

VITA
KIMBALL ALAN MILTON

CURRENT POSITION

George Lynn Cross Research Professor, Homer L. Dodge Department of Physics and Astronomy, University of Oklahoma, Norman 2007–

EMPLOYMENT RECORD

Professor, Homer L. Dodge Department of Physics and Astronomy, University of Oklahoma, Norman 1986–2007

E. T. Jaynes Visiting Professor, Department of Physics Washington University, St. Louis 2005–6

Senior Visiting Fellow, Department of Physics, Imperial College, London 1995

Visiting Professor, Department of Physics, Ohio State University, Columbus 1989

Professor, Department of Physics, Oklahoma State University, Stillwater 1984–1986

Visiting Professor, Department of Physics and Astronomy, University of Oklahoma, Norman 1985–1986

Adjunct Professor, Department of Physics and Astronomy, University of Oklahoma, Norman 1984–1985

Associate Professor, Department of Physics, Oklahoma State University, Stillwater 1981–1984

Adjunct Associate Professor/Associate Research Physicist, Department of Physics, University of California at Los Angeles and 1979–1981

Visiting Associate Professor, Department of Physics, Ohio State University, Columbus

Adjunct Assistant Professor/Assistant Research Physicist, Department of Physics, University of California at Los Angeles 1971–1979

Physicist, Lawrence Radiation Laboratory, Livermore Summer 1969

Physicist, U.S. Naval Radiological Defense Laboratory, San Francisco Summer 1967

EDUCATION

Ph.D., Harvard University 1971
Dissertation Title: *Unitarity and Vertex Functions*
Thesis Advisor: Julian Schwinger

A.M., Harvard University 1968

B.S., University of Washington, Seattle 1967
Phi Beta Kappa, Magna cum laude

COURSES TAUGHT

	Number of Times Taught
At UCLA (1972–1979)	
Physics 7A/8A: General Physics: Mechanics (for physical science majors)	4
Physics 10: Physics (for non-science majors)	3
Physics 131A and 131B: Mathematical Methods of Physics	3 + 3
Physics 115A: Quantum Mechanics	1
Physics 126: Elementary Particle Physics	1
Physics 199: Special Studies in Physics	3
Physics 596: Directed Individual Study	1
Experimental College: Living in the Nuclear Age	1
At Ohio State University (1979–1981)	
Physics 100.01: Vibrations and Waves (for nonscience majors)	3
Physics 100.02: Energy (for non-science majors)	1
Physics 626: Mechanics	1
Physics 627: Thermodynamics and Statistical Mechanics	1
At Oklahoma State University (1981–1985)	
Astronomy 1104: Elementary Astronomy	1
Physics 2014: General Physics (for physics and engineering students)	3
Physics 3313: Modern Physics	2
Physics 4413: Modern Physics II	1
Physics 5453: Methods of Theoretical Physics	1
Physics 5613: Quantum Mechanics I	3
Physics 6010: Quantum Field Theory (on Talk-Back TV, with students at the University of Oklahoma)	1 + 1
Physics 6000: Doctoral Research	6
At University of Oklahoma (1985–)	
Physics 3183: Electricity and Magnetism	1
Physics 3223: Modern Physics for Engineers	1
Physics 4153: Statistical Physics and Thermodynamics	1
Physics 5163: Statistical Mechanics	5
Physics 5393: Quantum Mechanics I	3
Physics 5573: Electrodynamics I	9
Physics 5583: Electrodynamics II	7
Physics 6403: Quantum Mechanics II	2
Physics 6693/5013: Mathematical Methods of Physics I	7
Physics 5970/6840: Seminar in Particle Physics	5
Physics 6213: Advanced Particle Physics	1
Physics 6433: Quantum Field Theory	2
Physics 5970: Advanced Quantum Field Theory	1
Physics 5990: Special Studies	9
Physics 6980: Doctoral Research	40

At Washington University in St. Louis (2006)
Physics 506: Classical Electrodynamics II

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FELLOWSHIPS AND GRANTS

Principal Investigator, Theory Task, Department of Energy Grant, OU	1987–
National Science Foundation, grant for QFEXT09	2009
Principal Convener, Quantum Field Theory Under the Influence of External Conditions (QFEXT09), ESF Grant	2009
Principal Investigator, Quantum Vacuum Energy, US NSF	2006–2010
E. T. Jaynes Visiting Professorship, Washington University, St. Louis	2005–2006
US DOE, EPSCoR, Oklahoma Center for High Energy Physics	2004–
Institute of Physics Publishing, grant for QFEXT03	2003
University of Chicago, travel grant for MGX	2003
National Science Foundation, grant for QFEXT03	2003
Co-PI, US Department of Energy, EPSCoR/Lab Partnership Award	2003–2006
Oak Ridge Associated Universities, grant for QFEXT03	2002
OU Research Council Award (for workstation)	2000
College of Arts and Sciences, Instructional Computing Grant	2000
Principal Investigator, NSF Cooperative Research Grant	1996–2000
Special funding from OU for International Collaboration	1999–2000
Special funding from OU for International Collaboration	1997–1998
OU College of Arts and Sciences Faculty Research Grant	1994–1995
UK PPARC Visiting Fellowship	1995
Pittsburgh Supercomputing Center, C90 grant	1993
OU Research Council Award (for workstation)	1991
NSF Grant for <i>Beyond the Standard Model II</i>	1990
Special Funding from Vice Provost for Research Administration	1988–1989
OU Associates Funding (for a postdoc)	1987–1988
Dean’s Starter Grant, Oklahoma State University	1984–1985
NSF grant for <i>Workshop on Non-Perturbative QCD</i>	1983
APS/NSF Travel Grant to attend 21st ICHEP, Paris	1982
Dean’s Starter Grant, Oklahoma State University	1982–1983
Co-Principal Investigator, Department of Energy Contract, OSU	1981–1986
Co-Recipient of Alfred P. Sloan Grant, J. Schwinger, P.I.	1975–1978
NSF Predoctoral Fellow	1967–1971
Honorary Woodrow Wilson Fellow	1967–1968
Crown Zellerbach Scholarship	1963–1967

OTHER HONORS

Fellow, The Institute of Physics (UK)	2004
Regents’ Award for Superior Research	1991
Associates Distinguished Lecturer	1988–1989
Selected for Inclusion in <i>Who’s Who in the South and Southwest</i> , <i>Who’s Who in Science and Engineering</i> , and in <i>American Men and Women in Science</i>	

SEMINARS AND COLLOQUIA:

University of Arkansas, Boston University, Brandeis University, University of British Columbia,

Brookhaven National Laboratory, CALTECH, University of California, Riverside, Case Western Reserve University, Dartmouth College, University of Durham, FERMILAB, Cal State Fullerton, Imperial College, Iowa State University, UC Irvine, Joint Institute for Nuclear Research (Dubna), University of Kansas, Kansas State University, KEK, Kyoto University, Los Alamos National Lab., MIT, UNAM, University of Mississippi, University of Missouri, University of Munich, State University of New York, Stony Brook, Niels Bohr Institute, University of North Carolina, North Texas State University, Ohio State University, Oklahoma State University, University of Oklahoma, University of Oregon, Osaka University, Oxford University, Simon Fraser University, Southampton University, SLAC, University of Texas, Dallas, Tokyo University, University of Tübingen, University of Tulsa, UCLA, USC, University of Wales, Swansea, Washington University, University of Washington, Zhengzhou University.

VISITING SCIENTIST

Kyoto University, RIFP	June 1988
KEK	July 1985
Los Alamos National Laboratory	August 1983, June 1986
University of Munich	July 1982
FERMILAB	July 1981, July 1993

PARTICIPANT AT CONFERENCES AND SUMMER SCHOOLS

Casimir Forces and Their Measurement, Satellite Workshop at 12th International Conference on Noncontact Atomic Force Microscopy, Yale Royal Norwegian Society of Science and Letters Seminar in honor of Iver Brevik, NTNU, Trondheim	2009
Quantum Mechanics in the Complex Domain (chief organizer)	2009
Annual AAAS/Winter AAPT Meeting, Chicago	2009
International Conference on High Energy Physics, Philadelphia	2008
60 Years of the Casimir Effect, Brasilia, Brazil	2008
International Seminar on Contemporary Problems of Elementary Particle Physics Dedicated to the Memory of Igor Solovtsov, JINR, Dubna, Russia	2008
Eighth Workshop on Quantum Field Theory Under the Influence of External Conditions, QFEXT07, Leipzig	2007
Sixth Workshop on Pseudo-Hermitian Hamiltonians in Quantum Physics, City University, London	2007
Thermal Radiation at the Nanoscale: Forces, Heat Transfer, and Coherence, Les Houches, France	2007
Midwest Theory Conference, Lawrence, KS	2007
Conference on Heat Kernels in Mathematics and Physics, Blaubeuren	2006
Marcel Grossmann 11, Berlin	2006
Seventh Workshop on Quantum Field Theory Under the Influence of External Conditions, QFEXT05, Barcelona	2005
Supersymmetry, Gauge Theories, and Quantum Gravity, 60th Anniversary of L. F. Urrutia, UNAM, Mexico	2005
Workshop on Semiclassical Approximation and Vacuum Energy, Texas A&M University	2005

Eighth Workshop on Non-Perturbative Quantum Chromodynamics, l'Institut Astrophysique de Paris	2004
Sixth Workshop on Quantum Field Theory Under the Influence of External Conditions, QFEXT03, Norman (organizer)	2003
Marcel Grossmann X Meeting on General Relativity, Rio de Janeiro	2003
12th International Colloquium on Quantum Groups, Prague	2003
Workshop on Pseudo-Hermitian Hamiltonians in Quantum Physics, Prague	2003
Casimir Effect: Recent Developments in Experiment and Theory, ITAMP, Harvard-Smithsonian Center for Astrophysics	2002
GRG11: Theoretical and Experimental Problems of General Relativity and Gravitation, Tomsk, Russia	2002
Third International Sakharov Conference, Moscow	2002
American Physical Society, April Meeting, Albuquerque	2002
Fifth Workshop on Quantum Field Theory under the Influence of External Conditions, Leipzig	2001
XXXth International Conference on High Energy Physics, Osaka	2000
Fradkin Memorial Conference, Moscow (plenary speaker)	2000
Symmetry Lost and Found (Steve Adler's <i>Festspiel</i>), Princeton	1999
Fourth Workshop on Quantum Field Theory under the Influence of External Conditions, Leipzig	1998
XXIX International Conference on High Energy Physics, Vancouver	1998
17th Symposium on Theoretical Physics, Seoul	1998
Lattice 96, Washington University, St. Louis	1996
Third Workshop on Quantum Field Theory Under the Influence of External Conditions, Leipzig	1995
Joint April Meeting of APS and AAPT, Washington	1995
International Institute of Theoretical and Applied Physics, Iowa State	1994
Harmonic Oscillators II, Cocoyoc, Mexico	1994
International Europhysics Conference on High Energy Physics, Marseille	1993
Quarks-92, Zvenigorod, Moscow	1992
Beyond the Standard Model II, and SuperSymposium, Norman (organizer)	1990
XXV International Conference on High-Energy Physics, Singapore	1990
From Symmetries to Strings (Okubofest), Rochester	1990
Symposium on Current Topics in Theoretical Physics, UCLA	1988
Eighth Workshop on Grand Unification, Syracuse	1987
Ferst/Sigma Xi Symposium in honor of J. Schwinger, Georgia Tech	1986
Sixth Workshop on Grand Unification, Minneapolis	1985
Fifty Years of Weak Interactions, Wingspread, Racine, Wisconsin	1984
Workshop on Non-Perturbative QCD, Stillwater (organizer)	1983
MASUA Theoretical Physics Conference	
Columbia, Missouri	1985
Kansas City, Kansas	1984
Manhattan, Kansas	1983
Lawrence, Kansas	1987, 1982

Neutrino Mass Mini-Conference, Telemark, Wisconsin	1982
XXIth International Conference on High Energy Physics, Paris	1982
Third Workshop on Grand Unification, Chapel Hill	1982
1981 International Conference on Neutrino Physics and Astrophysics, Maui	1981
Second Workshop on Grand Unification, Ann Arbor	1981
Orbis Scientiæ	
Miami Beach	1982
Fort Lauderdale	1981
Nineteenth Eastern Theoretical Physics Conference, Rutgers	1980
XXth International Conference on High Energy Physics, Madison	1980
Supergravity Workshop, Stony Brook	1979
Caltech Workshop	1979
Schwingerfest, UCLA (defacto principal organizer)	1978
Workshop on Classical Particle Electrodynamics, Trieste	1977
International Neutrino Conference, Aachen	1976
International Symposium on Lepton and Photon Interactions at High Energies, Stanford	1975
Sixth Hawaii Topical Conference in Particle Physics	1975
Aspen Center for Physics	1992, 1989–1983, 1980, 1978, 1974
Meetings of the Division of Particles and Fields, American Physical Society	
Williamsburg, Virginia	2002
Fermilab, Illinois	1992
Houston, Texas	1990
Storrs, Connecticut	1988
Santa Fe	1984
Maryland	1982
UCLA	1978
Berkeley	1973
Irvine Conferences	1977, 1975, 1973
International School of Subnuclear Physics, Erice	1970
Scottish Universities Summer School, Edinburgh	1970
Summer School in Theoretical Physics, Boulder, Colorado	1968

PERSONAL DATA

Born: November 29, 1944, La Grande, Oregon, USA

Married to Margarita Baños–Milton,

daughters: Ysabel Alice, Madeleine Diane, Camille Kathryn

SPEAKER AT PUBLIC FORUMS, ETC.

Nuclear Arms Control: Duncan, Bartlesville, Ponca City, Stillwater, OK (1983)

SDI: Stillwater, OK (1985)

Humanities in a Technological Society: Edmond, OK (1986)

Superconducting Super Collider: Oklahoma City (1992) (three times), Ardmore (1993)

Big Science vs. Small Science: An Artificial Division: Oklahoma City (1996)

Science in the 21st Century: Norman (1997), Oklahoma City (twice), Lindsay, (1998)

Science and Religion—The Big Bang, the Evolution of the Universe, and All That:
 Oklahoma City (2000–02) (five times), Norman (2000–01) (eight times), Lawton
 (2000), Pryor (2001), Edmond (2002)

Mininukes, Proliferation, and WMDs:

Norman (2005), Oklahoma City (2005), Norman (2007), (2008)

Science vs. Religion—A Physicist Looks at Faith: Oklahoma City (2007),

Norman (2008), (2009)

COMMITTEE SERVICE

Homer L. Dodge Department of Physics and Astronomy, OU

Departmental Centennial Committee, Chair 2008–10

Graduate Recruiting Committee 2006–

Departmental Search Committee for High-Energy H.L. Dodge Chair 2008

Graduate Liaison and Chair of Graduate Studies Committee 1991–2005

Chair, Faculty Search Committee in High-Energy Phenomenology 1999–2000

Ad hoc Committee for Departmental Program Review 1997

Ad hoc Committee to Revise Tenure and Promotion Criteria 1996

Solid State Search Committee 1993–94

Organizer for *Supersymposium* and *Beyond the Standard Model II* 1988–91

Graduate Recruiting Committee (Chairman) 1989–91

Committee A 1987–88

Colloquium Chairman 1987–88

High Energy Search Committee 1988

Library Committee 1987–88

Graduate Studies Committee 1986–87

Needs Committee 1986–87

Astronomy Search Committee 1986–87

University of Oklahoma

OSLEP Committee 2009–10

Graduate Council 2009–12

Faculty Senate 2008–10

Research Council 2008

Budget Council, chair 2008–09 2007–10

College of Arts and Sciences Nominations Committee 2007–10

Faculty Awards and Honors Council 2004–05

Faculty Senate 2001–04

College of Arts and Sciences Academic Misconduct Board (chair) 2001–02

College of Arts and Sciences Tenure and Promotion Committee 1998–99

Campus Tenure Committee 1995–98

Mathematics Chair Search Committee 1994

Graduate Council 1990–93

Faculty Advisory Committee to the President 1990–92

Campus Environment Subcommittee on Space and Facilities Planning 1986–88

State of Oklahoma

Superconducting Super Collider Scientific Support Committee 1987–88

Interview panelist for Oklahoma School for Science and Mathematics	1996–2003
Department of Physics, OSU	
Graduate Admissions (Chairman)	1982–85
Personnel Committee	1984–85
Modern Physics Curriculum Committee (Chairman)	1984–85
Graduate Curriculum Committee	1983–84
Preliminary Examination Committee (Chairman 1983–84)	1982–84
Departmental Requirements Committee	1981–82
College of Arts and Sciences, OSU	
Scholarship Committee	1984–85
Member of Delegation Visiting Higher Educational Institutions, Henan Province, Peoples Republic of China, August 1985	

PROFESSIONAL AFFILIATIONS

American Physical Society, Division of Particles and Fields
 American Association for the Advancement of Science
 Sigma Xi

SERVICE TO PROFESSION

- Frequent referee for major journals such as *Physical Review*, *Physical Review Letters*, *Nuclear Physics*, *Annals of Physics*, *Europhysics Letters*, *Physics Letters*, *Journal of Mathematical Physics*, *Journal of Physics A*, *New Journal of Physics*, *Letters in Mathematical Physics*, *International Journal of Modern Physics*, *Modern Physics Letters*, and *American Journal of Physics*. Named “Outstanding Referee” by the American Physical Society, February 1, 2008 (inaugural group).
- Reviewer for funding proposals to public and private funding agencies such as the US Department of Energy, the National Science Foundation, European Science Foundation, Agence Nationale de la Recherche, International Science Foundation, the Guggenheim Memorial Foundation, and the Research Corporation.
- Served on International Advisory Committee for Beyond the Standard Model III, held at Carleton University, Ottawa, in June 1992; for GRG 11, Theoretical and Experimental Problems of General Relativity and Gravitation, Tomsk, Russia, July 2002; for 7th Workshop on Quantum Field Theory Under the Influence of External Conditions (QFEXT05), Barcelona, September 2005; for the 8th Workshop on Quantum Field Theory Under the Influence of External Conditions (QFEXT07), Leipzig, September 2007; for 60 years of Casimir Effect in Brasilia in June, 2008, and for the Friedmann Seminar, João Passoa, Brazil, July, 2008.
- On Advisory Board for *Journal of Physics A*.
- On Editorial Board for *American Journal of Physics*’ Resource Letters.

Ph.D. STUDENTS SUPERVISED

Walter Wilcox (jointly with J. Schwinger)	1981
Ted Grose	(ABD)
Gary Kohler	(ABD)
Dean Miller	1994
Marios Lymberopoulos	1994
Inés Cavero-Peláez	2005

Kuloth Shajesh	2008
Prachi Parashar	in progress
Jeffrey Wagner	in progress
Nima Pourtolami	in progress
Elom Abalo	in progress

COMMUNITY SERVICE

Member of the Citizen's Advisory Council for the Norman School Board 1996–97

PUBLICATIONS

Research Papers.

1. Quantum Corrections to Stress Tensors and Conformal Invariance, *Phys. Rev. D* **4**, 3579 (1971).
2. Radiative Corrections for Electron Scattering in an External Field—A New Method of Calculation (with L. L. DeRaad, Jr., R. J. Ivanetich, and W.-y. Tsai), *Phys. Rev. D* **5**, 358 (1972).
3. Compton Scattering. I. Spectral Forms for the Invariant Amplitudes to Order e^4 (with W.-y. Tsai and L. L. DeRaad, Jr.), *Phys. Rev. D* **6**, 1411 (1972).
4. Compton Scattering. II. Differential Cross Sections and Left-Right Asymmetry (with W.-y. Tsai and L. L. DeRaad, Jr.), *Phys. Rev. D* **6**, 1428 (1972).
5. Second-Order Radiative Corrections to the Triangle Anomaly. I. (with L. L. DeRaad, Jr. and W.-y. Tsai), *Phys. Rev. D* **6**, 1766 (1972).
6. Second-Order Radiative Corrections to the Triangle Anomaly. II. (with W.-y. Tsai and L. L. DeRaad, Jr.), *Phys. Rev. D* **6**, 3491 (1972).
7. Scale Invariance and Spectral Forms for Conformal Stress Tensors, *Phys. Rev. D* **7**, 1120 (1973).
8. Weak-Boson Triangle Anomalies (with W.-y. Tsai and L. L. DeRaad, Jr.), *Phys. Rev. D* **8**, 1887 (1973).
9. Source Theory and Unitarity: A Causal Viewpoint, *Phys. Rev. D* **8**, 3434 (1973).
10. Compton Scattering in External Magnetic Fields: Spin-Zero Charged Particles (with L. L. DeRaad, Jr. and N. D. Hari Dass), *Phys. Rev. D* **9**, 1041 (1974).
11. Sixth-Order Electron g Factor: Mass-Operator Approach. I. (with W.-y. Tsai and L. L. DeRaad, Jr.), *Phys. Rev. D* **9**, 1809 (1974).
12. Sixth-Order Electron g Factor: Mass-Operator Approach. II. (with L. L. DeRaad, Jr. and W.-y. Tsai), *Phys. Rev. D* **9**, 1814 (1974).
13. Weak Muon Magnetic Moment: A Causal Mass-Operator Calculation (with W.-y. Tsai and L. L. DeRaad, Jr.), *Phys. Rev. D* **9**, 1840 (1974).
14. Vector Anomaly and the Magnetic Moment of the W Boson (with L. L. DeRaad, Jr. and W.-y. Tsai), *Phys. Rev. D* **9**, 2847 (1974).
15. Scalar- and Matter-Dominated Cosmologies in Schwinger's Scalar-Tensor Theory of Gravity (with Y. J. Ng), *Phys. Rev. D* **10**, 420 (1974).
16. Compton Scattering in External Magnetic Fields. II. Spin-1/2 Charged Particles (with W.-y. Tsai, L. L. DeRaad, Jr., and N. D. Hari Dass), *Phys. Rev. D* **10**, 1299 (1974).
17. Dynamics of the Lense-Thirring Effect, *Am. J. Phys.* **42**, 911 (1974).

18. Spectral Forms for the Photon Propagation Function and the Gell-Mann-Low Function, *Phys. Rev. D* **10**, 4247 (1974).
19. Compton Scattering in Strong External Electromagnetic Fields (with N. D. Hari Dass, L. L. DeRaad, Jr., and W.-y. Tsai), in *Role of Magnetic Fields in Physics and Astrophysics*, ed. V. Canuto [*Ann. N. Y. Acad. Sci.*, **257**, 72 (1975)].
20. Verification of Virtual Compton-Scattering Sum Rules in Quantum Electrodynamics (with W.-y. Tsai and L. L. DeRaad, Jr.), *Phys. Rev. D* **11**, 3537 (1975).
21. Pion Spectrum in Decay of $\psi'(3.7)$ to $\psi(3.1)$ (with J. Schwinger, W.-y. Tsai, and L. L. DeRaad, Jr.), *Proc. Nat. Acad. Sci. USA* **72**, 4216 (1975).
22. Resonance Interpretation of the Decay of $\psi'(3.7)$ into $\psi(3.1)$ (with J. Schwinger, W.-y. Tsai, and L. L. DeRaad, Jr.), *Phys. Rev. D* **12**, 2617 (1975).
23. Resonance-Model Interpretation of the Decay of $\psi(3.1) \rightarrow \pi^+\pi^-\gamma$ (with W.-y. Tsai and L. L. DeRaad, Jr.), *Phys. Rev. D* **12**, 2620 (1975).
24. Two Muon Events and New Particle Production (with L. L. DeRaad, Jr.), *Phys. Lett.* **59B**, 285 (1975).
25. Deep-Inelastic Neutrino Scattering: A Double Spectral Form Viewpoint (with L. L. DeRaad, Jr. and W.-y. Tsai), *Phys. Rev. D* **12**, 3747 (1975).
26. Vector Anomaly and the Magnetic and Quadrupole Moments of the W Boson (with L. L. DeRaad, Jr. and W.-y. Tsai), *Phys. Rev. D* **12**, 3972 (1975).
27. Nonrelativistic Dyon-Dyon Scattering (with J. Schwinger, L. L. DeRaad, Jr., W.-y. Tsai, and D. C. Clark), *Ann. Phys. (N. Y.)* **101**, 451 (1976).
28. Photon Decay into Neutrinos in a Strong Magnetic Field (with L. L. DeRaad, Jr. and N. D. Hari Dass), *Phys. Rev. D* **14**, 3326 (1976).
29. Strings and Gauge Invariance (with L. L. DeRaad, Jr.), *J. Math. Phys.* **19**, 375 (1978).
30. Quantum-Electrodynamic Corrections to the Gravitational Interaction of the Electron, *Phys. Rev. D* **15**, 538 (1977).
31. Quantum-Electrodynamic Corrections to the Gravitational Interaction of the Photon, *Phys. Rev. D* **15**, 2149 (1977).
32. Casimir Effect in Dielectrics (with J. Schwinger and L. L. DeRaad, Jr.), *Ann. Phys. (N. Y.)* **115**, 1 (1978).
33. Casimir Self-Stress on a Perfectly Conducting Spherical Shell (with L. L. DeRaad, Jr., and J. Schwinger), *Ann. Phys. (N. Y.)* **115**, 388 (1978).
34. Anomalous Spectral Regions in Source Theory (with R. J. Ivanetich, W.-y. Tsai, L. L. DeRaad, Jr., and L. F. Urrutia), in *Themes in Contemporary Physics* (Julian Schwinger's Festschrift), eds. S. Deser, H. Feshbach, R. J. Finkelstein, K. A. Johnson, and P. C. Martin, North-Holland, Amsterdam, 1979, p. 233 [*Physica* **96A**, 233 (1979)].
35. Constructive Approach to Supergravity (with L. F. Urrutia and R. J. Finkelstein), *General Relativity and Gravitation* **12**, 67 (1980).
36. Macroscopic Quantum Electrodynamics, in *Foundations of Radiation Theory and Quantum Electrodynamics*, ed. A. O. Barut, Plenum, N. Y., 1980, p 173.
37. Noncontribution of $n \neq 4$ Axial-Vector Anomaly (with K. Ishikawa), *Phys. Rev. D* **21**, 1700 (1980).
38. Semiclassical Electron Models: Casimir Self-Stress in Dielectric and Conducting Balls, *Ann. Phys. (N. Y.)* **127**, 49 (1980).

39. Difficulties in Constructing Bose Analogs to Supergravity (with L. F. Urrutia), in *Supergravity* (Proceedings of the Supergravity Workshop at Stony Brook, 1979), eds. P. van Nieuwenhuizen and D. Z. Freedman, North-Holland, Amsterdam, 1979, p. 179.
40. Strong Anomaly and $\eta \rightarrow 3\pi$ Decay (with W. F. Palmer and S. S. Pinsky), *Phys. Rev. D* **22**, 1124 (1980).
41. Zero-Point Energy in Bag Models, *Phys. Rev. D* **22**, 1441 (1980).
42. Pseudoscalar Decay Constants and $\eta \rightarrow 3\pi$ in Chiral and $1/N$ Perturbation Theory (with W. F. Palmer and S. S. Pinsky), *Phys. Rev. D* **22**, 1647 (1980).
43. Zero-Point Energy of Confined Fermions, *Phys. Rev. D* **22**, 1444 (1980).
44. Neutrino Mixing in $SO(10)$ (with S. Hama, S. Nandi, and K. Tanaka), *Phys. Lett.* **97B**, 221 (1980).
45. Electron Pair Production by Virtual Synchrotron Radiation (with L. L. DeRaad, Jr. and W.-y. Tsai), *Phys. Rev. D* **23**, 1032 (1981).
46. The Electroweak Anomaly and Current Algebra for $K \rightarrow \gamma l\nu$ (with W. W. Wada), *Phys. Lett.* **98B**, 367 (1981).
47. Neutrino Mixing in a Grand Unified Theory (with K. Tanaka), *Phys. Rev. D* **23**, 2087 (1981).
48. QCD Anomaly Mediation of $\psi' \rightarrow \psi\pi^0$ and $\psi' \rightarrow \psi\eta$ (with W. F. Palmer and S. S. Pinsky), *Phys. Lett.* **100B**, 336 (1981).
49. Neutrino Mixing in $SO(10)$ (with K. Tanaka), in *Gauge Theories, Massive Neutrinos, and Proton Decay* (Proceedings of Orbis Scientiæ 1981), ed. A. Perlmutter, Plenum, N. Y., 1981, p. 207.
50. Quark and Gluon Condensates in a Bag Model of the Vacuum, *Phys. Lett.* **104B**, 49 (1981).
51. Casimir Self-Stress on a Perfectly Conducting Cylindrical Shell (with L. L. DeRaad, Jr.), *Ann. Phys. (N. Y.)* **136**, 229 (1981).
52. Mixing of ν_e and ν_μ in $SO(10)$ Models (with S. Nandi and K. Tanaka), *Phys. Rev. D* **25**, 800 (1982).
53. Chromostatics of Two-Quark Systems (with W. F. Palmer and S. S. Pinsky), *Phys. Rev. D* **25**, 1718 (1982).
54. Color-Singlet Confinement in Chromostatics (with W. Wilcox, W. F. Palmer, and S. S. Pinsky), *Phys. Rev. D* **27**, 1348 (1983).
55. Glueballs (with W. F. Palmer and S. S. Pinsky), *Proceedings of XVII Rencontre de Moriond*, ed. J. Trân Thahn Vân. (Editions Frontières, Gif-sur-Yvette, 1982), No. 36, p. 67.
56. Bag Formation in Three-Quark Chromostatics (with W. Wilcox and S. S. Pinsky), *Phys. Rev. D* **27**, 958 (1983).
57. The Chiral Ward Identities for the Pseudoscalar Mesons Including the Gluonic Bound State $G(1440)$ (with W. F. Palmer and S. S. Pinsky), *Phys. Rev. D* **27**, 202 (1983).
58. Toward Finite Zero-Point Energies in the Bag Model, *Phys. Rev. D* **27**, 439 (1983).
59. Neutrino Oscillations in Grand Unified Theories, in *Neutrino Mass and Gauge Structure of Weak Interactions* (Proceedings of Telemark Workshop, 1982), eds. V. Barger and D. Cline, AIP, N. Y., 1983, p. 187.
60. Glueball Formation in Chromostatics (with W. Wilcox), *Phys. Lett.* **124B**, 252 (1983).

61. Fermionic Casimir Stress on a Spherical Bag, *Ann. Phys. (N. Y.)* **150**, 432 (1983).
62. Confined Coulombic Model for Heavy-Light Quark Systems (with W. Wilcox and O. V. Maxwell), *Phys. Rev. D* **31**, 1081 (1985).
63. Consistent Formulation of Fermions on a Minkowski Lattice (with C. M. Bender and D. H. Sharp), *Phys. Rev. Lett.* **51**, 1815 (1983).
64. Limits on τ Composite Structure from Polarized Z^0 Decay (with J. Reid, M. Samuel, and T. Rizzo), *Phys. Rev. D* **30**, 245 (1984).
65. Gauge Invariance and the Finite-Element Solution of the Schwinger Model (with C. M. Bender and D. H. Sharp), *Phys. Rev. D* **31**, 383 (1985).
66. Constraints on $\nu \rightarrow \gamma\gamma$ Provided by the Topological Susceptibility, *Phys. Rev. Lett.* **57**, 1530 (1986).
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