

CURRICULUM VITAE

KIUMARS PARVIN

Professor

Department of Physics and Astronomy

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EDUCATION

Postdoc, Physics (Experimental Solid State Physics), University of California, Irvine, 1978-81

PhD, Physics (Experimental Solid State Physics), University of California, Riverside, 1978

MS, Physics, University of California, Riverside, 1974

TEACHING, RESEARCH, AND ADMINISTRATION

2005 - 2011, Chair, Department of Physics and Astronomy, SJSU

2005 - 2010, Associate Director, Materials Characterization and Metrology Center, SJSU

1990 - Present, Professor of Physics, SJSU

1985 - 1990, Associate Professor of Physics, SJSU

1983 - 1987, Visiting Scientist, Applied Physics, Center for Mat. Research, Stanford Univ.

1981 - 1985, Assistant Professor of Physics, SJSU

1993 - 1994, Visiting Scientist, Materials Science, Chemistry Div., Lawrence Livermore National Lab.

1986 - 1987, Visiting Scientist, Control Data Corporation

1983 - 1984, Visiting Scientist, Xerox Palo Alto Research Center

1978 - 1981, Postdoctoral Physicist and Lecturer, Physics Dept., Univ. of California, Irvine

COURSES AND OTHER INSTRUCTIONAL ACTIVITIES:

Has taught a number of courses at all levels

Lower Division: Mechanics, Electricity and Magnetism, Thermodynamics

Upper Division: Electromagnetism, Thermodynamics, Statistical Physics, Solid State Physics, Electronics for Scientists

Graduate: Methods of Mathematical Physics, Electrodynamics, Solid State Physics

Has taught various laboratory courses at undergraduate level

Lower Division: Mechanics, Electricity and Magnetism, Thermodynamics, Optics

Upper Division: Electronics for Scientists, Solid State Physics

Has developed an upper-division laboratory in Solid State Physics supported by an NSF grant

Has improved a lower-division laboratory in Electromagnetism supported by an NSF grant

RESEARCH AND INSTRUCTION GRANTS

Awarded 2 AWU-DOE Summer Faculty Fellowship for collaborative research at Center for Materials Research, Stanford University, 1982 and 1983

Awarded one AWU-DOE Summer Faculty Fellowship for collaborative research at Lawrence Livermore National Laboratory, 1993

Awarded one NSF-ILI grant for development of an undergraduate solid state physics laboratory, 1989

Awarded one NSF-ILI grant for improvement of a general physics lab (electricity & magnetism), 1993

Awarded one instrumentation grant from Intel Corporation, 1993

Awarded 3 NSF-RUI grants, 1994 - 2010

Faculty participant in 3 SJSU Physics Dept NSF-REU grant, 1995-2005.

Faculty participant in 2 Research Corporation Partners in Science grants 1995-1999.

Faculty participant in an NIH-MARC grant, 1989-1991.

CoPI, NSF Instrumentation for acquisition of a scanning electron microscope, 2005

CoPI, DARPA grant for faculty research activities on nanotechnology, 2002

AWARDS

Meritorious Performance and Professional Promise Award, San Jose State University, 1987 and 1989.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Physical Society

PRESENTATIONS AND ABSTRACTS AT PROFESSIONAL MEETINGS

1. Light Emission via Inelastic Electron Tunneling from Slightly Rough Surface, K. Parvin and W.H. Parker, Bulletin of the American Physical Society 25, No. 3, 169 (1980).
2. Co/Cr Multilayers, R.G. Walmsley, K. Parvin, R.M. White, and T.H. Geballe, Magnetism and Magnetic Materials Conference, Nov. 1984.
3. An MS level Course in Physics of Magnetic Recording, K. Parvin, Northern California Chapter of American Association of Physics Teachers, San Luis Obispo, CA, April 1984.
4. Gd/Co Multilayer, R.G. Walmsley, D.J. Webb, K. Parvin, P. Dickinson, R.M. White, and T.H. Geballe, Bulletin of the American Physical Society 30, No. 3, 350 (1985).
5. Structural, Magnetic, and Transport Properties of Fe/Cr Multilayer Films, P. Dickinson, D.J. Webb, K. Parvin, T.H. Geballe, and R.M. White, Bulletin of the American Physical Society 30, No. 3, 350 (1985).
6. Dissociation of O₂-- Defects into Paramagnetic O- in Wide Band Gap Insulators--A Magnetic Susceptibility Study of Magnesium Oxide, F. Batllo, R.C. LeRoy, K. Parvin, and F. Freund, Magnetism and Magnetic Materials Conference Conference, Boston, MA, 1989
7. Highly Mobile Oxygen Holes in Fused Silica, F. Freund, K. Parvin, and M.M. Freund, Bulletin of the American Physical Society 35, No. 3, 693 (1990).
8. Evidence for Dissociation of Peroxy into Positive Holes O- in Alkaline Earth Oxides, K. Parvin, F. Batllo, R.C. LeRoy, and F. Freund, Bulletin of the American Physical Society 35, No. 6, 1348 (1990).
9. An Undergraduate Laboratory in Solid State Physics, K. Parvin and B. Holmes, Northern California Chapter of American Association of Physics Teachers, May 4, 1991, SLAC, Menlo Park, CA.
10. A Solid State Physics Laboratory, K. Parvin and B. Holmes, American Association of Physics Teachers National Meeting, August 1991, Minneapolis, MN
11. Opening and Filling Carbon Nanotubes, S. Awadallah, R. LaDuca, S.P. Weathersby, K. Parvin, R.S. Ruoff, and S. Subramoney. 1995 March Meeting of the American Physical Society , 20-24 March 1995, San Jose, CA
12. Synthesis, Structure and Magnetic Studies of Carbon-Coated Nanoparticles, R. LaDuca, K. Parvin*, S. Awadallah, S.P. Weathersby, C. Boekema, D.C. Lorents, R.S. Ruoff, and S. Subramoney. 1995 March Meeting of the American Physical Society, 20-24 March 1995, San Jose, CA
13. Magnetic Properties and Structural Transformation in Copper-304 Stainless Steel Multilayer Foils, K. Parvin, S.P. Weathersby, C. Boekema, T.W. Barbee, Jr., T.P. Weihs, and M.A. Wall. 1995 March Meeting of the American Physical Society, 20-24 March 1995, San Jose, CA
14. Magnetic Properties and Structural Transformation in Cu/304 Stainless Steel Multilayer Materials, K. Parvin, and S.P. Weathersby, T.P. Weihs, T.W. Barbee, Jr. and M.A. Wall. Spring 1995 Materials Research Society Meeting, 17-24 April, 1995, San Francisco, CA
15. Studies of Carbon Nanotubes and Carbon-Coated Nanoparticles (Invited), R.S. Ruoff, D.S. Tse, D.C. Lorents, S. Awadallah, R. LaDuca, and K. Parvin, Spring 1995 Materials Research Society Meeting, 17-24 April, 1995, San Francisco, CA
16. Magnetic Studies of Carbon-coated Nickel Particles (Invited), K. Parvin, S. Awadallah, S.P. Weathersby, R. LaDuca, R.S. Ruoff, P. Van Kavelaar and S. Subramoney. 1995 Electrochemical Society Meeting, May 21-26, Reno, Nevada

17. Solution-based filling of Carbon Nanotubes (Invited), R.S. Ruoff, S. Awadallah, R. LaDuca, K. Parvin, S. Weathersby, P. Van Kavelaar, S. Subramoney. 1995 Electrochemical Society Meeting, May 21-26, Reno, Nevada
18. Nanotubes: Bending and Filling (Invited), R.S. Ruoff, D.C. Lorents, R. LaDuca, S. Awadallah, S. Weathersby, K. Parvin, S. Subramoney, 22nd Biennial Conference on Carbon, July 1995, San Diego, CA.
19. Synthesis, Structure and Magnetic Properties of Carbon-Encapsulated Nanoparticles, K. Parvin, S. Awadallah, S.P. Weathersby, R. LaDuca, R.S. Ruoff, S. Subramoney, 7th Annual Review of Engineering and Science Research, San Jose State University, March 1996.
20. Semi-controlled Loading of Carbon Nanotubes: Bending, Buckling, and Fracture, R.S. Ruoff, R. LaDuca K. Parvin, S. Subramoney, Spring 1996 Materials Research Society Meeting, San Francisco, April 1996.
21. The Effect of Nanotube Alignment on the magnetic Properties of Nickel Nanoparticles Encapsulated in Carbon Nanotubes (Invited), K. Parvin, S. Awadallah, S.P. Weathersby, R. LaDuca, R.S. Ruoff, P. Van Kavelaar and S. Subramoney. 1996 Electrochemical Society Meeting, May 1996, Los Angeles, CA
22. Stress-Loaded Carbon Nanotubes (Invited), R.S. Ruoff, S. Awadallah, R. LaDuca, K. Parvin, S. Weathersby, S. Subramoney. 1996 Electrochemical Society Meeting, May 1996, Los Angeles, CA
23. A General Physics lab in Electromagnetism for Science and Engineering Students, K. Parvin, Northern California Chapter of American Association of Physics Teachers, University of San Francisco, San Francisco, April 1996.
24. A General Physics lab in Electromagnetism for Science and Engineering Students, K. Parvin, American Association of Physics Teachers National Meeting, Univ. of Maryland, College Park, August 1996.
25. Magnetic Properties of Carbon Coated Nickel Particles, T. Sezen, J. Block, R. LaDuca, K. Parvin, J. Host and V.P. Dravid, Science Partnership in Action National Conference, Research Corporation, Tucson, Arizona, January 1997.
26. The Effect of Temperature Cycling on Magnetic Properties of Carbon Coated Ni and Co Nanoparticles, K. Parvin, J.A. Block, J. Alpers, J. Host, V.P. Dravid, American Physical Society Meeting, Kansas City, MO, March, 1997.
27. The Effect of Annealing on Magnetic Properties of Graphite Encapsulated Ni and Co Nanoparticles (Invited), K. Parvin, J.A. Block, J. Alpers, J. Host, V.P. Dravid, Electrochemical Society Meeting, Montreal, Canada, May 1997.
28. Graphite-Coated Ni and Co Nanocrystals, K. Parvin, J.A. Block, J.L. Alpers, J.J. Host, V.P. Dravid, Joint Intermag and Magnetism and Magnetic Materials Conference, San Francisco, CA, January 1998.
29. Resistivity Studies of Copper-304 Stainless Steel Multilayer Films, K. Porush and K. Parvin, Partners in Science Conference, Research Conference, Tucson, AZ, January 1999.
30. Mössbauer Spectroscopy and Magnetization Measurements of Copper-304 Stainless Steel Multilayer Films, M. Varasteh, K. Parvin, C. Boekema, A.M. Krupski, W. S. Giles, American Physical Society Meeting, Atlanta, GA.
31. Mossbauer and X-ray Studies of Calcopryrite (CuFeS_2), A.M. Krupski, M. Varasteh, K. Parvin, and C. Boekema, American Physical Society Meeting, March 1999, Atlanta, GA.
32. A Novel Approach for the Synthesis of Graphite Encapsulated Metallic Nanocrystals, K.L. Klug, D.L. Johnson, V.P. Dravid, and K. Parvin, Materials Research Society Conference, San Francisco, CA, April 1999
33. Control of Magnetic Properties And Structure in Copper-304 Stainless Steel Multilayer Films, K. Parvin, M. Varasteh, C. Boekema, A.M. Krupski, and W.S. Giles, International Magnetism Conference, Kyongju, Korea, May 1999.
34. ^{57}Fe Mössbauer Spectroscopy, Magnetization, and Resistivity Measurement of Copper-304 Stainless Steel Multilayer Films, M. Varasteh, K. Parvin, C. Boekema, And K. Porush, Magnetism and Magnetic Materials Conference, San Jose, CA, November 1999.
35. High Temperature Resistivity Studies of Copper-304 Stainless Steel Multilayer Films, K. Porush and

- K. Parvin, Research Corporation Partners in Science Conference, Tucson, AZ, January 2000.
36. Synthesis, Structure, and Magnetic Properties of Nanosized Co-S Powders Produced by Hydrothermal Reduction, X. C. Sun, K. Parvin, R. Bedros and D. E. Nikles, Nano 2002 Conference, Orlando, Florida, June 2002,
37. Magnetic Properties of A Mixture of Two Nanosized Co-S Powders Produced By Hydrothermal Reduction, X.C. Sun, K. Parvin, J. Ly and D. E. Nikles, Intermag Coference, Boston, MA, April 2003.
38. Cu and Fe Valence States In CuFeS_2 , C. Boekema, A.M Krupski, M. Varasteh, K. Parvin, F van Til, F. van der Woude and G.A. Sawatzky, International Conference on Magnetism, Rome. Italy, July 2003.
39. Synthesis and Magnetic Properties of Monodisperse Fe_3O_4 Nanaoparticles, K. Parvin, Xiangcheng Sun ,D. E. Nikles, J. Ma, J. Ly, K. Sun and L. M. Wang, Magnetism and Magnetic Materials Conference, Anaheim, CA Nov. 2003.

PUBLICATIONS

1. Nuclear Spin-Lattice Relaxation and Pair Breaking in Superconducting $(\text{LaGd})\text{Al}_2$, D.E. MacLaughlin, M. Daugherty and K. Parvin, Solid State Communications 12, 5 (1973).
2. Anomalous Nuclear Spin-Lattice Relaxation in Superconducting AlMn , M. Daugherty, K. Parvin, and D.E. MacLaughlin, Physical Review Letters 31, 1485 (1973).
3. Nuclear Spin Relaxation and Transition Metal Impurities in Superconducting Aluminum, K. Parvin and D.E. MacLaughlin, Journal de Physique (Paris) 39, C6-876 (1978).
4. Nuclear Spin Relaxation and Quasiparticle Excitations in Superconducting Aluminum-3d Alloys, K. Parvin and D.E. MacLaughlin, Journal of Low Temperature Physics 39, No. 1/2 (1980).
5. Optical Spectra and Angular Dependence of Visible Light Emitted by Metal-Insulator-Metal Tunnel Junctions, K. Parvin and W.H. Parker, Solid State Communications 37, 629 (1981).
6. Sequential Deposition and Metastable States in Rare Earth/Co Films, D. Webb, R. Walmsley, K. Parvin, P. Dickinson, R.M. White, and T.H. Geballe, Physical Review B7, 4667 (1985).
7. Neutron Scattering Study of the Magnetic Behavior of CeAl , J.M. Lawrence, K. Parvin and S.M. Shapiro, Journal of Physics C 19, 2021 (1986).
8. Dissociation of O_2 -- Defects into Paramagnetic O- in Wide Band Gap Insulators--A Magnetic Susceptibility Study of Magnesium Oxide, F. Batllo, R.C. LeRoy, K. Parvin, and F. Freund, Journal of Applied Physics 67, No. 9, 5844 (1990).
9. Positive Holes in Magnesium Oxide - Correlation between Magnetic, Electric and Dielectric Anomalies, F. Batllo, R.C. LeRoy, K. Parvin, F. Freund, and M.M. Freund, Journal of Applied Physics 69, No. 8, 6031 (1991).
10. Magnetic Separation of Gd Encapsulated Carbon Nanoparticles, S. Subramoney, R.S. Ruoff, D.C. Lorents, B. Chan, R. Malhotra, M.J. Dyer, and K. Parvin, Carbon, 32, No. 3, 507 (1994).
11. Magnetic Properties and Structural Transformation in Cu/304 Stainless Steel Multilayer Materials, K. Parvin, and S.P. Weathersby, T.P. Weihs, T.W. Barbee, Jr. and M.A. Wall, Structure and Properties of Multilayered Thin Films, Mat. Res. Soc. Symp. Proc, eds. T.D. Nguyen et al, 382, 191 (1995).
12. Magnetic Studies of Carbon-Coated Nickel Particles, K. Parvin, S.P. Weathersby, S. Awadallah, R. LaDuca, R.S. Ruoff, S. Subramoney, P. Van Kavelaar, P.E. Nolan, J.Jiao, D.C. Lynch, A.H. Cutler, S. Seraphin, Fullerenes: Recent Advances in the Chemistry and Physics of Fullerenes and Related Materials. eds. R.S. Ruoff, and K.M. Kadish, The Electrochemical Society, Pennington, NJ, 1995, P. 570.
13. Nanotubes: Bending and Filling: Part I, R.S. Ruoff, D.C. Lorents, R. LaDuca, S. Awadallah, S.P. Weathersby, K. Parvin, S. Subramoney, Fullerenes: Recent Advances in the Chemistry and Physics of Fullerenes and Related Materials, eds. R.S. Ruoff, and K.M. Kadish, The Electrochemical Society, Pennington, NJ, 1995, P. 557.
14. Nanotubes: Bending and Filling: Part II, S. Subramoney, R.S. Ruoff, R. LaDuca, S. Awadallah, K. Parvin, Recent Advances in the Chemistry and Physics of Fullerenes and Related Materials, eds. R.S. Ruoff, and K.M. Kadish, The Electrochemical Society, Pennington, NJ, 1995, P. 563.

15. Mechanical Deformation of Multi-Walled Carbon Nanotubes, S. Subramoney, R.S. Ruoff, R. LaDuca, K. Parvin, Recent Advances in the Chemistry and Physics of Fullerenes and Related Materials, eds. R.S. Ruoff, and K.M. Kadish, The Electrochemical Society, Pennington, NJ, 1996, P. 728.
16. Carbon Condensate and Single Carbon Nanotubes: Structural Properties and Growth Model, W.S. Bacsa, C.W. Walter, S. Awadallah, S. McGinnis, S. Subramoney, J.W. Ager, K. Parvin, R.S. Ruoff, Recent Advances in the Chemistry and Physics of Fullerenes and Related Materials. eds. R.S. Ruoff, and K.M. Kadish, The Electrochemical Society, Pennington, NJ, 1996, P. 749.
17. Experimental Determination of Size Distribution of Carbon Nanotubes, W.S. Bacsa, R. LaDuca, J. Hoerter, F. Chibante, S. Subramoney, J.G. Lavin, K. Parvin, R.S. Ruoff, Recent Advances in the Chemistry and Physics of Fullerenes and Related Materials. eds. R.S. Ruoff, and K.M. Kadish, The Electrochemical Society, Pennington, NJ, 1996, P. 758.
18. The Effect of Annealing on the Structure and Magnetic Properties of Graphite Encapsulated Nickel and Cobalt Nanocrystals, J.J. Host, J.A. Block, K. Parvin, V.P. Dravid, J.L. Alpers, T. Sezen and R. LaDuca, Journal of Applied Physics, 83 (2), 793 (1998).
19. The Magnetic Properties of Annealed Graphite-Coated Ni and Co Nanocrystals, J.A. Block, K. Parvin, J.L. Alpers, T. Sezen, and R. LaDuca, J.J. Host and V.P. Dravid, IEEE Transactions on Magnetics 34 (4), 982 (1998).
20. Mössbauer Spectroscopy and Magnetic Properties of Copper-304 Stainless Steel Multilayer Films, M. Varasteh, K. Parvin, C. Boekema, and K. Porush, Journal of Applied Physics 97 (9), 6842 (2000).
21. Synthesis, Structure, and Magnetic Properties of Nanosized Co-S Powders Produced by Hydrothermal Reduction, X. C. Sun, K. Parvin, R. Bedros and D. E. Nikles, Nano 2002 Proceedings, June 2002,
22. Magnetic Properties of a Mixture of Two Nanosized Co-S Powders Produced by Hydrothermal Reduction, X.C. Sun, K. Parvin, J. Ly, and D.E. Nikles, IEEE Transactions on Magnetics, 39, No. 5, 2679 (2003).
23. Synthesis and Magnetic Properties of Monodisperse Fe_3O_4 Nanoparticles, K. Parvin, J. Ma, J. Ly, X.C. Sun, D.E. Nikles, K. Sun, L.M. Wang, J. Applied Physics, 95, No. 11, 7121 (2004).
24. Cu and Fe Valence States In CuFeS_2 , C. Boekema, A.M Krupski, M. Varasteh, K. Parvin, F van Til, F. van der Woude and G.A. Sawatzky, J. Magnetism and Magnetic Materials, 272-276, 559 (2004).