LBL-23560 (H) The High Resolution Far Infrared Spectrum of a van der Waals Stretching Vibration: The ν_3 Band of Ar-HCl, Sept. 1987, 23p. Submitted to *J. Chem. Phys.*, R.L. Robinson, D.-H. Gwo, R.J. Saykally, (LBL and UCB) UC4
- LBL-23602 (H) Mechanisms of High T_c Superconductivity in Low Dimensional Materials, June 1987, 14p. Submitted to *J. Mater. Res.*, V.Z. Kresin, (LBL) UC25
- LBL-23680 Preprint (L) On the Behavior of Small Fatigue Cracks in Commercial Aluminum-Lithium Alloys, June 1987, 27p. Submitted to *Eng. Fract. Mech.*, K.T. Venkateswara Rao, W. Yu, R.O. Ritchie, (LBL and UCB) UC25
- LBL-23769 Preprint (H) Infrared-Ultraviolet Double Resonance Studies of Benzene Molecules in a Supersonic Beam, July 1987, 63p. Submitted to *J. Chem. Phys.*, R.H. Page, Y.R. Shen, Y.T. Lee, (LBL and UCB) UC4
- LBL-23820 Preprint (O) Differential Diffusion Coefficients of Sodium Polysulfide Melts, Aug. 1987, 34p. Submitted to *J. Electrochem. Soc.*, S.D. Thompson, J. Newman, (LBL and UCB) UC94c
- LBL-23825 Preprint (L) Rotational Diffusivity of Rod-like Molecules in Amorphous Polymeric Matrices, July 1987, 19p. Submitted to *Polym. Sci., Polym. Lett.*, D.A. Hill, D.S. Soane, (LBL and UCB) UC38
- LBL-23827 Preprint (L) Influence of Degree of Polymerization on Phase Separation and Rheology of a Thermotropic Liquid Crystal Polymer, July 1987, 10p. Submitted to *Mol. Cryst. Liq. Cryst.*, K.R. Amundson, D.S. Kalika, M.-R. Shen, X.-M. Yu, M.M. Denn, J.A. Reimer, (LBL and UCB) UC38
- LBL-23831 Preprint (L) Calculation of Gonionmetric Functions for Dilute Solutions of Slender Rodlike Molecules in High Peclet Number Shear Flow, July 1987, 32p. Submitted to *J. Rheol.*, D.A. Hill, D.S. Soane, (LBL and UCB) UC38
- LBL-23839 (L) Comment on "R & D and Productivity: Measurement Issues and Econometric Results" by Zvi Griliches, July 1987, 2p. Submitted to *Science*, J.J. Gilman, (LBL) UC5
- LBL-23868 (H) Tunable Far Infrared Laser Spectroscopy in a Planar Supersonic Jet: The Σ Bending Vibration of Ar-H³⁵Cl, Sept. 1987, 9p. Submitted to *J. Chem. Phys.*, K.L. Busarow, G.A. Blake, K.B. Laughlin, R.C. Cohen, Y.T. Lee, R.J. Saykally, (LBL and UCB) UC4

- LBL-23877 (I) Measurement of the Effect of Moderate Dissipation on Macroscopic Quantum Tunneling, July 1987, 16p. Submitted to *Phys. Rev. Lett.*, A.N. Cleland, J.M. Martinis, J. Clarke, (LBL and UCB) UC34A
- LBL-23878 Preprint (I) Stability Analysis of Special-Point Ordering in the Basal Plane of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$, July 1987, 17p. Submitted to *Phys. Rev. B*, D. De Fontaine, L.T. Wille, (LBL) S.C. Moss, (LBL and Univ. Houston) UC38
- LBL-23884 Preprint (I) Tight-Binding Calculation of Ti-Rh Type Phase Diagram, Aug. 1987, 13p. Submitted to *Phys. Rev. Lett.*, M. Sluiter, P. Turchi, F. Zezhong, D. de Fontaine, (LBL and UCB) UC25
- LBL-23889 Preprint (L) Further Results on the Flow of a Maxwell Fluid through an Abrupt Contraction, Aug. 1987, 11p. Submitted to *J. Non-Newtonian Fluid Mech.*, J.R. Rosenberg, R. Keunings, (LBL) UC4
- LBL-23891 Preprint (L) The Effect of Crystallographic Texture on the Mechanical Anisotropy of Zircaloy-4 Sheet, Aug. 1987, 25p. Submitted to *Metall. Trans. A*, S.K. Hwang, J. Lee, (Inha Univ., Korea) J.W. Morris, Jr., (LBL and UCB) UC25
- LBL-23897 (H) Dimethyldisilyne: A Fleeting Observed Species Incorporating a Triple Bond?, Aug. 1987, 21p. Submitted to *Chem. Phys. Lett.*, B.S. Thies, R.S. Grev, H.F. Schaefer III, (LBL and UCB) UC4
- LBL-23900 Preprint (I) Ground State Analysis of Ordered Superstructures in the Basal Plane of $\text{YBa}_2\text{Cu}_3\text{O}_z$, Aug. 1987, 14p. To be submitted for publication, L.T. Wille, D. de Fontaine, (LBL and UCB) UC25
- LBL-23901 (O) Erosion of Hard Material Coating Systems, Apr. 1987, 35p. Submitted to *Wear*, A.V. Levy, B. Wang, (LBL) UC25
- LBL-23902 (O) Unlubricated Sliding Wear of Ceramic Materials, Apr. 1987, 29p. Submitted to *Wear*, A. Levy, N. Jee, (LBL) UC25
- LBL-23903 (O) The Erosion of Carbide-Metal Composites, Apr. 1987, 30p. Submitted to *Wear*, A.J. Ninham, A.V. Levy, (LBL) UC25
- LBL-23904 (O) The Effect of Mechanical Properties on Erosion, Apr. 1987, 39p. Submitted to *Wear*, A. Ninham, (LBL) UC25
- LBL-23918 Preprint (H) A Correlation for Thermodynamic Properties of Heavy Fossil-Fuel Fractions, Aug. 1987, 42p. Submitted to *Ind. Eng. Chem. Res.*, B.J. Schwarz, J.M. Prausnitz, (LBL and UCB) UC13

Conference Reports/Books

- LBL-22903 Report (L) Evaluation of the Mellen "EDG" Furnace for Growth of Large Diameter GaAs Single Crystals in a Horizontal Configuration, June 1987, 18p. Presented at the ACCG-7/II-VI-87 Conference, American Association for Crystal Growth, Monterey, CA, July 12-17, 1987, E.D. Bourret, J.B. Guitron, E.E. Haller, (LBL) UC25

LBL-22904 Report (L) Imaging and Analysis of Carbon Distribution in GaAs Using Radioactive Tracer ^{14}C , June 1987, 15p. Presented at the ACCG-7/II-VI-87 Conference, American Association for Crystal Growth, Monterey, CA, July 12-17, 1987, E.D. Bourret, J.B. Guitron, E.E. Haller, (LBL) UC25

LBL-23742 Report (I) Raman Scattering Spectrum along a Bevel Etched GaAs on Si, TEM Study and GaAs P-I-N Photodetector on Si, May 1987, 6p. Presented at the Materials Research Society Symposium, Anaheim, CA, April 21-29, 1987, Y.H. Lo, M.-N. Charasse, H. Lee, D. Vakhshoori, Y. Huang, P. Yu, (UCB) Z. Liliental-Weber, M. Werner, (LBL) S. Wang, (LBL and UCB) UC25

LBL-23757 Report (I) Cu_3Pd Observed by High-Voltage Electron Microscopy, July 1987, 14p. Presented at the Workshop on Competing Interactions and Microstructures: Statics and Dynamics, Los Alamos, NM, May 5-8, 1987, and to be published in the Proceedings, J. Kulik, S. Takeda, D. de Fontaine, (LBL and UCB) UC25

LBL-23811 Report (I) The Accommodation of Precipitate Plates Modelled as a Tensile Test, July 1987, 12p. Presented at the Phase Transformation '87 Conference, Cambridge, England, July 6-10, 1987, U. Dahmen, K.H. Westmacott, (LBL) UC25

LBL-23842 Report (H) Vibrational Spectroscopy of Cluster Ions: Two Novel Methods, July 1987, 15p. Presented at the CAMS/NRC 1987 Workshop on Molecular and Cluster Beam Science, Washington, DC, April 24, 1987, and to be published in the Proceedings, L.I. Yeh, M. Okumura, J.D. Myers, Y.T. Lee, (LBL and UCB) UC37

Other Reports

LBL-22993 Report (I) Theory and Applications of Maps on $\text{SO}(3)$ in Nuclear Magnetic Resonance, Feb. 1987, 303p. Ph.D., H.M. Cho, (LBL and UCB) UC4

LBL-23019 Report (I) High Temperature Thermodynamic Properties of Elements and Their Oxides, June 1987, 80p. L. Brewer, (LBL and UCB) UC4

LBL-23020 Report (I) Thermodynamic Properties and Phase Diagrams of Binary Molybdenum Systems, Mar. 1987, 6p. L. Brewer, (LBL and UCB) UC4

LBL-23612 Report (I) Chemical Bonding Theory Applied to Metals, May 1987, 26p. L. Brewer, (LBL and UCB) UC25

LBL-23852 Report (L) An Expert System for Materials Design, May 1987, 48p. M.S., D.E. Marinaro, (LBL and UCB) UC25

Abstracts

LBL-23829 Abs. (L) Critical Examination of Stress Development during Sintering, July 1987, 1p. To be presented at the First International Conference of Ceramic Powder Processing Science, American Ceramic Society, Orlando, FL, November 1-4, 1987, R.M. Cannon, (LBL) UC25

LBL-23836 Abst., Ext. (L) Stress Anisotropy and Delamination of Evaporated Chromium Films, Aug. 1987, 3p. Presented at the 45th Annual Meeting of the Electron Microscopy Society of America, Baltimore, MD, August 5, 1987, R.M. Fisher, (LBL) UC25,37

LBL-23837 Abst., Ext. (L) Crack Tip Shielding: A Metallurgist's Perspective, July 1987, 1p. Lecture presented at Case Western Reserve University, Cleveland, OH, September 15, 1987, R.O. Ritchie, (LBL and UCB) UC25

LBL-23883 Abs. (L) Interface and Adhesion Science Research at the Center for Advanced Materials, July 1987, 1p. Presented at an interdepartmental colloquium, Rockwell International Science Center, Pittsburgh, PA, June 26, 1987, R.M. Fisher, (LBL) UC25

LBL-23911 Abs. (L) Critical and Sub-Critical Crack Growth at or near Ceramic-Metal Interfaces, Apr. 1987, 1p. Presented at the 89th Annual Meeting, American Ceramic Society, Westerville, OH, April 26-30, 1987, V. Jayaram, T.S. Oh, R.O. Ritchie, R.M. Cannon, (LBL) UC25

NUCLEAR SCIENCE

Journal Submissions

LBL-18709 Preprint (S) Observation of a Non-spherical Pion Source in Relativistic Heavy Ion Collisions, Aug. 1987, 11p. Submitted to *Phys. Rev. Lett.*, A.D. Chacon, J.A. Bistirlich, R.R. Bossingham, H.R. Bowman, C.W. Clawson, K.M. Crowe, T.J. Humanic, J.M. Kurck, C.A. Meyer, J.O. Rasmussen, (LBL) O. Hashimoto, (Univ. Tokyo, Japan) W. McHarris, (Michigan St. Univ.) J.P. Sullivan, (Texas A and M Univ.) W.A. Zajc, (Univ. Pennsylvania) UC34C

LBL-23758 Preprint (S) Fragment Flow in Nuclear Collisions, July 1987, 13p. Submitted to *Phys. Rev. Lett.*, K.G.R. Doss, J.W. Harris, A.M. Poskanzer, H.-G. Ritter, L. Teitelbaum, M. Tincknell, S. Weiss, H. Wieman, (LBL) H.-A. Gustafsson, H. Gutbrod, K.-H. Kampert, B. Kolb, H.R. Schmidt, (GSI, FRG) B.V. Jacak, (LANL) UC34C

LBL-23818 Preprint (S) Vacuum Renormalization of the Chiral-Sigma Model and the Structure of Neutron Stars, July 1987, 37p. Submitted to *Nucl. Phys.*, N.K. Glendenning, (LBL) UC34C

LBL-23832 Preprint (S) Neutron Stars in the Renormalized Chiral-Sigma Model, July 1987, 17p. Submitted to *Astrophys. J.*, N.K. Glendenning, (LBL) UC34B

LBL-23834 Preprint (S) Aqueous Chemistry of Element 105, Aug. 1987, 31p. Submitted to *Radiochim. Acta*, K.E. Gregorich, R.A. Henderson, D.M. Lee, M.J. Nurmia, R.M. Chasteler, H.L. Hall, D.A. Bennett, C.M. Gannett, R.B. Chadwick, J.D. Leyba, D.C. Hoffman, (LBL) G. Herrmann, (Univ. Mainz, FRG and UCB) UC34C

LBL-23841 Preprint (S) Reply to "Comment on 'Neutron Star Masses as a Constraint on Nuclear Compression Modulus,'" Aug. 1987, 5p. Submitted to *Phys. Rev. C*, N.K. Glendenning, (LBL) UC34C

LBL-23864 Preprint (S) Pion Spectra in Equilibrium Models of Nuclear Collisions, Aug. 1987, 24p. Submitted to *Phys. Rev. C*, D. Hahn, N.K. Glendenning, (LBL) UC34C

LBL-23869 Preprint (S) Search for Entrance-Channel Effects in the Production of Superdeformed Nuclei, Aug. 1987, 10p. Submitted to *Phys. Rev. C*, A.O. Macchiavelli, M.A. Deleplanque, R.M. Diamond, R.J. McDonald, F.S. Stephens, (LBL) J.E. Draper, (UCD) UC34C

LBL-23871 Preprint (S) Dynamics and Clusterization in Nuclear Collisions, Aug. 1987, 28p.
Submitted to *Nucl. Phys. A*, K. Sneppen, L. Vinet, (LBL) UC34C

Conference Reports/Books

LBL-23551 Report (S) High-Spin Research with HERA, June 1987, 51p. Presented at the Winter School on Physics, Zakopane, Poland, May 1-8, 1987, R.M. Diamond, (LBL) UC34C

LBL-23816 Report (S) Muon Catalyzed DT Fusion at Low Temperature, June 1987, 11p. Invited talk presented at the II International Symposium on Muon and Pion Interactions with Matter, Dubna, USSR, June 1987, K.M. Crowe, (LBL and UCB) UC34C

LBL-23833 Report (S) The Role of Basic Research in Society, Aug. 1987, 9p. Presented at the media conference on the Superconducting Super Collider, Lawrence Hall of Science, Berkeley, CA, July 30, 1987, G.T. Seaborg, (LBL) UC34

Abstracts

LBL-23866 Abs. (S) Emittance Measurements on the LBL ECR Source, Aug. 1987, 1p. To be presented at the International Conference on ECR Ion Sources and Their Applications, E. Lansing, MI, November 16-18, 1987, D.J. Clark, (LBL) UC34C

PHYSICS

Journal Submissions

LBL-23539 (F) Observation of Ω^- Production in e^+e^- Annihilation at 29 GeV, June 1987, 8p., SLAC-PUB-4338 Submitted to *Phys. Rev. Lett.*, S.R. Klein, T. Himel, G. Abrams, D. Amidei, A.R. Baden, T. Barklow, A.M. Boyarski, J. Boyer, P.R. Burchat, D.L. Burke, F. Butler, J.M. Dorfan, G.J. Feldman, G. Gidal, L. Gladney, M.S. Gold, G. Goldhaber, L. Golding, J. Haggerty, G. Hanson, K. Hayes, D. Herrup, R.J. Hollebeek, W.R. Innes, J.A. Jaros, I. Juricic, J.A. Kadyk, D. Karlen, A.J. Lankford, R.R. Larsen, B.W. LeClaire, M. Levi, N.S. Lockyer, V. Lüth, C. Matteuzzi, M.E. Nelson, R.A. Ong, M.L. Perl, A. Petersen, B. Richter, K. Riles, P.C. Rowson, T. Schaad, H. Schellman, W.B. Schmidke, P.D. Sheldon, G.H. Trilling, C. de la Vaissiere, D.R. Wood, J.M. Yelton, (SLAC, LBL, and Harvard Univ.) UC34D

LBL-23754 (F) Upper Limit on the Branching Ratio for the Decay $\tau^- \rightarrow \pi^- \eta \nu_\tau$, July 1987, 6p., SLAC-PUB-4365. Submitted to *Phys. Lett. B*, K.K. Gan, G.S. Abrams, D. Amidei, A.R. Baden, T. Barklow, A.M. Boyarski, J. Boyer, P. Burchat, D.L. Burke, F. Butler, J.M. Dorfan, G.J. Feldman, G. Gidal, L. Gladney, M.S. Gold, G. Goldhaber, L. Golding, J. Haggerty, G. Hanson, K. Hayes, D. Herrup, R.J. Hollebeek, W.R. Innes, J.A. Jaros, I. Juricic, J.A. Kadyk, D. Karlen, S.R. Klein, A.J. Lankford, R.R. Larsen, B.W. LeClaire, M.E. Levi, N.S. Lockyer, V. Lüth, C. Matteuzzi, M.E. Nelson, R.A. Ong, M.L. Perl, B. Richter, K. Riles, P.C. Rowson, T. Schaad, H. Schellman, W.B. Schmidke, P.D. Sheldon, G.H. Trilling, C. de la Vaissiere, D.R. Wood, J.M. Yelton, (SLAC, LBL, and Harvard) UC34D

LBL-23775 (F) $Osp(27,1/2)$ Invariant Off-Shell Propagators for Open and Closed Bosonic Strings, July 1987, 7p. Submitted to *Phys. Lett.*, A.J. Niemi, (LBL and UCB) UC34D

LBL-23779 Preprint (F) Testing the WIMP Explanation of the Solar Neutrino Puzzle with Conventional Silicon Detectors, July 1987, 13p. Submitted to *Phys. Lett. B*, B. Sadoulet, (LBL and UCB) J. Rich, M. Spiro, (Saclay, France) D.O. Caldwell, (UCSB) UC34B

LBL-23796 Preprint (F) Scaling Laws in the Vortex Lattice Model of Turbulence, July 1987, 21p. To be submitted for publication, A.J. Chorin, (LBL and UCB) UC32

LBL-23840 Preprint (F) A Measurement of the Cosmic Microwave Background Radiation Temperature at 21 cm, July 1987, 32p. Submitted to *Astrophys. J.*, S.M. Levin, C. Witebsky, M. Bensadoun, M. Bersanelli, G. De Amici, A. Kogut, G.F. Smoot, (LBL and UCB) UC34B

LBL-23846 (F) Dynamical Composite Models of Electroweak Bosons, Aug. 1987, 14p. To be submitted for publication, M. Suzuki, (LBL and UCB) UC34D

LBL-23856 Preprint (F) Linear Stability of Planar Solidification Fronts, July 1987, 34p. To be submitted for publication, J. Strain, (LBL and UCB) UC32

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LBL-23549 Report (F) Charmonium Spectroscopy: 1987, July 1987, 13p. Presented at the Mark III Pow-Wow, Hillsborough, CA, May 9, 1987, R.N. Cahn, (LBL) UC34D

LBL-23575 Report (F) Production of Heavy Squarkonium at the SSC, June 1987, 9p. Presented at the 1987 Madison SSC Workshop "From Colliders to Supercolliders," Madison, WI, May 11-22, 1987, and to be published in the Proceedings, M.J. Herrero, (LBL) A. Mendéz, (Univ. Autònoma-Barcelona, Spain) T.G. Rizzo, (Univ. Texas-Austin) UC34D

LBL-23645 Report (F) Excited Quark Production at Hadron Colliders, June 1987, 7p. Presented at the 1987 Madison SSC Workshop "From Colliders to Supercolliders," Madison, WI, May 11-22, 1987, and to be published in the Proceedings, U. Baur, (FNAL) I. Hinchliffe, (LBL) D. Zeppenfeld, (Univ. Wisconsin, Madison) UC34D

Other Reports

LBL-23390 Report (F) Physics Division Annual Report, May 1987, 63p. 34, UC34

LBL-23548 Report (F) $\rho^0\omega$ Production in Photon Photon Interactions, Aug. 1987, 106p. Ph.D., K.A. Derby, (LBL and UCB) UC34D

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