

CURICULUM VITAE

**ZOHREH PARSA,
Physicist**



PERSONAL DATA:

Address: Physics Department 510A,
Brookhaven National Lab,
Upton, New York 11973-5000, USA

E-mail: parsa@bnl.gov
parsa@scienceintl.com
parsa2085@gmail.com

Telephone: (631) 344-2085

URL : <https://neutrino.bnl.gov>
<https://quark.phy.bnl.gov/~parsa/>

EDUCATION AND PROFESSIONAL EXPERIENCE:

EDUCATION: Ph.D. in Physics, Polytechnic University, N. Y. 1977
*Doctoral Dissertation: Topological Solitons: Vortices,
Magnetic Monopoles And Instantons.*
M. S. in Physics, New York University, New York
B. S. in Physics, Delaware, Delaware.

RESEARCH INTEREST:

Professor Dr. Zohreh Parsa has been Physicist (theory and phenomenology);
Tenured Faculty; Author; Editor; Executive; ... Her research has spanned Nuclear

Physics; Particle Physics; and Collider Physics (ILC, LHC, MC, SSC); Non-linear physics/ Dynamics; and has included: Nuclear Structure within the framework of quasiparticle - vibration coupling approach in the unified nuclear model. Topological Solitons in Physics; Multiply Charged Magnetic Monopoles; and Quantum Chromodynamics. Flavor Physics; Rare Kaon Decay; Intermediate Vector Bosons; Neutrino Cosmology; Neutrino Electron Scattering theory. Non-linear Physics. Dark Matter. Muon; and Neutrino Physics. Including Neutrino/CP violation and Very Long Baseline Neutrino Experiment (**LBNE**) studies she started in 1998 that envisioned sending a very intense neutrino beam through the earth to a "far away", underground, large detector to search for Physics Potentials for making Precision Measurements of all Neutrino Oscillation Parameters, CP Violation, Proton Decay and Natural Sources of Neutrinos such as Supernova. "Very Long Distance" is the key to this approach and the physics you can do. And provide possibility of observing multiple nodes of the neutrino oscillation probability in appearance and disappearance experiments. Observation of such a pattern will demonstrate oscillatory nature of the flavor changing phenomenon, when studied at LBNE could provide a deeper understanding of our universe. LBNE would be capable of measuring high-statistics neutrino signals from a supernova in our galaxy, provide information on inside of newly-formed neutron star, and possible observation of black hole formation. [Funding was approved to start LBNE with Source at BNL, but (P. Paul Director said) returned the money to DOE due to conflict of AGS chair (retired) who wanted more funding]. LBNE was high priority fundamental Science project for over a decade. In 2012, DOE approved FNAL's proposal for LBNE with the source at FNAL; Later **LBNE** was renamed **DUNE** (**Deep Underground Neutrino Experiment**). Dr. Parsa has been Member of LBNE, LBNF and DUNE Collaborations.

POSITIONS & RELEVANT EXPERIENCE:

Physicist, Professor, Director, Chair, Coordinator, Developer and Organizer of Research Programs and Workshops; Team Leader and Chief Scientist of the (US State Department Funded) Projects with Former Nuclear Weapon Scientists, etc.

Physicist (Theory and Phenomenology), Brookhaven National Lab (1985-);

Tenured Faculty (Physics Professor) New Jersey Institute of Technology (1977-1985);

Physics Lecturer (Adjunct) CUNY Hunter College (1974-1976);

Director of Physics and Engineering Labs, Essex C. College (1972 -1974);

Professor of Physics, University of California, Santa Barbara (1996-1997);
Visiting Scientist, Univ. Mainz, Germany (May 2011- Summer 2012 & 2003);

Visiting Scientist, Univ. Karlsruhe, Germany (May-Aug 2002 & 2003);

Visiting Scientist in Reactor Group, Brookhaven National Lab (1977-84);

Visiting Prof., Institute for Nuclear Theory, Univ. of Washington, Seattle;

Visiting Scholar, Northwestern University, Evanston ILL (1980-1981);

Visiting Scholar, Aspen Center for Physics, Aspen Colorado;

Visiting Scholar, at Los Alamos National Lab, Los Alamos, New Mexico, etc.

Professional Activities:

Professor Parsa in addition to Teaching and Research, has been: "Author"; "Referee"; "Editor" and "Editor in Chief" of Newsletters, Scientific papers, Manuals, and books; Executive Science International LLC (2006-).

Professional Organizations and Collaborations:

CHAIR, COORDINATOR, ORGANIZER:

Coordinator, organizer of the first US long term Particle and Accelerator Research Program: “New Ideas for Particle – Accelerators”, at the Institute for Theoretical Physics (ITP), Santa Barbara, California (July - December 1996). [A unique feature of the Program (and 3 symposia) was the bringing together of many physicists who will have a major impact on the future direction of the field. Many topics we worked on led to National & International Physics projects in particle and accelerator physics. The program was funded by the National Science Foundation].

Chairperson, and organizer of the Symposium on “New Modes of Particle Acceleration – Techniques and Sources”, Santa Barbara, California August 19-23, 1996. [Highlights of that meeting included Novel Modes of laser, plasma, and wakefield acceleration, techniques, and power sources.].

Chairperson, and organizer of the Symposium on “Future High Energy Colliders”, Santa Barbara, California October 21 - 25, 1996. [Especially interesting were set of presentations made by the Department of Energy Director of Energy Research; by National Science Foundation; and by the Directors of the three U.S. High Energy Physics Laboratories (BNL, FNAL, and SLAC). Their perspectives, combined with presentations by Internationally distinguished high energy and accelerator physicists, provided a comprehensive picture of the issues involved in formulating goals for the future, and should provide a valuable input for ongoing discussions in making decisions regarding the future direction of the field. See: Z. Parsa, Future High Energy Colliders Summary Report: BNL-52524, 1996; and Z. Parsa, “Collision Crossroads, CERN Courier ” Vol 37, 2, March 1997, Ed. G. Fraser].

Chairperson, and organizer of the Symposium on “Beam Stability and Nonlinear Dynamics” Santa Barbara, California December 3-5, 1996; [Dealt with the fundamental theoretical Nonlinear dynamics problems associated with accelerator physics.];

Chair of the “CIPANP” Local organizing committee and member of “Intersection” organizing committee for the 8th Conference on “Intersection of Particle and Nuclear Physics”, in New York City, May 2003. [The conference we organized in New York City provided an interesting location for many participants who attended the CIPANP2003, where the BNL RHIC preliminary results were presented, in addition to the Particle, Nuclear, and related topics. The program

was well attended with over 500 participants.] ;

Chairperson and Organizer of the American Physical Society - New York State Section Topical Symposium on “Particle Accelerator Frontiers and New Physics Potentials” Brookhaven National Laboratory, Upton New York, October 2003 . etc.

PROFESSIONAL MEMBERSHIPS :

Elected Executive committee member of New York State Section of the American Physical Society (2001-2005);

Member of Long Baseline Neutrino Experiment (LBNE); LBNF; DUNE Collaborations ; Member of Neutrino Working Group(s) (2001- present);

Member of the International Linear Collider (ILC) Collaboration; (1992-);

Member of Muon Collider and Neutrino Factory Collaborations (1993-);

Member & Team Leader of US State Department Funded Projects, with Former Nuclear Weapon Scientists from Russia; Ukrain (1999 – 2005),; etc.

Member of American Physical Society (APS);

Member of Division of Particles and Fields (DPF);

Member of Division of Nuclear Physics (DNP);

Member, Organizer and Chair of BNL biweekly Particle and Accelerator Physics seminars, (1987-1999); [The biweekly seminar topics covered Particle Physics, Collider Physics (e.g. Muon Collider), and in between topics & was well attended with participants from various groups,] etc.

Computer Activities:

Member and Elected Chair of: Digital Equipment Corporation User Society (DECUS) Upton Section (1986-1999);

Member and Chair of BNL Computer “Local Users Group” (LUG) for 13 years . [The monthly DECUS and LUG meetings took place for over 13 years, and was well attended by participants from Groups, Divisions and outside of the BNL. It provided Forums for the participants from all fields to learn about new computer

technology and provided a question and answer session between participants and local & visiting computer gurus. Talks and discussions included VAX VMS, IBM, Unix (Linux), PC, Networking and Storage problems and solutions] etc.

Editor, Computer Code Manuals and Computer Primer(s) for VMS, Unix and IBM that was distributed by the computer Department.

Member of Cyber Administration, BNL; etc.

Referee & Author:

Referee and Author of Physics Journals, Research Publications, Physics and Computer Manuals.

EDITORSHIPS:

Editor-in-Chief of the American Physical Society New York State "Physics Newsletter" (2000-2005). Editor of the Inaugural Issue (started) Vol 1 in 2002, Volume 2, 2003, Volume 3, 2004..., (4000 copies of each vol was distributed by the American Physical Society).

Editor of Physics Conference Proceedings, Books; etc.

Editor of (5 + Books):

"New Modes of Particle Acceleration – Techniques and Sources"; Z. Parsa (editor) AIP CP 396, AIP Press, Woodbury, New York (1997), 211 pages. ISBN 1-56396-728-6, Printed in USA.

"Future High Energy Colliders"; Z. Parsa (editor) AIP CP 397; American Institute of Physics Press, NY (1997). Woodbury, New York (1997), 378 pages. ISBN 1-56396-729-4.

"Beam Stability and Nonlinear Dynamics"; Z. Parsa (editor) AIP CP 405", AIP Press, Woodbury, New York (1997), 245 pages. Printed in United States. ISBN 1-56396-731-6.

"Intersections of Particle and Nuclear Physics" 7th conference; Z. Parsa with W. Marciano (editors), AIP CP 549, American Institute of Physics, Melville, New York, 1040 pages (2001); Printed in USA. ISBN 1-56396-978-5.

"Intersections of Particle and Nuclear Physics" 8th conference, Z. Parsa (editor) AIP CP 698. American Institute of Physics, Melville, N.Y., 1000 pages (2003), Printed in USA. ISBN 0-7354-0169-1.

Papers by Author

Zohreh Parsa

US Department of Energy Brookhaven National Laboratory
Physics Department 510 A,
Upton, NY 11973, USA

parsa@bnl.gov

1. “The DUNE Far Detector Interim Design Report, Volume 3: Dual-Phase Module” With B. Abi et al. [DUNE Collaboration]; arXiv:1807.10340 [physics.ins-det]; FERMILAB-DESIGN-2018-04; (2018).
2. “The DUNE Far Detector Interim Design Report, Volume 2: Single-Phase Module” With B. Abi et al. [DUNE Collaboration]; arXiv:1807.10327 [physics.ins-det]; FERMILAB-DESIGN-2018-03; (2018).
3. “The DUNE Far Detector Interim Design Report Volume 1: Physics, Technology and Strategies” With B. Abi et al. [DUNE Collaboration]; arXiv:1807.10334 [physics.ins-det]; FERMILABDESIGN-2018-02; (2018).
4. “The Single-Phase ProtoDUNE Technical Design Report”; With B. Abi et al. [DUNE Collaboration]; arXiv:1706.07081 [physics.ins-det]; FERMILAB-DESIGN-2017-02; (2017). 24 citations.
5. “Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE): Conceptual Design Report, Volume 1: The LBNF and DUNE Projects” With R. Acciarri et al. [DUNE Collaboration]; arXiv:1601.05471 [physics.ins-det]; FERMILAB-DESIGN-2016-01; (2016). 179 citations.
6. “Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE): Conceptual Design Report, Volume 4 The DUNE Detectors at LBNF” With R. Acciarri et al. [DUNE Collaboration]; arXiv:1601.02984 [physics.ins-det]; FERMILAB-DESIGN-2016-04; (2016), 130 citations.
7. “Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE): Conceptual Design Report, Volume 2: The Physics Program for DUNE at LBNF” With R. Acciarri et al. [DUNE Collaboration]; arXiv:1512.06148 [physics.ins-det]; FERMILABDESIGN - 2016-02; (2015), 363 citations.
8. “The Intermediate Neutrino Program” With C. Adams et al.; arXiv:1503.06637 [hep-ex]; FERMILAB-CONF-15-120-ND

9. “Working Group Report: Quark Flavor Physics” With J. N. Butler et al. [Quark Flavor Physics Working Group]; arXiv:1311.1076 [hep-ex]; FERMILAB-CONF-13-664-PPD-T; (2013), 26 citations.
10. “Working Group Report: Neutrinos” With A. de Gouvea et al. [Intensity Frontier Neutrino Working Group]; arXiv:1310.4340 [hep-ex]; FERMILAB-CONF-13-479-E; (2013), 122 citations.
11. “Scientific Opportunities with the Long-Baseline Neutrino Experiment” With C. Adams et al. [LBNE Collaboration]; FERMILAB-CONF-13-300; (2013).
12. “The Long-Baseline Neutrino Experiment: Exploring Fundamental Symmetries of the Universe” With C. Adams et al. [LBNE Collaboration]; arXiv:1307.7335 [hep-ex]; BNL-101354-2013-JA, BNL-101354-2014-JA, FERMILAB-PUB-14-022, LA-UR-14-20881; (2013), 391 citations.
13. “Fundamental Physics at the Intensity Frontier” With J. L. Hewett et al.; arXiv:1205.2671 [hep-ex]; DOI:10.2172/1042577 ANL-HEP-TR-12-25, SLAC-R-991, FERMILAB-CONF-12-879-PPD; (2012), 300 citations.
14. “The Long Baseline Neutrino Experiment (LBNE) Water Cherenkov Detector (WCD) Conceptual Design Report (CDR)” With J. Goon et al. [LBNE Collaboration]; arXiv:1204.2295 [physics.ins-det]; (2012), 21 citations.
15. “The 2010 Interim Report of the Long-Baseline Neutrino Experiment Collaboration Physics Working Groups” With T. Akiri et al. [LBNE Collaboration]; arXiv:1110.6249 [hep-ex]; FERMILAB-FN-0941-PPD, LBNE-PWG-004; , 168 citations.
16. “Flavor Physics in the Quark Sector” With M. Antonelli et al.; arXiv:0907.5386 [hep-ph]; DOI:10.1016/j.physrep.2010.05.003; Phys. Rept. 494, 197 (2010); BNL-90299-2009-BC, CERN-PHTh-2009-112, FERMILAB-PUB-09-323-T, LAL-09-111, MPP-2009-88, MZ-TH-09-22, MKPH-T-09-14, SLAC-R-926, WSU-HEP-0902, LAL -09-111, TUM-HEP-728-09; (2009), 298 citation.
17. “Review of Particle Physics” With C. Amsler et al. [Particle Data Group]; DOI:10.1016/j.physletb. 2008.07.018; Phys. Lett. B 667, 1 (2008); 6282 citations.
18. “ILC Reference Design Report Volume 3 - Accelerator” With N. Phinney et al.; arXiv:0712.2361 [physics.acc-ph]; (2007); 100 citations.
19. “ILC Reference Design Report Volume 4 - Detectors” With T. Behnke et al. [ILC Collaboration]; arXiv:0712.2356 [physics.ins-det]; FERMILAB-DESIGN-2007-02, FERMILAB-PUB-07-793-E; (2007); 100 citations.

20. “International Linear Collider Reference Design Report Volume 2: Physics at the ILC” With A. Djouadi et al. [ILC Collaboration]; arXiv:0709.1893 [hep-ph]; SLAC-R-975, FERMILABDESIGN-2007-04, FERMILAB-PUB-07-795-E; (2007); 400 citations.
21. “ILC Reference Design Report Volume 1 - Executive Summary” With J. Brau et al. [ILC Collaboration]; arXiv:0712.1950 [physics.acc-ph]; FERMILAB-DESIGN-2007-03, FERMILAB-PUB-07-794-E; (2007); 279 citations.
22. “Report of the US long baseline neutrino experiment study” With V. Barger et al.; arXiv:0705.4396 [hep-ph]; FERMILAB-FN-0801-AD-E, BNL-77973-2007-IR; (2007); 134 citations.
23. “Intense neutrino beams and leptonic CP violation” W. Marciano and Z. Parsa.; hep-ph/0610258; DOI:10.1016/j.nuclphysbps.2011.03.114; Nucl. Phys. Proc. Suppl. 221, 166 (2011); BNL-HET-06-14; (2006); 20 citations.
24. “Proposal for an Experimental Program in Neutrino Physics and Proton Decay in the Homestake Laboratory” With M. Diwan et al.; hep-ex/0608023; BNL-76798-2006-IR; (2006); 41 citations.
25. “Fokker-Planck Model of Charged Particle Beam Behavior in Strong Toroidal Magnetic Field”; Z. Parsa, A. Chikrii, S. Eidelman, V. Yavorskij, and V. Zadorozhny in J. Nonlinear Analysis Real World Applications (NONRWA), 6, 2005, 417-428; (2005).
26. “On the Vlasov-Maxwell equations” With V. Zadorozhny and Z. Parsa. Conf. Proc. C 0505161, 2654 (2005). PAC-2005-TPAT041; (2005).
27. “Actual stationary state for plasma lens” With V. Zadorozhny, A. Goncharov and Z. Parsa; Conf. Proc. C 0505161, 2619 (2005); PAC-2005-TPAT040
28. “Acceleration and focusing as optimal control for dynamic systems” Z. Parsa and V. Zadorozhny; (2004)
29. “Physics of an intense neutrino beam from BNL to a very long baseline detector” Z. Parsa; DOI:10.1063/1.1664248; AIP Conf. Proc. 698, 307 (2004).
30. “Neutrino electron scattering theory” W. J. Marciano and Z. Parsa. hep-ph/0403168 DOI:10.1088/0954-3899/29/11/013 J. Phys. G 29, 2629 (2003); 64 citations.
31. “The neutrino superbeam from the AGS” With W. T. Weng et al.; DOI:10.1088/0954-3899/29/8/340; J. Phys. G 29, 1735 (2003).
32. “AGS super neutrino beam facility accelerator and target system design: Neutrino working group report II” With M. Diwan et al.; hep-ex/0305105; BNL-71228-2003-IR;

(2003); 19 citations.

33. “Acceleration and Self Focused Particle Beam Drivers” V. Zadorozhny and Z. Parsa; Conf. Proc. Int. C 030512, 3005; Portland, USA. (2003); PAC03-RPAG059 (2003). <http://accelconf.web.cern.ch/AccelConf/p03/PAPERS/RPAG059.PDF>

34. ‘ ‘Control Theory to Accelerator Research and Self-Focused Bunched Beam ’’ Z. Parsa, V. Zadorozhny and A. Rudenko, Proc. Int. Conf. Physics and Control (PhysCon 2003, August 20-22, 2003, Saint-Petersburg, RUSSIA, Vol. 3.6 Beam Dynamics: Modeling, Control and Optimization, pp. 991-997.). <http://www.ieee.org/> ISBN:0-7803-7939-X

35. “Very long baseline neutrino oscillation experiments for precise measurements of mixing parameters and CP violating effects” With M. V. Diwan et al.; hep-ph/0303081; DOI:10.1103 Phys. Rev. D 68, 012002 (2003); 169 citations.

36. “Intersections of particle and nuclear physics”; Z. Parsa (editor), AIP 698 (2003); 1000 pages; AIP-Press Melville, NY. Proceedings of the 8th Conference; CIPANP 2003, New York, May 19-24, 2003. ISBN 0-7354-0169-1, Printed in USA.

37. “Report of the BNL neutrino working group: Very long baseline neutrino oscillation experiment for precise determination of oscillation parameters and search for ν_μ to ν_e appearance and CP violation”; With M. Diwan et al.; hep-ex/0211001; BNL-69395; (2002); 57 citations.

38. “Recent Progress in Neutrino Factory and Muon Collider Research within the Muon Collaboration” With M. M. Alsharoa et al. [Neutrino Factory and Muon Collider Collaboration]; hep-ex/0207031; DOI:10.1103/PhysRevSTAB.6.081001; Phys. Rev. ST Accel. Beams 6, 081001 (2003); FERMILAB-PUB-02-149-E, JLAB-ACT-03-07, FERMILABMUCOOL- 248; (2002); 366 citations

39. “On the Beam Dynamics which has Beam Described by Vlasov Equation” Z. Parsa, V. Zadorozhny, AIP CAP, 235, Accel, 1998. P. 576 – 584.

40. “A. Stationary equilibrium orbits of compensated charged beams in a curvilinear magnetic field. ” Z. Parsa and V. Zadorozhny. A., Goncharov; . J. CYBERNETICS and SYSTEM ANALYSIS, 2002, N 5, pp. 122 -131. (2002).

41. “Dynamic behavior of charged particle beams in curvilinear magnetic field” Z. Parsa and V. Zadorozhny; (2002).

42. “Formalism for chaotic Behavior of the Bunched Beam” Z. Parsa,V. Zadorozhny, Problems of Automatic Science and Technology. 2002. 2 . P. 53 - 61; (2002).

43. “Scenarios for BNL neutrino superbeam and oscillation experiment” Z. Parsa; C02-06-03.1, p.1037-1039 (2002); In Proceedings of the EPAC 2002 (8th European Particle Accelerator Conference 3-7 Jun 2002. Paris, France).
44. “A. Stationary equilibrium orbits of compensated charged beams in a curvilinear magnetic field”; Parsa Z., Zadorozhny V., Goncharov A. J; CYBERNETICS and SYSTEM ANALYSIS, 2002, N 5, pp. 122 -131; (2002).
45. “Letter of Intent: Neutrino Physics with Detectors at Baselines of 100 - 1000 km from BNL”; With M. Diwan et al.; (2002).
46. “Proposal to Measure the Efficiency of Electron Charge Sign Determination up to 10 GeV in a Magnetized Liquid Argon Detector (μ LANNDD)”; With M. V. Diwan et al.; BNL-P-0965; (2002).
47. “Neutrino oscillation experiments for precise measurements of oscillation parameters and search for muon-neutrino to electron-neutrino appearance and CP violation: Letter of intent to Brookhaven National Laboratory”; With D. Beavis et al.; hep-ex/0205040; (2002); 43 citations.
48. “E1 Working Group summary: Neutrino factories and muon colliders” With T. Adams et al.; hep-ph/0111030; eConf C 010630, E1001 (2001); FERMILAB-CONF-01-307-T, MADPH-01-1243, SNOWMASS-2001-E1001; (2001); 36 citations.
49. “Deterministic Chaos”, Z. Parsa, V. Zadorozhny; in Proceedings of Particle Accelerator Conference, Chicago, Ill, (2001).
50. “Exact solution of selfconsistent Vlasov-Poisson equation”, Z. Parsa, V. Zadorozhny, Proceedings of ICAPC-2000 (2001).
51. “Nonlinear Dynamics on Compact and Beam Stability, Journal of Nonlinear Analysis” ; Z. Parsa; 47 (2001) 4897-4904, published by Elsevier Science Ltd., (2001).
52. “Neutrino Factory - Ionization Cooling, Emittance Exchange, and nu Superbeam at BNL?” Z. Parsa. Conf. Proc. C 0106181, 3864 (2001); PAC-2001-FPAH080
53. “Higgs Factory and Potentials” Z. Parsa. Conf. Proc. C 0106181, 3338 (2001); PAC-2001-RPPH049.
54. “Neutrino Factory based on Muon-Storage-Rings to Muon Colliders: Physics and Facilities” Z. Parsa. Conf. Proc. C 0106181, 3335 (2001); PAC-2001-RPPH048, BNL-68719.

55. “The Chaotic Behavior of the Bunched Beam” Z. Parsa and V. Zadorozhny; AIP, Conf. Proc. C 0106181, 1673 (2001); PAC-2001-TPPH009; (2001).
56. “Deterministic Chaos”, Z. Parsa, V. Zadorozhny, in Proceedings of Particle Accelerator Conference, Chicago, Ill, (2001).
57. “Neutrino Factory based on Muon-Storage-Rings to Muon Collider”; Z. Parsa, in Proceedings of Particle Accelerator Conference, Chicago, Ill, (2001).
58. “Higgs Factory and Potentials”, Z. Parsa, in Proceedings of Particle Accelerator Conference, Chicago, Ill, (2001).
59. “Neutrino Factory - Ionization Cooling, Emittance Exchange and Superbeam at BNL”, Z. Parsa, in Proceedings of Particle Accelerator Conference, Chicago, Ill, (2001).
60. “E1 Working Group Summary: Neutrino Factories and Muon Colliders,” , With Adams, Z. Parsa et al., Proceedings of the 2001 Snowmass; DPF/DPB Study on the Future of Particle Physics, (2001).
61. “A Scenario For A Brookhaven Neutrino Super-Beam Experiment” , With M. Diwan, Z. Parsa, K. McDonald, Proceedings of the 2001 Snowmass DPF/DPB Study on the Future of Particle Physics, (2001).
62. “A Scenario for a Brookhaven neutrino super beam experiment” With M. V. Diwan, S. A. Kahn, R. B. Palmer, Z. Parsa, I. Stumer and K. T. McDonald; eConf C 010630, E103 (2001); SNOWMASS-2001-E103
63. “Feasibility Study 2 of A Muon Based Neutrino Source” With S. Ozaki et al.; BNL-52623, FERMILAB-PUB-01-544-A
64. “Long Baseline Neutrino Experiments and Underground Facilities” With M. Goodman et al.; <http://inspirehep.net/record/856489>.
65. “Neutrino factories: Physics potentials” Z. Parsa. DOI:10.1063/1.1345366; AIP Conf. Proc. 549, no. 1, 781 (2000); BNL-68140
66. “Muon Sources - ν Factory to μ^{+-} Colliders“; Z.Parsa;AAC2000, June2000; in AIPCP569, ed.P.L. Colestock and S. Kelly, p.890 – 902(2001).13pages.
67. “Muon Cooling - Emittance Exchange”; Z. Parsa; in AIP CP569, ed. P.L.Colestock and S. Kelly, p.583-590 (2001). 8 pages.

68. “Muon Sources” ; Z. Parsa; in *Intersections of Particle and Nuclear Physics*”, Published in American Institute of Physics CP Volume 549, p.831-840 (Dec 2000).
69. “ Neutrino Factory - Physics Potentials”; Z. Parsa; in *Intersections of Particle and Nuclear Physics*, Published in American Institute of Physics CP Volume 549, p.781-789 (Dec 2000).
70. “Intense Muon Beams and Neutrino Factories”; Z. Parsa; in *Physics Potential And Development of Muon Colliders And Neutrino Factories*, ed. D. Cline AIP CP Volume 542 (Nov. 2000).
71. “Future lepton colliders and laser acceleration” Z. Parsa. DOI:10.1016/S0217-751X(00)00264-9; *Int. J. Mod. Phys. A* 15, 2565 (2000).
72. “Muon Storage Rings - Neutrino Factories”; Z. Parsa; in *Next Generation Nucleon decay and Neutrino detector*, ed. M. Diwan and C. Jung, AIP CP Volume 533, p. 181-195, (2000).
73. “Muon Storage Rings - Neutrino Factories”; Z. Parsa; in *Next Generation Nucleon decay and Neutrino detector*, ed. M. Diwan and C. Jung, AIP CP Volume 533, p. 181-195, (2000).
74. “Physics at High Luminosity $\mu\pm$ Colliders and a Facility Overview” Z. Parsa. In *Upton 2000/2001, Muon colliders at the high energy frontier* 12; BNL-68851
75. “Physics at a neutrino factory” With C. Albright et al.; hep-ex/0008064; FERMILABFN-0692; (Aug 2000).
76. “Muon sources: ν factory to $\mu\pm$ colliders” Z. Parsa. DOI:10.1063/1.1384415; AIP Conf. Proc. 569, no. 1, 890 (2001); BNL-68105; (2000).
77. “Muon cooling: Emittance exchange” Z. Parsa. DOI:10.1063/1.1384386; AIP Conf. Proc. 569, no. 1, 583 (2001); BNL-68139
78. “Muon sources” Z. Parsa. DOI:10.1063/1.1345375; AIP Conf. Proc. 549, no. 1, 831 (2000); BNL-68141
79. “A Feasibility Study of a Neutrino Source Based on a Muon Storage Ring” With N. Holtkamp et al. : *Phys.Rev.ST Accel.Beams*; SLAC-REPRINT-2000-054, FERMILAB-PUB-00-108-E
80. “Intersections of particle and nuclear physics 7th Conference” Z. Parsa and W. J. Marciano (Editors) AIP Conf. Proc. 549 (2000). (CIPANP 2000), Quebec City, Quebec, Canada, 22-28 May 2000; AIP-Press Melville, New York, 1040 pages (2001). ISBN 1-56396-978-5, Printed in USA.

81. “Intense muon beams and neutrino factories” Z. Parsa. DOI:10.1063/1.1336260; AIP Conf. Proc. 542, no. 1, 236 (2000); (1999). BNL-67823
82. “Expression of interest for R & D towards a neutrino factory based on a storage ring and a muon collider”; With D. Ayres et al. [Neutrino Factory and Muon Collider Collaboration]; physics/9911009 [physics.acc-ph]; FERMILAB-PUB-99-389 (1999).
83. “Muon storage rings - neutrino factories” Z. Parsa. DOI:10.1063/1.1361743; AIP Conf. Proc. 533, no. 1, 181 (2000).
84. “Focusing and acceleration of bunched beams”; Z. Parsa and V. Zadorozhny. DOI:10.1063/1.1361684; CAP, 277. - 2000; P. 347 - 359. (1999)
85. “Muon Storage Rings - Neutrino Factories”; Z. Parsa; in Next Generation Nucleon decay and Neutrino detector, ed. M. Diwan and C. Jung, AIP CP Volume 533, p. 181-195, (2000).
86. “High energy physics potential at muon colliders” Z. Parsa. DOI:10.1063/1.1361683; AIP Conf. Proc. 530, no. 1, 239 (2000); (Sep 1999).
87. “Intensification of harmonic spontaneous radiation with a novel undulator” With T. C. Marshall, Y. Shao and Z. Parsa. DOI:10.1063/1.58872; AIP Conf. Proc. 472, no. 1, 609 (1999).
88. “Muon colliders: Ionization cooling and solenoids” Z. Parsa. (Mar 1999).
89. “On Landau scenario of chaotization for beam distribution” Z. Parsa and V. Zadorozhny. PAC99, Center for Acceleration Physics, BNL - 66257, CAP - 247, Theory 99, 1999; P. 302 - 317 (1999).
90. “Status of muon collider research and development and future plans” With C. M. Ankenbrandt et al.; physics/9901022; DOI:10.1103/PhysRevSTAB.2.081001; Phys. Rev. ST Accel. Beams 2, 081001 (1999); BNL-65623, FERMILAB-PUB-98-179, LBNL-41935, LBL- 41935; 636 citations.
91. “Variational approach in wavelet framework to polynomial approximations of nonlinear accelerator problems” With A. Fedorova, M. Zeitlin and Z. Parsa; physics/9902062; DOI:10.1063/1.58425; AIP Conf. Proc. 468, no. 1, 48 (1999); 20 citations.
92. “Symmetry, Hamiltonian problems and wavelets in accelerator physics” With A. Fedorova, M. Zeitlin and Z. Parsa; physics/9902063; DOI:10.1063/1.58428; AIP Conf. Proc. 468, no. 1, 69 (1999) 20 citations.

93. “Polarization and luminosity requirement for the first muon collider” Z. Parsa. DOI:10.1063/1.58849; AIP Conf. Proc. 472, no. 1, 251 (1999).
94. “Muon dynamics and ionization cooling at muon colliders”; Z. Parsa; In C98-06-22, p.1055-1057 (1998); Proceedings of 6th European Particle Accelerator Conference (EPAC 98) , Stockholm, Sweden. Proceedings. CD-ROM Edited by S. Myers, L. Lijebjy, Ch. Petit-Jean-Genaz, J. Poole, K.-G. Rensfelt. Philadelphia, PA, IOP Publishing, 1998.
95. “On the Beam Dynamics which has Beam Described by Vlasov Equation” ; Z. Parsa, V. Zadorozhny, AIP CAP, 235, Accel, 1998. P. 576 - 584; (1999).
96. “Wavelet approach to Hamiltonian, chaotic and quantum calculations in accelerator physics” With A. Fedorova, M. Zeitlin and Z. Parsa. (1998).
97. “Nonlinear effects in accelerator physics: From scale to scale via wavelets” With A. Fedorova, M. Zeitlin and Z. Parsa; (Jun 1998)
98. “Polarization effects at a muon collider” Z. Parsa; (Jun 1998)
99. “Ionization cooling research and development program for a high luminosity muon collider” With C. M. Ankenbrandt et al.; FERMILAB-PROPOSAL-0904; (Apr 1998). 73 citations.
100. “Muon Cooling and Dynamics for Muon Colliders” Z. Parsa; (Apr 1998). <http://inspirehep.net/record/464836>
101. “A formula for the integration of radiation using Yoshida’s Lie methods” With E. Forest and Z. Parsa; In 15th Advanced ICFA Beam Dynamics Conference Proceedings : C98- 01-04, p.106-109 (1998). <http://inspirehep.net/record/487357> (Jan 1998)
102. “Collision Crossroads”; Z. Parsa; CERN Courier, International Journal of High Energy Physics Vol. 37, No. 2, March 1997.
103. “Application of Moments Method to Dynamics of Muon Cooling System, Z. Parsa, with P. Zenhovich, BNL-Report BNL-64526, (1997); *ibid* , Proceedings of the Beam Stability and Nonlinear Dynamics Symposium, Santa Barbara, CA, Dec. 3–5, 1996, AIP CP No. 405 (1997), AIP-press, Woodbury, NY, (1997).
104. “Beam Matching and Halo Control”; Parsa, Z. with W. Lysenko, BNL-Report BNL-64490, (1997); *ibid* , Proceedings of the Beam Stability and Nonlinear Dynamics Symposium, Santa Barbara, CA, Dec. 3–5, 1996, AIP CP No. 405 (1997), AIP-press, Woodbury, NY, (1997).

105. “Beam Matching and Halo Control”, BNL-Report BNL-64490, (1997); *ibid* , Proceedings of the Beam Stability and Nonlinear Dynamics Symposium, Santa Barbara, CA, Dec. 3–5, 1996, AIP CP No. 405 (1997), AIP-press, Woodbury, NY, (1997).
106. “Development of Extremely High Current Positron Sources and Applications”; Z. Parsa, with V.V. Gorev; BNL-Abstract BNL-64525, (1997).
107. “High Intensity Muon Sources, BNL-Abstract BNL-64492”, Z. Parsa (1997); *ibid*, Proceedings of the 1997 Partilce Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.
108. “Enhanced IFEL Performance Using a Novel Wiggler”, Parsa, Z. (with T.C. Marshall), BNL-Report BNL-64401, (1997); *ibid*, Proceedings of the 1997 Partilce Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.
109. “High Intensity Muon Sources”, BNL-Abstract BNL-64492; Z. Parsa, (1997); *ibid*, Proceedings of the 1997 Partilce Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.
110. “Improved NAIBEA and IFEL”, BNL-64497, (1997); *ibid* American Physical Society April 1997 Meeting, Washington, DC.
111. “Inverse Free Electron Laser Acceleration with a Square Wave Wiggler”, Z. Parsa, with M.P. Pato, BNL-Report BNL-64531, (1997); *ibid*, Proceedings of the New Modes of Particle Accelerations, Techniques and Sources Symposium, Santa Barbara, CA, Aug. 19–23, 1996, AIP CP No. 396 (1997).
112. “Kinetics of Muon Longitudinal Cooling”, Z. Parsa, with P. Zenkovich, BNL-Report BNL-64527, (1997); *ibid* , Proceedings of the Beam Stability and Nonlinear Dynamics Symposium, Santa Barbara, CA, Dec. 3–5, 1996, AIP CP No. 405 (1997), AIP-press, Woodbury, NY, (1997); *ibid* ITP-Report No. NSF-ITP-96-158 (1996).
113. “Longitudinal Ionization Cooling of Muons”, Z. Parsa, with P. Zenkovich, BNL-Abstract BNL-64493, (1997); *ibid* , Proceedings of the Beam Stability and Nonlinear Dynamics Symposium, Santa Barbara, CA, Dec. 3–5, 1996, AIP CP No. 405 (1997), AIP-press, Woodbury, NY, (1997).
114. “Muon-Electron Conversion and High Intensity Muon Sources”, BNL-Abstract BNL-64504, (1997); *ibid* American Physical Society April 97 Meeting, Washington, DC.
115. “New High Intensity Muon Sources and Flavor Changing Neutral Currents”, BNLReport BNL-64528, (1997); Z. Parsa; *ibid*, Proceedings of the Flavor Changing Neutral Current Conf., Santa Monica, CA, World Scientific Publishing (1997).

116. “Parametric X-Ray Radiation as Source of Pulsed, Polarized, Monochromatic, Tunable X-Ray Beam”, Z. Parsa, with A.V. Shchagin, BNL-Report BNL-64530, (1997); *ibid*, Proceedings of the New Modes of Particle Accelerations, Techniques and Sources Symposium, Santa Barbara, CA, Aug. 19–23, 1996, AIP CP No. 396 (1997).

117. “Pulsed Parametric X-Ray Radiation (PPXR): A New Alternative to Synchrotron Source”, Z. Parsa, BNL-Abstract BNL-64498, (1997), American Physical Society, April 97 Meeting, Washington, DC.

118. “Symplectic Integration”, Parsa, Z. with E. Forest; BNL-Report BNL-64489, (1997); *ibid*, Proceedings of the ICFA Nonlinear Beam Dynamics Conf., Archloso, Italy, (1996), AIP CP No. 395 (1997).

119. “Wavelet Approach to Accelerator Problems: I. Polynomial Dynamics”, Z. Parsa, with A. Fedorova and M. Zeitlin; BNL-Report BNL-64503, (1997); *ibid*, Proceedings of the 1997 Particle Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.

120. “Wavelet Approach to Accelerator Problems: II. Metaplectic Wavelets”, Z. Parsa with A. Fedorova and M. Zeitlin; BNL-Report BNL-64502, (1997); *ibid*, Proceedings of the 1997 Particle Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.

121. “Wavelet Approach to Accelerator Problems: III. Melnikov Functions and Symplectic Topology”, Z. Parsa, with A. Fedorova and M. Zeitlin, BNL-Report BNL-64501, (1997); *ibid*, Proceedings of the 1997 Particle Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.

122. “Wavelet Approach to Accelerator Problems: IV. Symplectic Topology and Symplectic Scales”, BNL-Abstract BNL-64500, (1997), PAC 97 Conf., Vancouver, BC, Canada, May 1997.

123. “Wavelet Approach to Accelerator Problems: V. Discretization”, Z. Parsa, with A. Fedorova and M. Zeitlin, BNL-Abstract BNL-64499, (1997), Pac 97 Conf., Vancouver, BC, Canada, (1997).

124. “Collision Crossroads”, Z. Parsa, CERN Courier, International Journal of High Energy Physics, Vol. 37, No. 2, March 1997.

125. “New Ideas for Particle Accelerators”; Z. Parsa, ICFA Beam Dynamics Newsletter, No. 14 (Aug. 1997), edited by K. Hirata, J.M Jowett.

126. “Travel Report to Switzerland”, Z. Parsa, March 1997; DOE Trip No. 9700919

(April 1997).

127. “New Modes of Particle Accelerations, Laser and Particle Beams” Journal, Vol. 13, No. 5 (1997); Cambridge Univ. Press, 0263–0346/97.

128. “Beam Stability and Nonlinear Dynamics”; Z. Parsa, (Editor), AIP-Press CP No. 405, Woodbury, NY (1997).

129. “Future High Energy Colliders, Z. Parsa, (Editor) AIP-Press CP No. 397 (1997).

130. “New Modes of Particle Acceleration, Techniques and Sources”, Z. Parsa (Editor), AIP-Press CP No. 396 (1997).

131. “Parsa, Z. (with V.V. Gorev), Development of Extremely High Current Positron Sources and Applications”, BNL-Abstract BNL-64525, (1997).

132. “Enhanced IFEL Performance Using a Novel Wiggler” Z. Parsa with T.C. Marshall, BNL-Report BNL-64401, (1997); *ibid*, Proceedings of the 1997 Particle Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.

133. “High Intensity Muon Sources”, Z. Parsa, BNL-64492, (1997); *ibid*, Proceedings of the 1997 Particle Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.

134. “Improved NAIBEA and IFEL”, Z. Parsa; BNL-64497, (1997); *ibid* American Physical Society April Meeting, Washington, DC. 1997.

135. “Inverse Free Electron Laser Acceleration with a Square Wave Wiggler”, Z. Parsa, with M.P. Pato, BNL-Report BNL-64531, (1997); *ibid*, Proceedings of the New Modes of Particle Accelerations, Techniques and Sources Symposium, Santa Barbara, CA, Aug. 19–23, 1996, AIP CP No. 396 (1997).

136. “Kinetics of Muon Longitudinal Cooling”, Z. Parsa, with P. Zenkovich, BNL-Report BNL-64527, (1997); *ibid*, Proceedings of the Beam Stability and Nonlinear Dynamics Symposium, Santa Barbara, CA, Dec. 3–5, 1996, AIP CP No. 405 (1997), AIP-press, Woodbury, NY, (1997); *ibid* ITP-Report No. NSF-ITP-96-158 (1996).

137. “Longitudinal Ionization Cooling of Muons”, Z. Parsa, with P. Zenkovich, BNL-Abstract BNL-64493, (1997); *ibid*, Proceedings of the Beam Stability and Nonlinear Dynamics Symposium, Santa Barbara, CA, Dec. 3–5, 1996, AIP CP No. 405 (1997), AIP-press, Woodbury, NY, (1997).

138. “Muon-Electron Conversion and High Intensity Muon Sources”, Z. Parsa BNL-Abstract BNL-64504, (1997); *ibid* APS April 97 Meeting, Washington, DC.
139. “New High Intensity Muon Sources and Flavor Changing Neutral Currents”, Z. Parsa BNL-Report BNL-64528, (1997); *ibid*, Proceedings of the Flavor Changing Neutral Current Conf., Santa Monica, CA, World Scientific Publishing (1997).
140. “Parametric X-Ray Radiation as Source of Pulsed, Polarized, Monochromatic, Tunable X-Ray Beam”, Z. Parsa, with A.V. Shchagin, BNL-Report BNL-64530, (1997); *ibid*, Proceedings of the New Modes of Particle Accelerations, Techniques and Sources Symposium, Santa Barbara, CA, Aug. 19–23, 1996, AIP CP No. 396 (1997).
141. “Pulsed Parametric X-Ray Radiation (PPXR): A New Alternative to Synchrotron Source”; Z. Parsa, BNL-Abstract BNL-64498, (1997), American Physical Society, April 97 Meeting, Washington, DC.
142. “Symplectic Integration”; Z. Parsa, with E. Forest, BNL-Report BNL-64489, (1997); *ibid*, Proceedings of the ICFA Nonlinear Beam Dynamics Conf., Archloso, Italy, (1996), AIP CP No. 395 (1997).
143. “Wavelet Approach to Accelerator Problems: I. Polynomial Dynamics”; Z. Parsa, with A. Fedorova and M. Zeitlin, BNL-Report BNL-64503, (1997); *ibid*, Proceedings of the 1997 Particle Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.
144. “Wavelet Approach to Accelerator Problems: II. Metaplectic Wavelets”; Z. Parsa, with A. Fedorova and M. Zeitlin, BNL-Report BNL-64502, (1997); *ibid*, Proceedings of the 1997 Particle Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.
145. “Wavelet Approach to Accelerator Problems: III. Melnikov Functions and Symplectic Topology”; Z. Parsa, with A. Fedorova and M. Zeitlin, BNL-Report BNL-64501 (1997); *ibid*, Proceedings of the 1997 Particle Accelerator Conference, Accelerator Science, Technology and Applications, Vancouver, B.C., Canada, May 12–16, 1997.
146. “Wavelet Approach to Accelerator Problems: IV. Symplectic Topology and Symplectic Scales”; Z. Parsa, with A. Fedorova and M. Zeitlin; BNL-Abstract BNL-64500, (1997), PAC 97 Conf., Vancouver, BC, Canada, May 1997.
147. “Wavelet Approach to Accelerator Problems: V. Discretization”, Z. Parsa, with A. Fedorova and M. Zeitlin; BNL-Abstract BNL-64499, (1997), Pac 97 Conf., Vancouver, BC, Canada, (1997).
148. “Collision Crossroads”, Z. Parsa, CERN Courier, International Journal of High

Energy Physics, Vol. 37, No. 2, March 1997.

149. “New Ideas for Particle Accelerators”; Z. Parsa; ICFA Beam Dynamics Newsletter, No. 14 (Aug. 1997), edited by K. Hirata, J.M Jowett.

150. “Travel Report to Switzerland”, Z. Parsa; March 1997; DOE Trip No. 9700919 (April 1997).

151. “New Modes of Particle Accelerations, Laser and Particle Beams”; Z. Parsa Journal, Vol. 13, No. 5 (1997); Cambridge Univ. Press, 0263–0346/97.

152. “Beam Stability and Nonlinear Dynamics”, Z. Parsa (Editor), AIP CP No. 405, AIP Press, 245 pages. ISBN 1-56396-731-6; Woodbury, NY (1997).

153. “Future High Energy Colliders”, Z. Parsa (editor), AIP CP No. 397, AIP Press, Woodbury, New York (1997); 378 pages; ISBN 1-56396-729-4.

154. “New Modes of Particle Acceleration, Techniques and Sources”; Z. Parsa (editor); AIP CP No. 396 (1997). AIP Press, Woodbury, New York (1997), 211 pages. ISBN 1-56396-728-6, Printed in USA.

155. “Rare Kaon Decays with Missing Energy”; Z. Parsa; Phys Rev. D53 (1996) 53

156. “Lasers and Future High Energy Colliders” Z. Parsa. BNL-65251; (Dec 1997); *ibid*’ 20th International Conference on Lasers and Applications (Lasers ’97) 15-19 Dec 1997. New Orleans, Louisiana; CNUM: C97-12-15.3

157. “Ionization cooling and muon dynamics” Z. Parsa. DOI:10.1063/1.56432; AIP Conf. Proc. 441, no. 1, 289 (1998); BNL-65250; (Dec 1997).

158. “Resonant Higgs enhancement at the first muon collider” With B. Kamal, W. J. Marciano and Z. Parsa. DOI:10.1063/1.56403; AIP Conf. Proc. 441, no. 1, 174 (1998); BNL-65301; (1997).

159. “Higgs resonance studies at the first muon collider” With B. Kamal, W. J. Marciano and Z. Parsa. hep-ph/9712270 DOI:10.1063/1.56184 AIP Conf. Proc. 435, no. 1, 657 (1998); (Nov 1997). 18 citations.

160. “Luminosity Requirements for Higgs Resonance Studies at the First Muon Collider” Z. Parsa. BNL-65283, CAP-205-MUON-98C ; ((Jul 1997).

161. “Beam Matching and Halo Control”; With W. P. Lysenko and Z. Parsa. Conf. Proc. C 970512, 1917 (1997). (May 1997).

162. "Wavelet Approach to Accelerator Problems, IV. Symplectic Topology and Symplectic Scales." With M. G. Zeitlin, A. N. Fedorova and Z. Parsa. (1997)
163. "Wavelet Approach to Accelerator Problems, V. Discretization." With M. G. Zeitlin, A. N. Fedorova and Z. Parsa. (1997)
164. "Wavelet Approach to Accelerator Problems, I. Polynomial Dynamics." With M. G. Zeitlin, A. N. Fedorova and Z. Parsa. Conf. Proc. C 970512, 1508 (1997).
165. "Wavelet Approach to Accelerator Problems, II. Homoclinic loops and Chaos." With M. G. Zeitlin, A. N. Fedorova and Z. Parsa. Conf. Proc. C 970512, 1505 (1997).
166. "Wavelet Approach to Accelerator Problems, III. Metaplectic Wavelets and Routes to Chaos." M. G. Zeitlin, A. N. Fedorova and Z. Parsa. Conf. Proc. C 970512, 1502 (1997).
167. "Development of Extremely High Current Positron Sources and Applications" With V. V. Gorev and Z. Parsa (1997); C97-05-12 (1997).
168. "Longitudinal Ionization Cooling of Muons" Z. Parsa and P. Zenkevich ... (1997).
169. "Enhanced IFEL performance using a novel wiggler" Z. Parsa and T. C. Marshall. Conf. Proc. C 970512, 642 (1997).
170. "Halo control, beam matching, and new dynamical variables for beam distributions" W. Lysenko and Z. Parsa. DOI:10.1063/1.53492; AIP Conf. Proc. 405, no. 1, 211 (1997).
171. "Application of moments method to dynamics of muon cooling system" Z. Parsa and P. Zenkevich. DOI:10.1063/1.53491 AIP Conf. Proc. 405, no. 1, 183 (1997). BNL-64526 (1997).
172. "Kinetics of muon longitudinal cooling" Z. Parsa and P. Zenkevich. DOI:10.1063/1.53499; AIP Conf. Proc. 405, no. 1, 165 (1997).
173. "Parametric X-ray radiation as source of pulsed, polarized, monochromatic, tunable Xray beam" Z. Parsa and A. V. Shchagin. DOI:10.1063/1.52966 AIP Conf. Proc. 396, no. 1, 135 (1997).
174. "Inverse free electron laser acceleration with a square wave wiggler" Z. Parsa and M. P. Pato. DOI:10.1063/1.52968; AIP Conf. Proc. 396, no. 1, 179 (1997).
175. "New High Intensity Muon Sources and Flavor Changing Neutral Currents" Z. Parsa; BNL-64528 ; (Feb 1997).
176. "Beam stability and nonlinear dynamics. Proceedings, Symposium, Santa Barbara,

USA, December 3-5, 1996” Z. Parsa; New York, USA: AIP (1997) 237 p. (AIP conference proceedings. 405); (1997).

177. “Future high-energy colliders. Proceedings, Symposium, Santa Barbara, USA, October 21-25, 1996” Z. Parsa. Woodbury, USA: AIP (1997) 368 p. (AIP conference proceedings. 397); (1997).

178. “New modes of particle acceleration - techniques and sources. Proceedings, Symposium, Santa Barbara, USA, August 19-23, 1996” Z. Parsa; Woodbury, USA: AIP (1997) 201 p. (AIP conference proceedings. 396); (1997);

179. “Symplectic integration” Z. Parsa and E. Forest. DOI:10.1063/1.52940; AIP Conf. Proc. 395, no. 1, 355 (1997).

180. “mu+ mu- Collider: Feasibility Study” With J. C. Gallardo et al.. eConf C 960625, R4 (1996). SLAC-R-988, BNL-52503, FERMILAB-CONF-96-092, LBL-38946, LBNL-38946 (Jul 1996).

181. “Muon collider design” With R. Palmer et al.. acc-phys/9604001 DOI:10.1016/0920- 5632(96)00417-3 Nucl. Phys. Proc. Suppl. 51A, 61 (1996) BNL-62949, SLAC-PUB-9921; (Apr 1996).

182. “Rare kaon decays with missing energy” W. J. Marciano and Z. Parsa. DOI:10.1103/PhysRevD.53.R1 Phys. Rev. D 53, no. 1, R1 (1996).

183. “New modes of particle acceleration - techniques and sources” Z. Parsa. NSF-ITP-96-154I; (1996).

184. “Working group summary: Machine design for the mu+ mu- collider” With K. Hirata et al.. DOI:10.1063/1.50916 AIP Conf. Proc. 372, no. 1, 330 (1996). SLAC-REPRINT-1995-008;

185. “Physics Goals of a $\mu^+\mu^-$ Collider” With V. D. Barger et al.. hep-ph/9503258; DOI:10.1063/1.49350; AIP Conf. Proc. 352, 55 (1996); MAD-PH-873, MADPH-95-873, BNL-61593, CAPMUON-118-94C (Mar 1995).

186. “Development of the alternate entry port for the ATF” Z. Parsa. Conf. Proc. C 930517, 2723 (1993).

187. “Effects of the third order transfer maps and solenoid on a high brightness beam” Z. Parsa. Conf. Proc. C 930517, 509 (1993).

188. “Analysis of a High-Brightness Photoelectron Beam with Self-Field and Wake-Field Effects, Z. Parsa; Nucl. Instrum. Meth. A318 259–264 (1992).

189. “Effects of Variation of the Laser Pulse Width on the Laser-Induced Photoelectron; Z. Parsa, Nucl. Instrum. Meth. A318 265–269 (1992).

190. “Modeling of the BNL Photocathode Gun with the Code PARMELA, Z. Parsa, with L. Young; Nucl. Instrum. Meth. A318 254–258 (1992).

191. “Analysis of a High Brightness Photo Electron Source With Self Field and Wake Field Effects on the Beam; Z. Parsa, Proceedings of 13th FEL International Conf., Santa Fe, NM, August 25–30, 1991, BNL-Report BNL-46794 (1991); *ibid*, Nucl. Instr. . A318 259–264 (1992).

192. “The BNL Photocathode Gun with the Code PARMELA, Z. Parsa, with L. Young, Proceedings of 13th FEL Int. Conf., Santa Fe, NM, August 25–30, 1991, CAP-79-ATF-91C, BNL-Report BNL-46804, (1991); *ibid*, Nucl. Instr. Meth. A318 254–258 (1992).

193. “Analysis of a High-Brightness Photoelectron Beam with Self-Field and Wake-Field Effects”, Z. Parsa Nucl. Instrum. Meth. A318 259–264 (1992).

194. “Effects of Variation of the Laser Pulse Width on the Laser-Induced Photoelectrons”, Z. Parsa; Proceedings of THE 13th FEL Int. Conf., Santa Fe, NM, August 25–30, 1991, CAP-78-ATF-91C, BNL-Report BNL-46804, (1991); *ibid*, Nucl. Instr. & Meth. in Phys. Res. Sect. A (1992), North-Holland. Nucl. Instrum. Meth.

195. “Modeling of the BNL Photocathode Gun with the Code PARMELA”; Z. Parsa, with L. Young, Nucl. Instrum. Meth. A318 254–258 (1992).

196. “Operation of the Brookhaven National Laboratory Accelerator Test Facility” K. Batchelor et al.. LINAC92-MO4-48; (Aug 1992)

197. “Integration of transients in axisymmetrical cavities for accelerators: Formulation and applications to BNL photocathode gun” Z. Parsa and L. Serafini. DOI:10.2172/10164364; BNL-52329, CAP-83-ATF-92R; (Apr 1992).

198. “On dynamic aperture”; Z. Parsa. Conf. Proc. C 910506, 1887 (1991); PAC-1991-1887; (May 1991). <http://inspirehep.net/record/330396>

199. “The BNL Photocathode Gun with the Code PARMELA, Z. Parsa, with L. Young, Proceedings of 13th FEL Int. Conf., Santa Fe, NM, August 25–30, 1991, CAP-79-ATF-91C, BNL-Report BNL-46804, (1991); *ibid*, Nucl. Instr. & Meth. in Phys. Res. Sect. A (1992), North-Holland.

200. “Effects of the Variation of the Laser Pulse Width on Laser Induced Photoelectrons, Z. Parsa Proceedings of THE 13th FEL Int. Conf., Santa Fe, NM,

August 25–30, 1991, CAP- 78-ATF- 91C, BNL-Report BNL-46804, (1991); *ibid*, Nucl. Instr. & Meth. in Phys. Res. Sect. A (1992), North-Holland (in print).

201. “Beam emittance and the effects of the RF, space charge and wake fields: Application to the ATF photoelectron beam” Z. Parsa. Conf. Proc. C 910506, 511 (1991); PAC-1991- 0511; (May 1991)

202. “Accelerator Physics and Modeling: Proceedings, Symposium, Brookhaven National Laboratory, Upton, New York, September 17, 1991” Z. Parsa. BNL-52379, CAP-94-93R; (1991)

203. “Wake field and space charge effects on high brightness beams: Calculations and measured results for the laser driven photoelectrons at BNL-ATF” Z. Parsa. In *Brookhaven 1991, Accelerator physics and modeling* 63-163; (1991)
<http://inspirehep.net/record/329564>

204. “Interactions between charged particles and RF, space charge and wake fields in an accelerating structure” Z. Parsa. In *Vancouver 1991, Particles and fields '91, vol. 2* 1073-1075; (1991).

205. “High brightness photocathode injector for BNL accelerator test facility” Z. Parsa and L. Young. DOI:10.2172/7050558 BNL-44751; (1990).

206. “Brookhaven accelerator test facility photocathode gun and transport beamline” Z. Parsa and L. Young; DOI:10.2172/6778458; BNL-44749; (1990).

207. “On beam emittance and invariants: Applications to ATF beamline” Z. Parsa. Conf. Proc. C 900612, 1747 (1990).

208. “Operational status of the Brookhaven National Laboratory Accelerator test facility” With K. Batchelor et al.. Conf. Proc. C 900612, 541 (1990); BNL-43923, CONF-900603-34; (Jun 1990)

209. “The Brookhaven Accelerator Test Facility” With D. P. Russell et al.. In *Houston 1990, Proceedings, Rice Meeting, vol. 2* 975-978; (Jan 1990)

210. “Beam Behavior Studies In Accelerators Using Perturbation Theory” Z. Parsa with S. Tepikian. Part. Accel. 22, No. 4, (1988) 307–318. (1988).

211. “Beam Behavior Studies in Accelerators Using Perturbation Theory, Z. Parsa with S. Tepikian Part. Accel. 22, No. 4, (1988) 307–318.

212. “The AGS Booster Lattice” With Y. Y. Lee et al.. Conf. Proc. C 870316, 865 (1987). BNL-39404, CONF-870302-87; (1987).

213. “Chromatic Perturbation and Resonance Analysis for the AGS Booster” Z. Parsa. Conf. Proc. C 870316, 1173 (1987). BNL-39451 (Mar 1987).
214. “Beam Aperture and Emittance Growth in the AGS Booster” Z. Parsa. Conf. Proc. C 870316, 1170 (1987). BNL-39450; (Mar 1987)
215. “Second Order Perturbation in the AGS Booster” Z. Parsa. Conf. Proc. C 870316, 1179 (1987). BNL-39449; (1987).
216. “Second Order Perturbation Theory For Accelerators”; Z. Parsa, S. Tepikian and E. Courant. Part. Accel. 22, , No. 3, (1987) 205–230. (1987).
217. “Guide To Accelerator Physics Program Synch: Vax Version 1987.2”; Z. Parsa and E. Courant. DOI:10.2172/6874337 BNL-39651
218. “Booster Parameter List” Z. Parsa. DOI:10.2172/6865599 BNL-39311 ; (Oct 1986)
219. “Accelerator Dynamics And Beam Aperture” Z. Parsa. BNL-38977; (Oct 1986).
220. “Linear Aperture, Smear, Variation Of Particle Action And Beam Emittance In The SSC”; Z. Parsa. SSC-N-256, BNL-SSC-55; (Oct 1986)
221. “Resonance With Analysis For Ssc With Harmon And Nonlin” Z. Parsa. SSC-N-258, BNL-SSC-57, CDG-SSC-N-258; ((Oct 1986)
222. “Resonance Analysis For The Ssc” Z. Parsa. SSC-N-257, BNL-SSC-56, CDG-SSC-N-257; (Oct 1986)
223. “Second Order Perturbation In Ssc” Z. Parsa. SSC-N-255, BNL-SSC-54, CDG-SSC-N-255 224. “Chromatic Perturbation And Resonance Strengths In Ssc” Z. Parsa. BNL-38737, CONF- 0606215-14; (Jun 1986)
225. “Analytical Method For Treatment Of Nonlinear Resonances In Accelerators” Z. Parsa. BNL-38734; (1986).
226. “Computing Tools For Accelerator Design” Z. Parsa. DOI:10.2172/5075942; BNL-38736; (1986)
227. “Electroweak Tests of the Standard Model” W. J. Marciano and Z. Parsa. DOI:10.1146; Ann. Rev. Nucl. Part. Sci. 36, 171–205; (1986).
228. “Analytical method for obtaining the variations of the beam emittance, particle action and linear aperture in accelerators” Z. Parsa. In *Snowmass 1986, Proceedings,

Physics of the Superconducting Supercollider* 573-575; (1986)

229. "Intermediate Vector Bosons And Neutrino Cosmology" Z. Parsa.

DOI:10.1007/978-1-4615-9343-0_9 Stud. Nat. Sci. 19, 139 (1983).

230. "Predicted Properties of the W^\pm and the Z^0 " With W. J. Marciano and Z. Parsa.

Econf C 8206282, 155 (1982). BNL-32012, CONF-8206120-8; (1982).

231. "Radiative Decays $W^\pm \rightarrow \rho^\pm \gamma$ and $Z^0 \rightarrow \rho^0 \gamma$ " With L. Arnellos, W. J. Marciano

and Z. Parsa. DOI:10.1016/0550-3213(82)90496-5 Nucl. Phys. B 196, 378 (1982).

PRINT-81-0619 (NORTHWESTERN); (Aug 1981).

232. "The Decay $\pi^0 \rightarrow \nu \bar{\nu} \gamma$ " L. Arnellos, W. J. Marciano and Z. Parsa.

DOI:10.1016/0550-213(82)90495-3 Nucl. Phys. B 196, 365 (1982). PRINT-81-0532

(NORTHWESTERN); (1981); 23 citations.

233. "Z0 decay" W. J. Marciano and Z. Parsa. PRINT-81-0158 (NORTHWESTERN)

234. "Properties Of W^\pm And Z^0 ". Z. Parsa and W. J. Marciano. In *Brookhaven 1981,

Proceedings, Isabelle, Vol. 2*, 486-491

235. "Decays of Intermediate Vector Bosons, Radiative Corrections and QCD Jets" D.

Albert, W. J. Marciano, D. Wyler and Z. Parsa. DOI:10.1016/0550-3213(80)90208-4

Nucl. Phys. B 166, 460 (1980). COO-2232B-190; ' 138 citations

236. "Solution to nth - Order Nonlinear Differential Equations and First Order-

Formalism", Z. Parsa; Bull. Am. Phys. Soc. (1980).

237. "Equipartitioned Jets: New Tests of Quantum Chromodynamics" W. J. Marciano, D.

Wyler and Z. Parsa. DOI:10.1103/PhysRevLett.43.22; Phys. Rev. Lett. 43, 22 (1979).

COO-2232B-183; (May 1979)

238. "Negative parity states of Ge-71" Z. Parsa and D. C. Choudhury.

DOI:10.1103/PhysRevC.19.1560 Phys. Rev. C 19, 1560 (1979).

239. "Topological Solitons In Physics" Z. Parsa. DOI:10.1119/1.11694 Am. J. Phys. 47,

56 (1979).

240. "The Properties of Negative Parity State states of Ge-71 in Unified Nuclear Model";

Z. Parsa with D. C. Choudhury; Bull. Am. Phys. Soc. 23, No. 4 (1978).

241. "Multiply Charged Magnetic Monopoles, SU(3) Pseudoparticles and Gravitational

Pseudoparticles" With W. J. Marciano, H. Pagels and Z. Parsa. DOI:10.1103/

Phys. Rev. D 15, 1044 (1977). COO-2232B-108; 12 citations.

242. "Properties of Vortices in the Abelian Higgs Model"; Z. Parsa; Bull. Am. Phys. Soc. 22, No. 10, (1977).

***** This is a DRAFT, to be checked and completed *****