

RICHARD JOHN CRESWICK

PERSONAL: Date of Birth: April 13, 1952
Marital Status: Married, 2 children

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EDUCATION: Colorado College (B. A., Physics, 1974).
University of California, Berkeley, (Ph.D. Physics,
1981). Thesis title: "On the Application of the
Functional Integral to the Interacting Bose Fluid".

HONORS: Colorado College, Phi Beta Kappa; physics prize 1974.
University of California, Berkeley, graduate teaching award 1976.
F.O.M. Postdoctoral Fellowship, The Netherlands 1981-83

EMPLOYMENT: October 1999-Present. Professor, Department of Physics
and Astronomy, University of South Carolina

June 1990 to October 1999. Associate Professor,
University of South Carolina. Tenured May 1992.

August 1984-June 1990 Assistant Professor, University of South
Carolina.

December 1985 -August 1987.

May 1984 to December 1985. Visiting Professor,
University of South Carolina, physics department.
Collaboration with members of the physics department
involving Monte Carlo studies of dilute spin systems on
frustrated lattices. Primary investigator Dr. H. A. Farach.

August 1983 to May 1984. Associate Professor at Morris
College, Sumter, South Carolina. Primary duties involved
teaching undergraduate physics and physical science
courses.

1981-1983. Post-doctoral research fellow at the Twente
University of Technology, Enschede, the Netherlands.
Investigation of the critical properties of the Interacting
Bose Fluid by the method of the renormalization group.
During this period I also continued my research in the

formal theory of the Two-Fluid Model of Superfluidity.
Supervisor: Dr. F. W. Wiegel.

June 1979-December 1980. Lawrence Berkeley Laboratory, Berkeley, California. Research Associate. I conducted a study of thermal and radiative energy transfer through complex windows and provided general computational energy transfer through window with an arbitrary number of vertical elements with variable optical and infrared properties. Supervisor: Dr. Michael Rubin.

September 1974 - June 1979. University of California, Berkeley, physics department. Teaching assistant. Duties included teaching undergraduate for introductory and advance undergraduate students.

June-September 1977. Lawrence Berkeley Laboratory, research assistant. Study of the structure of the Galilei Group and its representation on the equilibrium state of superfluids. Supervisor: Dr. Harry Morrison.

June -September 1976. Lawrence Berkeley Laboratory, Berkeley, California, research assistant. Study of time dependent heat flow in architectural geometries. Supervisor: Dr. Art Rosenfeld.

June-September 1973. Argonne National Laboratory. Apprenticeship program of the Associate Colleges of the Mid-West. I was in an experimental group studying the dynamics of magnetic flux lines and domain walls in thin film superconductors.

RESEARCH ACTIVITIES: Theoretical condensed matter physics, theory of critical phenomena, computational physics.

OTHER SCHOLARLY ACTIVITIES:

Member of Phi Beta Kappa
Member of the American Physical Society
Member of the Condensed Matter Division, APS
Member of the Computational Physics Division, APS
Member of South-Eastern Section, APS

WORKSHOPS and CONFERENCES:

July, 2007 STATPHYS 23, Genova, Italy

June 2004 American Institute for Mathematical Sciences, Cal State Pomona

March 2004 CUORE Group Meeting, Milan, Italy

May 2002 Density of Paths Calculation of the Path Integral for the Spin-1/2 XY Model
Path Integrals from Quarks to Galaxies, PI 2002
Antwerp, Belgium

October 2000 Time's Arrow, Quantum Measurement and Superluminal Behavior, Naples, Italy

March 1999 APS, Atlanta, GA.

August 1999 STATPHYS-Taiwan 99 Taipei, Taiwan

September 1998 Conference on Computational Physics, Granada, Spain.

August 1998 Path Integrals from peV to TeV, Florence, Italy.

February 1998 Eleventh Workshop on Computer Simulation Studies in Condensed Matter Physics, Center for Simulation Physics, University of Georgia, Athens, Georgia.

November 1997 Workshop on Computational Physics, Vanderbilt University, Nashville, Tn.

May 1997 Workshop on Direct Detection of Solar Axions, TANDAR, Buenos Aires, Argentina.

March 1997 Meeting of the American Physical Society, Kansas City, Mo.

February 1997 Tenth Workshop on Computer Simulation Studies in Condensed Matter Physics, University of Georgia, Athens, Ga.

November 1993 South Eastern Section, APS, Columbia SC (Chaired session on numerical methods in condensed matter physics).

March 1993 APS Seattle, Wa.

March 1991 APS Cincinnati, Oh.

November 1990 South Eastern Section, APS, Atlanta, Ga.

December 1989 Fundamental Aspects of Quantum Mechanics, Columbia, SC.

- November 1989* IBM Workshop on Academic Computing, Tucson, Az.
- October, 1988* 20th Southeastern Magnetic Resonance Conference, Columbia, SC.
- March 1988* 3rd University of California conference on Statistical Mechanics, Davis, Ca.
- March 1987* American Physical Society New York, NY.
- November 1986* 31st Magnetism and Magnetic Materials Conf., Baltimore, Md.
- August 1986.* Stat Phys 16, Boston, MA.
- April 1986.* American Physical Society, Washington, D. C.
- August 1983.* "Path Integrals from meV to MeV", SUNY, Albany, New York.
- June 1983* NATO Advanced Workshop on "Quantum Chaos", Como, Italy.
- August 1982.* Workshop on Funtional Integration, Institute for Theoretical Physics, University of California, Santa Barbara, California.
- June 1982.* Nordita School on Chaos, Niels Bohr Institute, Copenhagen, Denmark.
- September 1981.* German Physics Society, Münster, FRG.
- May 1981.* Vosbergen Conference, Vlieland, The Netherlands.

BOOKS:

- 1."Introduction to Renormalization Group Methods in Physics", R. J. Creswick, H. A. Farach, and C. P. Poole, Jr., Wiley, N. Y. 1992.
- 2."Superconductivity", C. P. Poole, Jr., H. A. Farach, and R. J. Creswick, Academic Press, 1995.

REFEREED PUBLICATIONS:

- 1."On the Dynamics of Quantum Vortices", Physics Letters **76A** 267 (1980).
- 2."Infinitesimal Renormalization Group Calculation of the Lambda Transition in the Interacting Bose System", with F. W. Wiegel, Verhandl, DPG (VL) **17** 996 (1981) .

3. "On the Relation Between the Normal Fluid Density and the One-Particle Green Function for Bose Fluids", *Physica* **112A** 597 (1982).
4. "Renormalization Group Theory of the Critical Properties of the Interacting Bose Fluid", R.J. Creswick and F. W. Wiegel, *Physics Letters* **92A** 189, (1982).
5. "Renormalization Theory of the Critical Properties of the Interacting Bose Fluid", R.J. Creswick and F. W. Wiegel. *Phys. Rev.* **A28** 1579 (1983).
6. "Monte Carlo Study of the Local-Field Distribution in the Dilute Antiferromagnetic Ising Model on the Triangular Lattice", R. J. Creswick, H. A. Farach, C. P. Poole, Jr., and J. M. Knight, *Phys. Rev.* **B32**, 5773 (1985).
7. "Instability Under Dilution of an Antiferromagnetic Ising Model on an fcc Lattice: a Monte Carlo Study", H. A. Farach, R. J. Creswick, J. M. Knight, and C. P. Poole, Jr., and J. F. Fernandez, *Phys. Rev.* **B34**, 7760 (1986).
8. "Non linear Quantum and Classical Renormalization Group Trajectories for the Interacting Bose Fluid", D. D. Vvedensky and R. J. Creswick, *Phys. Rev.* **B34**, 7760 (1986).
9. "Systematic Variation of Ferroelectric Transition Temperature Within Related Isomorphic Series", C. P. Poole, Jr., H. A. Farach and R. J. Creswick, *Ferroelectrics*, **71** 143 (1987).
10. "The Free Energy of Weakly Dilute Ising Models", R. J. Creswick, H. A. Farach and C. P. Poole, Jr., *J. Appl. Phys.* **61**, 4407 (1987).
11. "Mean Field Theory of Local Freezing in the Ising Model", R. J. Creswick, H. A. Farach and C. P. Poole, Jr., *Phys. Rev.* **B35**, 8467 (1987).
12. "Exact Results for the Site-Dilute Antiferromagnetic Ising Model on Finite Triangular Lattices", H. A. Farach, R. J. Creswick, and C. P. Poole, Jr., *Phys. Rev.* **B37**, 5615 (1988).
13. "Electron-Spin-Relaxation Times in Se-Doped PotassiumDihydrogen Phosphate Ferroelectric Crystals", D. D. Wheeler, H. A. Farach, C. P. Poole, Jr., and R. J. Creswick, *Phys. Rev.* **B37**, 9703 (1988).
14. "Monte Carlo Method for the Ising Model in a Transverse Field". R. J. Creswick, H. A. Farach and C. P. Poole, Jr., *Phys. Rev.* **B38**, 4712 (1988).
15. "ESR Determination of the Internal Field within the Superconductor $\text{YBa}_2\text{Cu}_3\text{O}_7$ ", E. Quagliata, T. Mzoughi, M.A. Mesa, H. A. Farach, C. P. Poole, Jr., and R. J. Creswick. *Phys. Rev.* **B41**, 2046 (1990).

16. "Chaotic Motion of a Harmonically Bound Charged Particle in a Magnetic Field in the Presence of a Half-Plane Barrier," B.J. Geurts, F.W. Wiegel, and R.J. Creswick, *Physics A* **165**, 72 (1990)
17. "The Restricted Spin Model," W.A. Farach, R.J. Creswick, and C.P. Poole, Jr., *Mod. Phys. Lett. B* **4**, 1029 (1990).
18. "Monte Carlo Study of the Spin-1/2 Heisenberg Model in 1, 2, and 3 Dimensions," R.J. Creswick and C.J. Sisson, *Mod. Phys. Lett.* **85** 907 (1991).
19. "Incommensurate phase in doped KH_2PO_4 from electron-spin-resonance measurements", H. A. Farach, M. A. Mesa, J. M. Knight, O. A. Lopez, C. P. Poole, Jr., and R. J. Creswick, *Phys. Rev.* **B44**, 7297 (1991).
20. "ESR Evidence for an Incommensurate Phase in Doped KH_2PO_4 ", H. A. Farach, J. M. Knight, C. P. Poole, Jr., and R. Creswick, *Ferroelectrics* **120**, 49 (1991).
21. "Ferroelectric EPR line splitting above the transition temperature T_c in KH_2PO_4 ", M.A. Mesa, H.A Farach, R.J. Creswick, C.P. Poole, Jr., and T. Mzoughi, *Mod. Phys. Lett.* **B 5**, 1457 (1991).
22. "Symmetry Breaking Above T_c in Arsenic-doped KDP, H.A Farach, M.A. Mesa, R.J. Creswick, C.P. Poole, Jr., and T. Mzoughi, *Ferroelectrics* **117**, 171 (1991)
23. "Effects of field cooling on low-field microwave absorption in copper oxide superconductors", T. Mzoughi, H. A. Farach, E. Quagliata, M.A. Mesa, C.P. Poole, Jr., and R.J. Creswick. *Phys. Rev.* **B46**, 1130 (1992).
24. "Surface Magnetism: A Monte Carlo Study of Surface Critical Behavior", D. Castellanos, H. A. Farach, R. J. Creswick, and C. P. Poole, Jr., *Phys. Rev.* **B47**, 5037 (1993).
25. "Switching Times of Domains in KDP", O. A. Lopez, H. A. Farach, C. P. Poole, Jr., and R. J. Creswick, *Ferroelectrics*, 144, **119** (1993).
26. "Decoupled Cell Monte Carlo Study of the Critical Properties of the Spin-1/2 Ferromagnetic Heisenberg Model in Three Dimensions", R. J. Creswick, C. J. Sisson, in *Quantum Monte Carlo Methods*, M. Suzuki, ed., World Scientific Singapore, 1993.
27. "Decoupled Cell Monte Carlo Calculations of the Critical Properties of the spin-1/2 Heisenberg Model" C. J. Sisson and R. J. Creswick in *Computer*

Simulation Studies in Condensed Matter Physics. VI, D. P. Landau, K. K. Mon, and H. B. Schüttler, eds., p. 204, Springer-Verlag, Berlin (1993).

28. "Decoupled Cell Monte Carlo Study of the Critical Properties of the Spin-1/2 Ferromagnetic Heisenberg Model in Three Dimensions", R. J. Creswick, C. J. Sisson, in Quantum Monte Carlo Methods, M. Suzuki, ed., World Scientific Singapore, (1993).

29. "Transfer Matrix for the Restricted Canonical and Micro-canonical Ensembles", R. J. Creswick, Phys. Rev. **E52** R5735 (1995).

30. "A Numerical Method for Evaluating Feynman Path Integrals", R. J. Creswick, Mod. Phys. Lett. **B9**, 693 (1995)

31. "Model for Low-field microwave absorption in granular type-II superconductors", A. Pertile, O. A. Lopez, H. A. Farach, R. J. Creswick, and C. P. Poole, Jr., Phys. Rev. **B52**, 15475 (1995).

32. "Finite-size scaling theory of the zero of the Partition function in first and second-order transitions", R. J. Creswick and S.-Y. Kim, Phys. Rev. **E 56**, 2418 (1997).

33. "Critical Exponents for Four-State Potts Model," R.J. Creswick and S.Y. Kim, J. Phys. **A 30**, 8785 (1997).

34. "Experimental search for solar axions via coherent Primakoff conversion in a germanium spectrometer," F.T. Avignone III, D. Abriola, R. L. Brodzinski, J.I. Collar, **R.J. Creswick**, C.K. Guerard, D.E. Di greggorio, H.A. Farach, A.O. Gattone, F. Hasenbalg, H. Huck, H.S. Miley, A. Morales, J. Morales, S. Nussinov, A. Ortiz de Solsrzano, J.H. Reeves, J.A. Villar, K.Zioutas, Phys. Rev. Lett. **81**, 5068 (1998)

35. "Theory of Direct Detection of Solar Axions by Coherent Primakoff Conversion in Germanium," R.J. Creswick, F.T. Avignone III, H.A. Farach, J.I. Collar, A.O. Gattone, S. Nussinov, and K. Zioutas, Physics Letters **B 427**, 235 (1998).

36. "First Results from SOLAX: A New Technique to Detect Axions from the Sun", F.T. Avignone III, D. Abriola, R. L. Brodzinski, J.I. Collar, **R.J. Creswick**, C.K. Guerard, D.E. Di Greggorio, H.A. Farach, A.O. Gattone, F. Hasenbalg, H. Huck, H.S. Miley, A. Morales, J. Morales, S. Nussinov, A. Ortiz de Solsrzano, J.H. Reeves, J.A. Villar, K.Zioutas, Phys. Atom. Nuc. **61** 1137 (1998)

37. "ESR study of incommensurate phase in doped $(\text{NH}_3)_2 \text{ZnCl}_4$," W. Lang, H.A. Farach, R.J. Creswick, and C.P. Poole Jr., Phys. Rev. **B 57**, 8155 (1998).

38. "Yang-Lee Zeros of the Q-State Potts Model in the Complex Magnetic Field Plane", S. Y. Kim and R. J. Creswick, *Physical Review Letters*, **81**, 2000 (1998)
39. "Fisher Zeros of Q-State Potts Model in the Complex Temperature Plane for Non-Zero External Magnetic Field", S. Y. Kim and R. J. Creswick, *Phys. Rev* **E58** 7006 (1999)
40. "Incommensurate Phase in Mn^{2+} doped $(NH_3)_2 ZnCl_4$ studied by ESR", W.G. Lang, H.A. Farach, R.J. Creswick, and C.P. Poole, Jr., *Ferroelectrics*, **226** 125 (1999)
41. "A decommissioned LHC Model Magnet as an Axion Telescope", K. Zioutas, Z.C.E. Aalseth, D. Abriola, F.T. Avignone, R. L. Brodzinski, J.I. Collar, **R.J. Creswick**, C.K. Guerard, D.E. Di Greggorio, H.A. Farach, A.O. Gattone, F. Hasenbalg, H. Huck, A. Liolas, H.S. Miley, A. Morales, J. Morales, D. Nikas, S. Nussinov, A. Ortiz de Solsrzano, E. Savvidis, S. Scopel, P. Sievers, J.A. Villar, and L. Walckiers, *Nuc. Inst. and Meth. in Res.* **A425**, 480 (1999)
42. "Experimental Search for Solar Axions", A.O. Gattone, F.T. Avignone III, D. Abriola, R. L. Brodzinski, J.I. Collar, **R.J. Creswick**, C.K. Guerard, D.E. Di Greggorio, H.A. Farach, F. Hasenbalg, H. Huck, H.S. Miley, A. Morales, J. Morales, S. Nussinov, A. Ortiz de Solsrzano, J.H. Reeves, J.A. Villar, K. Zioutas, *Nuclear Physics B* **70**, 59 (1999)
43. Solar Axion Experiments Using Coherent Primakoff Conversion in Single Crystals, F.T. Avignone III, D. Abriola, R. L. Brodzinski, J.I. Collar, **R.J. Creswick**, C.K. Guerard, D.E. Di Greggorio, H.A. Farach, A.O. Gattone, F. Hasenbalg, H. Huck, H.S. Miley, A. Morales, J. Morales, S. Nussinov, A. Ortiz de Solsrzano, J.H. Reeves, J.A. Villar, K. Zioutas, *Nuclear Physics B* **72**, 176 (1999)
44. "Kim and Creswick Reply", R.J. Creswick and S.Y. Kim, *Phys. Rev. Lett.* **82** 3924 (1999)
45. "Zeros of the Grand Partition Function of the Potts Model in a Magnetic Field", S.Y. Kim and R.J. Creswick, pp140-144 in "Computer Simulation Studies in Condensed Matter Physics XI", D.P. Landau and H.B. Schuttler, eds., Springer Verlag (1999)
46. "Microcanonical Transfer Matrix Study of the Q-State Potts Model", R.J. Creswick and S.Y. Kim, *Comp. Phys. Comm.* **121-122** 26, (1999)
47. "Numerical Evaluation of the Feynman Path Integral by the Restricted Density of Paths", R.J. Creswick and W.H. Baird, pp 577-580 in *Proceedings of*

the Sixth International Conference on Path Integrals from peV to TeV, R. Casalbuoni, R. Giachetti, V. Tognetti, R. Vaia, and P. Verrucchi, eds, World Scientific (1999)

48. "Partition Function Zeros of the Q-State Potts Model for Non-Integer Q", S.Y. Kim, R.J. Creswick, C.N. Chen, and C.K. Hu, *Physica A* **281** 262 (2000)

49. "Exact Results for the Zeros of the Partition Function of the Potts Model on Finite Lattices, R.J. Creswick and S.Y. Kim, *Physica A* **281** 252 (2000)

50. "The first step toward CUORE: Cuoricino, a thermal detector array to search for rare events", Alessandrello A; Brofferio C; Carbone L; Cremonesi O; Fiorini E; Giuliani A; Nucciotti A; Pavan M; Pessina G; Pirro S; Previtali E; Vanzini M; Zanolini L; Beeman J; McDonald RJ; Haller EE; Norman EB; Smith AR; Ventura G; Frossati G; de Waard A; Arpesella C; Bucci C; Gervasio G; Gonin Y; Vuilleumier JL; Avignone F; **Creswick RJ**; Farach HA; Cebrian S; Garcia E; Gonzales D; Irastroza IG; Morales A; Morales J; Ortiz A; Peruzzi A; Puimedon J; Sarsa ML; Scopel S; Villar JA, *NUCLEAR PHYSICS B-PROCEEDINGS SUPPLEMENTS*, Vol 87, pp 78-80 (2000)

51. "CUORICINO - Large cryogenic detector for double beta decay, WIMPS and solar axions" The CUORE collaboration, *Nuclear Physics A* 663: 873C-876C JAN 31 2000

52. "Density of States, Potts zeros, and Fisher Zeros of the Q-State Potts Model for Continuous Q", Seung-Yeon Kim and R.J. Creswick *Phys. Rev.* **E63** 66107 (2001)

53. "Can the Arrow of Time be Reversed in the Laboratory?", R.J. Creswick pp 7-16 in *Time's Arrow, Quantum Measurement and Superluminal Behavior*, D. Mugnai, A. Ranfagni, and L.S. Schulman, eds., Consiglio Nazionale della Ricerche, Roma (2001)

54. "The CERN Axion Solar Telescope (CAST)"

C.E. Aalseth, E.Arik, D. Autiero, F.T. Avignone III, K. Barth, S.M. Bowyer, H. Braninger, R.L. Brodzinski, J.M. Carmona, S. Cebrian, G. Celbini, S. Cetin, J.I. Collar, **R. Creswick**, A. Delbart, M. Delattre, L. DiLella, R. De Oliveira, Ch. Eleftheriadis, N. Erdutan, G. Fanourakis, H.A. Farach, C. Fiorini, Th. Gerasis, I. Giomataris, T.A. Girard, S.N. Gninenko, N.A. Golubev, M. Hasinoff, D. Hoffmann, I.G. Irastorza, J. Jacoby, F. Jeanneau, M.A. Knopf, A.V. Kovzelev, R. Kotthaus, M. Kremer, Z. Krecak, B. Lakic, A. Liolios, A. Ljubcic, G. Lutz, A. Lononi, G. Luzon, A. Mailov, V.A. Matveev, H.S. Miley, A. Morales, J. Morales, M. Mutterer, A. Nikolaidis, S. Nussinov, A. Ortiz, W.K. Pitts, A. Placci, V.E. Postoev, G.G. Raffelt, H. Riege, M. Sampietro, M. Sarasa, I. Savvidis,

M. Stipvevic, C.W. Thomas, R.C. Thompson, P. Valco, J.A. Villar, B. Villierme, L. Walckiers, W. Wilcox, K. Zachariadou, K. Zioutas (the CAST collaboration)
Nuc. Phys. B **110** 85 (2002)

55. “Present and future cryogenic experiments on double-beta decay”, Brofferio, C; Arnaboldi, C; Capelli, S; Carbone, L; Cremonesi, O; Fiorini, E; Giugni, D; Negri, P; Nucciotti, A; Pavan, M; Pessina, G; Pirro, S; Previtali, E; Sisti, M; Vanzini, M; Zanotti, L; Beeman, J; McDonald, RJ; Haller, EE; Norman, EB; Smith, AR; Giuliani, A; Pedretti, M; Barucci, M; Ventura, G; Balata, M; Bucci, C; Pobes, C; Palmieri, V; Frossati, G; de Waard, A; Avignone, FT; **Creswick, RJ**; Farach, HA; Rosenfeld, C; Cebrian, S; Irastorza, IG; Morales, A,
CZECHOSLOVAK JOURNAL OF PHYSICS, 52 (4): 531-540 APR 2002

56. “CUORE: A Cryogenic Underground Observatory for Rare Events”
C. Arnaboldi, F.T. Avignone, J. Beeman, M. Barucci, M. Balata, C. Brofferio, C. Bucci, S. Cebrian, **R.J. Creswick**, S. Capelli, L. Carbone, O. Cremonesi, A. deWard, E. Fiorini, H.A. Farach, G. Frossati, A. Guiliani, D. Giugni, P. Gorla, E.E. Haller, I.G. Irastorza, R.J. McDonald, A. Morales, E.B. Norman, P. Negra, A. Nucciotti, M. Pedretti, C. Pobes, V. Palmieri, M. Pavan, G. Pessina, S. Pirro, E. Previtali, C. Rosenfeld, A.R. Smith, M. Sisti, G. Ventura, M. Vanzini, L. Zanotti, Phys. of Atomic Nuclei **66** 452 (2003)

57. “Physics Potential and Prospects for the Cuoricino and Cuore Experiments”
C. Arnaboldi, F.T. Avignone, J. Beeman, M. Barucci, M. Balata, C. Brofferio, C. Bucci, S. Cebrian, **R.J. Creswick**, S. Capelli, L. Carbone, O. Cremonesi, A. deWard, E. Fiorini, H.A. Farach, G. Frossati, A. Guiliani, P. Gorla, E.E. Haller, I.G. Irastorza, R.J. McDonald, A. Morales, E.B. Norman, A. Nucciotti, M. Pedretti, C. Pobes, V. Palmieri, M. Pavan, G. Pessina, S. Pirro, E. Previtali, C. Rosenfeld, S. Scopel, A.R. Smith, M. Sisti, G. Ventura, M. Vanzini, Astroparticle Physics, **20**, 91 (2003)

58. “The CERN Axion Solar Telescope (CAST): Status and Update”
I.G. Irastorza, S. Andriamonje, E. Arik, D. Autiero, F.T. Avignone III, K. Barth, H. Braninger, R.L. Brodzinski, J.M. Carmona, S. Cebrian, S. Cetin, J.I. Collar, **R. Creswick**, A. Delbart, L. DiLella, R. De Oliveira, Ch. Eleftheriadis, G. Fanourakis, H.A. Farach, H. Fischer, F. Formenti, Th. Gerasis, I. Giomataris, S.N. Gninenko, N.A. Golubev, R. Hartmann, M. Hasinoff, D. Hoffmann, J. Jacoby, R. D. Kang, R. Kotthaus, M. Kremer, M. Kuster, B. Lakic, A. Liolios, A. Ljubicic, G. Lutz, G. Luzon, H.S. Miley, A. Morales, J. Morrales, M. Mutterer, A. Nikolaidis, A. Ortiz, T. Papaevangelou, A. Placci, V.E. Postoev, G.G. Raffelt, H. Riege, M. Sarasa, I. Savvidis, C. Spano, J.A. Villar, B. Villierme, L. Walckiers, K. Zachariadou, K. Zioutas (the CAST collaboration)
Nuc. Phys. B- Proc. Suppl. **114** 75 (2003)

59. CUORE:Low Temperature Techniques for Neutrino Physics

A. Guiliani, C. Arnaboldi, F.T. Avignone, , M. Balata, M. Barucci, J. Beeman, C. Brofferio, C. Bucci, S. Capelli, L. Carbone, S. Cebrian, O. Cremonesi, **R.J. Creswick**, H.A. Farach, E. Fiorini, G. Frossati, P. Gorla, E.E. Haller, I.G. Irastorza, R.J. McDonald, A. Morales, E.B. Norman, P. Negri, A. Nucciotti, M. Pedretti, C. Pobes, V. Palmieri, M. Pavan, G. Pessina, S. Pirro, E. Previtali, C. Rosenfeld, A.R. Smith, M. Sisti, M. Vanzini, G. Ventura, A. deWard, L. Zanotti, *Physica B-Cond, Mat.* **329** 1570 (2003)

60. “The Majorana Neutrinoless Double-Beta Decay Experiment”

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Numerical Methods for evaluating Feynman path Integrals
USC physics, April 29, 1994

Enumerating (practically) innumerable states
USC physics, September 21, 1995

Enumerating (practically) innumerable states
Department of Physics
University of Buenos Aries, May 1997

Why do Good Thermodynamic Functions go Bad?
Department of Physics and Astronomy
University of South Carolina, September 1997

Numerical Evaluation of Feynman Path Integrals
Department of Physics, Clarkson University
Potsdam NY October 1997

Microcanonical Studies of the Q-State Potts Model
Department of Physics and Astronomy
University of Georgia
Athens, Georgia, November 21, 1997

The Ergodic Theorem in Quantum Mechanics
Department of Physics and Astronomy
University of South Carolina
2002

The Quantum X-Y Model
Department of Physics and Astronomy
University of Georgia
Jan. 23, 2002

Forward Into the Past! Reversing the Arrow of Time
Department of Physics and Astronomy
University of South Carolina
September 5, 2002

Time Reversal and Spin Echo in the XY Model
SPIN 2003 The Physics of Spin in Condensed Matter
University of South Carolina
March 2003

Forward Into the Past: Deja-Vu All Over Again
Department of Physics and Astronomy
USC
April 2004

Renormalization Group Approach to Critical Phenomena
American Institute for Mathematical Sciences
Cal Poly Pomona
June 19, 2004

Time Reversal and The Second Law of Thermodynamics
Department of Physics
University of North Carolina, Wilmington
October 22, 2004

Forward Into the Past
The Reversal and the Second Law of Thermodynamics
Department of Physics
Wake Forest University
Winston-Salem NC
Sept. 29, 2005

Graduate Students

Cynthia Sisson	PhD	1993	"Decoupled Cell Monte Carlo: Theory and Convergence Studies of a New Method for Quantum Simulations"
Thomas Turpin	MS	1993	"Entropic Interaction of Vacancies in a Spin Background"
Andrey Pavel'yev	PhD	1997	"Numerical Calculation of the Restricted Density of States for the Three

			Dimensional Ising Model"
William Baird	PhD	1999	"Numerical Evaluation of the Feynman Path Integral"
Seung-Yeon Kim	PhD	2000	"Exact Results for the Partition Function of the Q-State Potts Model"
Aleyna Parfenova	PMS	2003	
Rodney Topp	PMS	2003	
Parker Page	PMS	2004	
Jennifer Norman	PMS	2005	