

VITA

Bruce R. Wienke
Southwest Enterprises Inc.
3101 Old Pecos Trail, Santa Fe, N.M. 87505
Phone: (505) 955-1676
Email: brwtech@earthlink.net

LANL, X-1, MS-F259, Los Alamos, N.M. 87545
Phone: (505) 667-1358
FAX: (505) 665-6722
Email: brw@lanl.gov

Social Security Number: 395-38-288
Birthday: 9/21/42, Chicago, Ill.
Security Status: Active DOE Q-Clearance, DOD Clearance
LANL Z-number: 079089

EDUCATION

PhD: Northwestern University (6-70), particle physics
MS: Marquette University (6-65), nuclear physics
BS: Northern Michigan University (6-63), physics&mathematics

EMPLOYMENT

Program Manager: Los Alamos National Laboratory (2001-pres), managing applied and computational physics programs in weapons physics and related national security science.

C&C Dive Team Leader: Los Alamos National Laboratory (1998-pres), heading up underwater WMD threat reduction efforts across the DOE and related military sectors; development and implementation of diver staging algorithms, testing, evaluation, data recording, and publication.

Staff Physicist: Los Alamos National Laboratory (96-pres), developing ASCI three dimensional numerical methods for neutral and charged particle transport; production physics packages; structured and unstructured grid algorithms; automatic mesh rezoning techniques for coupled hydrodynamics and transport applications; hydrodynamics methods development.

Director: Computational Testbed For Industry, Los Alamos National Laboratory (92-96), coordinating User Facility computing collaborations and joint activities with US Industry; Project Leader for the LANL/LLNL/CRI/TMC High Performance Parallel Processor Project addressing high impact, dual benefit, applications in materials, environmental modeling, advanced manufacturing, oil reservoir management.

Co-Owner: Inner Vision Divers, Santa Fe (91-94), managing a full service dive shop specializing in equipment, instruction, travel; custom training and light salvage.

Consultant: Atomic (96-pres), Suunto (95-pres), Abysmal Diving (94-pres), Scubapro (89-93), Steam Machines (98-pres), HydroSpace Engineering (98-pres), Mares (2002-pres), evaluating, constructing, designing decompression algorithms and model applications to diving; digital meter implementations and testing; building algorithms for commercial (ABYSS) software; modeling

turbulent air flow in regulators, high altitude table customization and application.

President: Southwest Enterprises (90-pres), a regional consulting Company specializing in hydrodynamic, transport, materials applications and diving salvage, underwater repair, table fabrication, meter algorithms.

Author/Editor: Best Publishing Company (90-pres), authoring monographs Basic Diving Physics And Application, Diving Above Sea Level, High Altitude Diving, Basic Decompression Theory And Application, articles in underwater trade magazines and instructional media; Contributing Editor Sources (NAUI); Associate Editor International Journal Of Aquatic Education And Research.

Team Leader: Los Alamos National Laboratory, Applied Theoretical Physics Division (86- 92), coordinating combustion, thermonuclear, hydrodynamics, weapons physics research; computational physics and code development; NTS shot coordination and analysis; LDRD studies and Committee Review; NEST player-evaluator; LANL University Recruiting Team Member (Midwest).

Associate Group Leader: Los Alamos National Laboratory, Computing and Communications Division (84-85), supervising Consulting, Utilities and Computing Information Sections; parallel algorithms research.

Section Leader: Los Alamos National Laboratory, Computing Division (81-83), supervising programmers; physics interface with numerical research effort; mathematical libraries development and maintenance; production software and code benchmarking; radiation transport methods development.

Staff Physicist: Mission Research Corporation (80), performing hot electron transport analysis for CO2 lasers, code benchmarking; electromagnetic pulse computations in weapons environments; implosion code development.

Staff Physicist: Los Alamos Scientific Laboratory, Theoretical Division (72-79), working in computational physics, transport theory and applications; numerical methods development; mesh mapping algorithms; nuclear cross sections; inert gas transfer in biosystems.

Postdoctoral Physicist: Los Alamos Scientific Laboratory (71-72), specializing in nuclear and particle theory; physics phenomenology of experiments at the Los Alamos Meson Physics Facility (LAMPF).

Research Associate: Northwestern University (69-71), working in elementary particle theory; Argonne National Laboratory (68), analyzing mesonic capture in nuclei; modeling experiments.

Consultant: Square D Company (68-71), building codes for application in heat transfer, circuit design, system simulation, engineering physics.

Instructor: Marquette University (67), teaching medical physics, mechanics, undergraduate labs.

Lieutenant: US Navy UDT/SEAL, Southeast Asia (65-66), engaging in riverine reconnaissance, combat intelligence, covert operations.

SOCIETIES

Professional Physics And Mathematics: American Physical Society (Fellow); American Nuclear Society (Technical Committee Member); American Association Of Physics Teachers; Society of Industrial and Applied Mathematics; American Academy Of Mechanics; Calcutta Mathematical Society; International Society For Mini And Microcomputers; International Radiation Protection Society.

Professional Underwater Science: International Oceanographic Society; American Academy Of Underwater Science (Board Of Directors); Undersea And Hyperbaric Medical Society; South Pacific Underwater Medicine Society.

Honorary And Fraternal: Sigma Xi (physics); Alpha Phi Omega (service); Delta Chi Sigma (science).

HONORS

Professional: Federal Laboratory Consortia Excellence Award In Technology Transfer (96); Who's Who In Diving (92); Who's Who In Technology (80); Fellow American Physical Society (80), American Academy Of Underwater Sciences (79); Notable Americans (79); American Men And Women Of Science (79); Men Of Achievement (78); Who's Who In The West (78).

Graduate: Northwestern Research Assistantship (67-70); Teaching Fellowship (64-67); AEC Fellowship (64).

Undergraduate: NCAA-II All-American Football Team (63); Cum Laude (63); Athletic Scholarships (58-63).

High School: All-State, All-Conference Football and Basketball Team (57-58); Bausch and Lomb Science Award (58).

EXTRACURRICULARS

Ski Coaching/Instruction: Coach Pajarito Mountain (88-94); Level I Coach certified by United States Ski Coaches Association (USSCA) Member Southwest Ski Coaches Association (SWSCA); Instructor Taos Ski Valley (71), Santa Fe Ski Basin (72), Pajarito Mountain (73-pres); Level III Instructor certified by Professional Ski Instructors Of America (PSIA), Rocky Mountain Ski Instructors Association (PSIA-RM), International Ski Instructors Association (ISIA).

Diving/Aquatics Instruction: Instructor College of Santa Fe (75-79), St John's College, Santa Fe (78), Santa Fe Parks And Recreation (76-83), Watersports, Albuquerque (78-79), Divers Den, Albuquerque (80-86), Alpine Sports, Santa Fe (82-87), Inner Vision Divers, Santa Fe (91-94), Blue Water Dive And Travel, Santa Fe (94-96), Santa Fe Community College (96-pres); Instructor and Instructor Trainer certified by National Association of Underwater Instructors (NAUI), Professional Association of Diving Instructors (PADI), National Association of Scuba Educators (NASE), Confederation Mondiale Des Activities Subaquatiques (CMAS), YMCA National Program (YMCA); Board Of Directors National Association Of Underwater Instructors (95-99); Instructor certified Water Safety, CPR, First Aid by Red Cross (76-pres); Field Data Coordinator DAN Project Dive Safety (95-96).

Hobbies: Tennis, Windsurfing, Golf, Volleyball, Mountain Biking, Ski Racing, Scuba and Skin Diving.

EXPERIENCE

Line And Project Management: Program Manager, Project Leader, Deputy Group Leader, Associate Group Leader, Team Leader, Section Leader; budgets and forecasts, status reports, evaluations, merit raises; briefings; ISRD and LDRD projects; New Initiatives Working Group; Coordinator for ICF implosion code development; Postdoctoral Group Coordinator; Group Health and Safety Coordinator; Project Leader for CTSS screen editor implementation; Team Leader for Weapons Physics; NTS shot coordination; ISRD and LDRD Review Team duties; University Recruiting Team Coordinator, Computational Testbed For Industry Director, High Performance Parallel Processor Project Program Manager.

Research Coordination: Principal Investigator for ISRD projects; X-Division ISRD Review Committee; Member Turbulent Working Group, Radiation Flow Working Group, Computing And Communications Review Committee; NEDPC Paper Review Committee; Nuclear And Particle Physics LDRD Review Committee; New Initiatives Working Group, Computational Testbed For Industry User Facility management and development.

Nuclear Physics: pion and muon absorption; multiple scattering from light nuclei; kaon capture in helium; deformed nuclear potentials and magnetic moments; impulse representations for scattering kernels; shell models and nuclear structure; R-matrix analysis; pion dose calculations in tissue; plutonium gamma absorption and fission spectra from excited states; antiproton annihilations in fissile materials.

Particle Physics: symmetry breaking in kaon decays; leptonic decays of vector mesons; impact parameter representations; current propagators and chiral dynamics; perturbation theory and applications; phenomenology of LAMPF experiments; muon-catalyzed fusion; antiproton annihilation applications in systems. Computational Physics And Numerical Methods

Thermonuclear Kinetics: fusion systematics; reaction wave propagation and asymptotics; energy deposition in plasmas; moving media transport; ignition criteria; Pn approximations; hot electron transport in plasmas; DT neutronics and reaction rates; sputtering and particle reflection; shielding and breeding calculations in reactors; hydrogen transport in MFE plasmas; muon and antiproton catalyzed thermonuclear burn.

Transport Methods: Sn methodology for charged and neutral particles; differencing and acceleration techniques for solving the transport equation; Eulerian/Lagrangian mesh mapping schemes; transport operators in general geometries; effective cross sections in mixtures; moving material transport and applications.

Radiative Transfer: Lorentz properties of the transfer equations; multigroup radiation diffusion approximations; radiative scattering functions; approximation schemes for radiation hydrodynamics; Eddington factors for radiation diffusion.

Decompression Microphysics: kinetic and thermodynamic theories of decompression; nitrogen transport in tissues; altitude mod-

ifications for diving physics applications; vaporization dynamics; bubble mechanics; computational decompression models and tables, bio-transport; phase mechanics; table and meter algorithms for diving.

Cross Section Analysis: multigroup representations for H, H₂ and H₂⁺ cross sections; charged particle Monte Carlo transport in ICF plasmas; statistical cross sections in binary mixtures; Monte Carlo to Sn flux and equivalent source techniques; temperature corrected Compton cross sections for Monte Carlo photonics; effective cross sections for moving materials; coupled antiproton and neutron cross sections.

Engineering Physics: heat transfer in silicon rectifiers; electromechanical device modeling; computer circuit design; weapons modeling and performance analysis; hydrodynamic testing of implosion devices.

Numerical Methods: reduction schemes for principal value integrals; order derivatives of Bessel functions; large weapons code development; code conversion and interfacing; parallel Sn multigroup methods; chaotic iteration schemes; parallel processing and multitasking.

REFERENCES

Bret Gilliam, President, Technical Diving Inc (TDI), 9 Coastal Plaza, Suite 300-600, Bath, Maine 04530.

Dave Foster, Program Manager, Industrial Partnership Office (IPO), Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

Charles Slocomb, Deputy Division Leader, Computing, Information, & Communications Division (CIC), Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

Jim Bram, Executive Director, National Association Of Underwater Instructors (NAUI), 4650 Arrow Highway, Suite F-1, Montclair, California 91763.

Dr Kiuck Lee, Professor of Physics, Thesis Advisor, Department of Physics, Marquette University, Milwaukee, Wisconsin 53233.

Dr Nilendra Deshpande, Professor of Physics, Thesis Advisor, Department of Physics, University of Oregon, Eugene, Oregon 97403.

Armand Mueller, Systems Manager, Square D Company, 4041 Richards St, Milwaukee, Wisconsin 53212.

Dr Robert Agnew, Manager, Operations Research, FMC Corporation, Prudential Plaza, Chicago, Illinois 60601.

Dr Richard Krajcik, Program Manager, Applied Theoretical Physics Division, Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

Dr Kaye Lathrop, Director of Engineering, SLAC, Stanford, California 97803.

Dr Lee Somers, Professor of Oceanography, Department of Atmospheric, Oceanographic, And Space Sciences, University of Michigan, Ann Arbor, Michigan 48109.

Joe Quintana, Divisional Clinic Leader, PSIA-RM, Los Alamos Ski School, 5504 Baer Pl, NW, Albuquerque, New Mexico 87120.

Ari Nikkola Computer Engineer, Suunto Oy, Juvan Teollisuuskatu 8, FIN-02920 Espoo Finland.

Doug Toth, Design Engineer, Atomic And Scubapro Inc, 17572 Grissin Lane Huntington Beach, California 92647

Dr Joseph Mack, Staff Member, Plasma Physics Group (P-24), Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

Dr James Rayford Nix, Staff Member, Nuclear Theory Group (T-5), Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

Dr Andrew White, Director, Advanced Computing Laboratory (ACL), Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

Dr Jim Morel, Section Leader, Scientific Computing Group (CIC-19), Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

Dr Alex Marusak, Staff Member, Research And Production Technologies (NIS-9), Los Alamos National Laboratory, Los Alamos, New Mexico 87545.

Dr Bill Buzbee, Director, Scientific Computing Division, National Center For Atmospheric Research (NCAR), Boulder, Colorado 80307.

Tom Tall, Owner, Blue Water Dive And Travel, 855 Cerrillos Rd, Santa Fe, New Mexico 87501.

18th St, Los Alamos, New Mexico 87544

SALARY HISTORY/month

Program Manager/C&C Team Ldr, Los Alamos National Laboratory (01-pres), \$12,317.

Staff Member, Los Alamos National Laboratory (92-96), \$9583.

Team Leader, Los Alamos National Laboratory (86-92), \$6620.

Associate Group Leader, Los Alamos National Laboratory (83-86), \$5710.

Section Leader, Los Alamos National Laboratory (80-83), \$3946.

Staff Physicist, Mission Research Corporation (79-80), \$2750.

Staff Member, Los Alamos Scientific Laboratory (72-79), \$2405.

Postdoctoral Physicist, Los Alamos Scientific Laboratory (71-72), \$1250.

Consultant, Southwest Enterprises Inc. (65-pres), \$500/day

Research Associate, Northwestern (69-71), \$600.

Graduate Assistantships, Marquette and Northwestern (65-68), \$400.

THESIS ABSTRACT

This work details a study of symmetry breaking in mesonic interactions through use of the formalism of current algebra. Nonets of axial vector and vector currents are postulated along with their current commutation relationships. The assumption of symmetric c-number Schwinger terms leads to Weinberg's 1st sum rule,

which when coupled to additional assumptions about the symmetry breaking, allows a systematic study of certain aspects of mesonic interactions in the form of mass and coupling constant sum rules, mixing angle, form factor and decay predictions. In the first part, concerned with strong breaking, a general isospin conserving interaction is introduced and its effect upon mesons examined through a series of mass sum rules and subsequent mixing angle predictions. In the second part, attention is focused on kaonic weak decays. In the well known $(3^*,3)+(3,3^*)$ model of broken chiral symmetry, the K_{14} and K_{13} form factors are obtained off mass shell and predictions compared with existing experimental data.

PUBLICATIONS, REPORTS, TALKS

- Hyperbaric Physics With Bubble Mechanics And Decompression Theory In Depth*, B.R. Wienke, Best, Flagstaff (08).
- Diving Decompression Models And Bubble Metrics: Modern Computer Syntheses, B.R. Wienke, *Comp Biol. Med.* 10, 1016-1059 (09).
- Statistical Correlations And Risk Analyses Techniques for A Diving Dual Phase Bubble Model And Data Bank Using Massively Parallel Supercomputers, B.R. Wienke, *Comp. Biol. Med.* 38, 583-600 (08).
- Diving Physics With Bubble Mechanics And Decompression Theory In Depth*, B.R. Wienke, Best, Flagstaff (08).
- Diving OC Like A CCR, B.R. Wienke and T.R. O'Leary, *Advanced Diver Magazine* 22, 18 (06).
- RGBM Nitty Gritty Issues, B.R. Wienke and T.R. O'Leary, *Advanced Diver Magazine* 20, 18 (05).
- Rebreathers 101, B.R. Wienke and T.R. O'Leary, *Sources* 3, 21 (05).
- CCR-SCR Calculations, B.R. Wienke and T.R. O'Leary, *Advanced Diver Magazine* 19, 24 (05).
- Transport Equations In Moving Material, Part I: Neutrons And Photons, B.R. Wienke *Prog. Nuc. Energy* 46, 13-55 (05).
- Looking Thru The Oxygen Window, B.R. Wienke and T.R. O'Leary, *Advanced Diver Magazine* 18, 16 (04).
- Isobaric Counterdiffusion, B.R. Wienke and T.R. O'Leary, *Advanced Diver Magazine* 17, 13 (04).
- Deep RGBM, B.R. Wienke and T.R. O'Leary, *Advanced Diver Magazine* 14, 18 (03).
- Deep Helium, B.R. Wienke and T.R. O'Leary, *Advanced Diver Magazine* 13, 20 (03).
- Reduced Gradient Bubble Model In Depth*, B.R. Wienke, Best, Flagstaff (03).
- Deep RGBM, B.R. Wienke and T.R. O'Leary, *Deep Stops And Modern Decompression Strategies Workshop*, Tampa, Feb (03).
- Deep Stops And Deep Helium, B.R. Wienke, DEMA Trade Show Seminar, Las Vegas, Oct (02); *Deep Stops And Modern Decompression Strategies Workshop*, Tampa, Feb (03).
- Deep Helium, B.R. Wienke and T.R. O'Leary, *Sources* 14, 58 (Sep-Oct 02); *Advanced Diver Magazine*
- Deep Stops, B.R. Wienke and T.R. O'Leary, *Advanced Diver Magazine* 12, 30 (02).
- Technical Diving In Depth*, B.R. Wienke, Best, Flagstaff (02).
- New Looks And Decompression Algorithms: Models, Statistics, And Comparisons, B.R. Wienke, United States Japan Natural Resources Panel Meeting, Honolulu, Nov (01); *Proc. Cooperative UJNR Panel Meeting*, 131 (02).
- The Effect Of In Water Decompression Profile On Bubble Formation After Dives With Surface Decompression, A.O. Brubakk, A.J. Arntzen, B.R. Wienke, and S. Koteng, *Undersea Hyp. Med.* 30, 131-145 (03).
- Medical Concerns For The Technical Diver, B.R. Wienke and T.R. O'Leary, *Advanced Diver Magazine* 8, 21 (01).
- Oxygen Mathematics, B.R. Wienke, *Advanced Diver Magazine* 7, 45 (01).
- Altitude Diving – Up Then Down, B.R. Wienke, *Advanced Diver Magazine* 7, 18 (01).
- Decompression Theory Applied To Modern Diving, B.R. Wienke, Norwegian Underwater Intervention (NUI) International Symposium, Bergen, Nov (00).
- Technical Diver Series*, B.R. Wienke and T.R. O'Leary, *Mighty-Words.com*, San Diego (01).
- NAUI Nitrox Diving Statistics, B.R. Wienke, T.R. O'Leary, and J.D. Livingstone, DAN Nitrox Workshop, Durham, Nov (00); *Proc. DAN Nitrox Wkshp.* 1, 57 (00).
- High Pressure Combustive Oxygen Flow Simulations, B.R. Wienke, DAN Nitrox Workshop, Durham, Nov (00); *Proc. DAN Nitrox Wkshp.* 1, 171 (00).
- New NAUI RGBM Tables, B.R. Wienke and T.R. O'Leary, NAUI 40th Anniversary Commemorative, Houston, Nov (00).
- Phase Versus Dissolved Gas Models, B.R. Wienke, NAUI Technical Diving Conference, TEC 2000, Key West, Oct (00).
- Helium Versus Nitrogen Decompression Strategies, B.R. Wienke, NAUI Technical Diving Conference, TEC 2000, Key West, Oct (00).
- NAUI Trimix Diver Course Instructor Guide, B.R. Wienke, J. Neal, and T.R. O'Leary, NAUI Technical Diving Publication, Tampa, Mar (00).
- Head Games Of Diving, B.R. Wienke, *Sources* 12, 62 (Jan 00).
- RGBM Deep Stop Modeling, T.R. O'Leary and B.R. Wienke, *Advanced Diver Magazine* 1, 11 (00).
- Computational Reverse Dive Profiles: Contrasts And Comparisons, B.R. Wienke and T.R. O'Leary, Smithsonian Institute Workshop Reverse Dive Profiles, Washington DC, Oct (99); *Proc. Reverse Dive Profiles Wkshp.* 1, 61 (99).
- NAUI Approach To Reverse Dive Profiles, B.R. Wienke, J.D. Livingstone, and T.R. O'Leary, Smithsonian Institute Workshop Reverse Dive Profiles, Washington DC, Oct (99); *Proc. Reverse Dive Profiles Wkshp.* 1, 247 (99).

- Helitrox, J. Neal, T.R. O'Leary, and B.R. Wienke, Resources 2, 36 (Nov-Dec 99).
- Online With The RGBM: A Modern Phase Algorithm And Dive-ware Implementation, Parts 1 and 2, B.R. Wienke, Resources 11, 55 (Sep-Oct 99); 2, 16 (Nov-Dec 99).
- ASCI Overview And Applications, B.R. Wienke, Los Alamos Computer Science Institute Symposium, Santa Fe, Jun (99).
- Deep Stop Modeling, B.R. Wienke, NAUI Technical Diving Conference, DEMA, New Orleans, Jan (99); Las Vegas, Jan (00).
- Antiproton Energetics, B.R. Wienke, X-Division Science Advisory Council Meeting, Los Alamos, Apr (98).
- Physics, Physiology, Decompression Theory For The Technical And Commercial Diver*, B.R. Wienke, NAUI Technical Publication, Tampa (98).
- Comparative Properties – Nitrogen Substitutions, B.R. Wienke, DeepTech 10, 40 (Dec 97).
- Project Dive Safety And Supercomputers In Diving: Outlook, Availability, And Application, B.R. Wienke, UHMS-DAN Dive Computer Workshop, Cozumel, Jun (97).
- Decompression Models, B.R. Wienke, Sources 9, 20 (Jan-Mar 97).
- Factors Contributing To Learning New Physical Skills For Scuba Diving, B.R. Wienke, Int. J. Aquatic Res. Ed. 1, 46 (96).
- Program: The Virtual Laboratory Testbed, B.R. Wienke, Technology Deployment Centers-User Facilities Working Group Meeting, Los Alamos, Jan (96).
- The H4P Project At LANL, B.R. Wienke, PATP Conference, Pasadena, Aug (95).
- Note On Constructing Closed Sets Of Halftimes, Critical Tensions, And , Time Limits, B.R. Wienke, Undersea Hyper. Med.
- Diving Lore In A Glance, B.R. Wienke, Sources 7, 41 (Mar-Apr 95).
- Advanced Topics For The Fearless, Parts X, XI, and XII, B.R. Wienke, Sources 6, 47 (Nov-Dec 94); 7, 47 (Jan-Feb 95); 7, 44 (May-Jun 95).
- The Reduced Gradient Bubble Model And Phase Mechanics, B.R. Wienke, DeepTech 3, 29 (Sep 95).
- Computational Testbed For Industry: DOE User Facility At LANL, B.R. Wienke, MCC CAPPS Conference, Austin, Oct (94).
- Dive Table And Computer Protocols, B.R. Wienke, S. Pac. Under. Med. Soc. J.
- Bubble Quest, B.R. Wienke, Alert Diver 26 (Mar-Apr 94).
- Acclimatization Reduces The Incidence Of Decompression Sickness: A Sheep Model, C.E. Lehner, T.F. Lin, Y. Taya, B.R. Wienke, E.V. Nordheim, P.A. Cuddon, and E.H. Lanphier, Undersea Hyper. Med. 21, 22 (94).
- Understanding Dive Table And Meter Procedures, B.R. Wienke, S. Pac. Under. Med. Soc. J. 24, 209 (94).
- A Discrete Ordinates Study Of Two Dimensional Electron Transport, R.P. Datta, A.K. Ray, and B.R. Wienke, J. Phys. 26D, 1077 (93).
- Advanced Topics For The Fearless: Parts VII, VIII, and IX, B.R. Wienke, Sources 6, 46 (Jan-Feb 94); 6, 42 (Mar-Apr 94); 6, 42 (May-Jun 94).
- Supercomputing And Diving: Parts I and II, B.R. Wienke, Sources 6, 41 (Mar-Apr 94); 6, 32 (May-Jun 94).
- Advanced Topics For The Fearless: Parts IV, V, and VI, B.R. Wienke, Sources 5, 53 (Jul-Aug 93); 5, 38 (Sep-Oct 93); 5, 43 (Nov-Dec 93).
- Basic Diving Physics And Application*, B.R. Wienke, Best, Flagstaff (94).
- So, What's The Rub With Deep Diving, B.R. Wienke, Sources 5, 39 (Jan-Feb 93).
- Advanced Topics For The Fearless: Parts I, II, and III, B.R. Wienke, Sources 5, 78 (Jan-Feb 93); 5, 54 (Mar-Apr 93); 5, 74 (May-Jun 93).
- Nonstop Time Limits, Doppler Bubbles, And The NAUI Tables, B.R. Wienke, Sources 4, 51 (Nov-Dec 92)
- On Nonstop Time Limits, Safety Stops, And Ascent Rates, B.R. Wienke, S. Pac. Under. Med. Soc. J. 22, 192 (92).
- Diving Above Sea Level*, B.R. Wienke, Best, Flagstaff (93).
- Excited States Effects, B.R. Wienke, DOE-CEA Group Meeting, Los Alamos, May (92).
- Learning And Skills Development–Worrying About The Student, B.R. Wienke, Undersea J. 67 (Jun-Aug 92).
- Moving Material Effects, B.R. Wienke, DOE-CEA Group Meeting, Los Alamos, May (92).
- Antiproton Applications And Calculations, B.R. Wienke, PL-LANL-Penn State-LLNL Meeting, LLNL, Mar (92); LANL, Apr (92).
- On The Parallelization Of A S_n Transport Algorithm On A CRAY Y-MP, S.D. Altekar, A.K. Ray, and B.R. Wienke, Parallel Comp. 19, 823 (93).
- Multigroup Antiproton Transport And Fission, B.R. Wienke, R.E. Seamon, and D.G. Madland, Nuc. Sci. Eng. 113, 86 (93).
- Antiproton Driven Microfission-Fusion On Closer Inspection, B.R. Wienke, American Nuclear Society Nuclear Technologies For Space Exploration Topical Meeting, Jackson Hole, Aug (92); Proc. Nuc. Tech. Space Explor. 2, 429 (92).
- Transuranics And Other Reactions, B.R. Wienke, Nuclear Physics At WNR Meeting, Los Alamos, Feb (92).
- Antiproton-Catalyzed Microfission-Fusion Applications And Calculations, B.R. Wienke, R.E. Seamon, and D.G. Madland, Def. Res. Rev. 4, 1 (92).
- Thermonuclear Burn And Charged Particle Transport, B.R. Wienke and J.E. Morel, Def. Res. Rev. 3, 70 (91).
- Learning Processes, B.R. Wienke, Sources 4, 43 (May-Jun 92).
- Waterskills In The Right Measure, B.R. Wienke, Sources 4, 63 (Jan-Feb 92).
- GANEX Experiments, D.L. Wade and B.R. Wienke, DOE-CEA Group Meeting, Livermore, Dec (91).

- Diving Computers In Theory And Application, B.R. Wienke, Pacific Coast Chapter UHMS Meeting, Vancouver, Nov (91).
- A Note On 2D Electron Transport Using Discrete Ordinates, R.P. Datta, A.S. Hira, A.K. Ray, and B.R. Wienke, Supercomp. 9, 15 (92).
- Mixed Gases In Diving, B.R. Wienke, Sources 4, 59 (Mar-Apr 92).
- Antiproton Energetics And Design Systematics, B.R. Wienke, R.E. Seamon, D.G. Madland, and C.M. Martin, Nuclear Explosives Design Physics Conference, Los Alamos, Nov (91); NEDPC Proc. 1, 348 (91).
- Nuclear Excited States In Weapons Design, D.G. Madland, R.E. Seamon, M.P. Sohn, and B.R. Wienke, Nuclear Explosives Design Physics Conference, Los Alamos, Nov (91); NEDPC Proc. 1, 342 (91).
- Antiproton Energetics And Transport In Matter, B.R. Wienke, Physics Department Seminar, University of Texas, Arlington, Jul (91).
- Bubble Number Saturation Curve And Asymptotics Of Hypobaric And Hyperbaric Exposures, B.R. Wienke, Int. J. Bio-Med. Comp. 29, 215 (91).
- Numerical Phase Algorithm For Decompression Computers And Application, B.R. Wienke, Comp. Biol. Med. 22, 389 (92).
- Multilevel Restrictions Within The US Navy Tables, B.R. Wienke and D.K. Graver, American Academy Of Underwater Sciences Conference, Honolulu, Sep (91); Proc. Eleventh Conf. Amer. Acad. Under. Sci. 1, 199 (92); S. Pac. Under. Med. Soc. J. 22, 15 (92).
- Altitude Excursions And The 24 Hour Rule, B.R. Wienke and D.K. Graver, American Academy Of Underwater Sciences Conference, Honolulu, Sep (91); Proc. Eleventh Conf. Amer. Acad. Under. Sci. 1, 115 (92); S. Pac. Under. Med. Soc. J. 22, 114 (92).
- Another Approach To Altitude Delay, B.R. Wienke and D.K. Graver, Sources 3, 43 (Nov-Dec 91).
- Multilevel Decompression Table Procedure Revisited, B.R. Wienke and D.K. Graver, Sources 4, 47 (Mar-Apr 92).
- Reduced Gradient Bubble Model And Meter Implementation, B.R. Wienke, DEMA Trade Show, Las Vegas, Feb (91).
- Critical Tension Envelope For Multilevel Diving Within The US Navy Tables, B.R. Wienke, Undersea And Hyperbaric Medical Society Annual Meeting, San Diego, Jun (91); Undersea Biomed. Res. 18, 63 (91).
- Neutronics In Moving Materials, B.R. Wienke, Weapons Physics Workshop On Fission, Los Alamos, Dec (90).
- A Bubble Model For Repetitive Diving, B.R. Wienke, S. Pac. Under. Med. Soc. J. 21, 197 (91).
- Diving In A Solar Pond, B.R. Wienke and C. Mechem, Sources 3, 57 (May-Jun 91).
- The Performance Of Asynchronous Iteration Schemes Applied To The Linearized Boltzmann Transport Equation, R.E. Hiromoto, B.R. Wienke, and R.G. Bricker, Parallel Comp. 18, 241 (92).
- Modeling Phase Volume Constraints Under Repetitive Decompression, B.R. Wienke, Math. Comp. Model. 16, 109 (92).
- The Dilemmas Of Decompression Sickness, B.R. Wienke, Undersea J. 10 (Apr-Jun 91); Alert Diver 4 (Jul-Aug 91).
- Understanding Haldane Theory, B.R. Wienke, Sources 3, 33 (Jan-Feb 91).
- Acclimatization And Repetitive Diving, B.R. Wienke, Sources 3, 52 (May-Jun 91).
- Nuclear Excited States, B.R. Wienke, DOE-AWE JOWOG 32, Los Alamos, Oct (90).
- More On Slow Tissue Compartments, B.R. Wienke, Sources 3, 43 (May-Jun 91).
- The Elusive Bubble, B.R. Wienke, Sources 3, 53 (Mar-Apr 91).
- Decompression Risk And Subtle Statistics, B.R. Wienke, Sources 3, 57 (Jul-Aug 91).
- Discrete Ordinates Electron Transport With Electric Fields In Serial And Parallel Environments, B.R. Wienke, Physics Department Seminar, University of Texas, Arlington, Aug (90).
- Basic Decompression Theory And Application*, B.R. Wienke, Best Company, San Pedro (91); Flagstaff (03).
- Dive Tables Reexamined, E. Hanauer and B.R. Wienke, Scubapro Diving And Snorkeling Magazine 3, 19 (Fall 90).
- Computational Analysis Of Fusion Ignition And Burn Front Propagation, E.L. Vold, B.R. Wienke, and P.J. O'Rourke, Nuclear Explosives Code Development Conference, Monterrey, Nov (90); NECDC Proc. 2, 173 (90).
- Perturbative Thermonuclear Ignition Criteria And Application, B.R. Wienke, J. Comp. Phys.
- Bubble Model Implications For Repetitive Diving, B.R. Wienke, American Academy Of Underwater Sciences Conference, St Petersburg, Nov (90); Proc. Tenth Conf. Amer. Acad. Under. Sci. 1, 395 (90); Sources 2, 42 (Sep-Oct 90).
- High Altitude Diving—Up And Then Down, B.R. Wienke and D. Albright, Sources 2, 45 (Nov-Dec 90).
- Reduced Gradient Bubble Model, B.R. Wienke and D. Toth, Pacific Coast Chapter Meeting Of The Undersea UHMS Meeting, Catalina, Nov (90); Int. J. Bio-Med. Comp. 26, 237 (90).
- Transport And Burn In Mixtures, B.R. Wienke, J.E. Morel, and P.J. O'Rourke, X-6 Staff Activity Seminar, Los Alamos, Jun (90).
- Nuclear Physics And Boost Issues, B.R. Wienke and D.G. Madland, CP20 Review, Los Alamos, May (90).
- Reduced Gradient Bubble Model And Meter Implementation, B.R. Wienke, S. Shankle, and D. Toth, Phase 1 Meter Design Review, Rancho Dominguez, May (90).
- Limitations To Present Decompression Tables And Meters, B.R. Wienke, Sources 2, 47 (Mar-Apr 90).

- Modeling Dissolved And Free Gas Phases Under Decompression: The Case For Safety Stops And Slow Ascent Rates, B.R. Wienke, Gulf Coast Chapter UHMS Meeting, Birmingham, Apr (90).
- Modeling Dissolved And Free Gas Phases Under Decompression: A Comparison Of Trigger Point Sensitivities, B.R. Wienke, Joint Meeting On Diving And Hyperbaric Medicine, Amsterdam, Aug (90); *Undersea Biomed. Res.* 17, 158 (90).
- Modeling Dissolved And Free Phase Gas Dynamics Under Decompression, B.R. Wienke, *Int. J. Bio-Med. Comp.* 25, 193 (90).
- Safety Stops And Slow Ascent Rates, B.R. Wienke, *Sources* 2, 47 (Mar-Apr 90); 2, 57 (May-Jun 90).
- High Altitude Diving*, B.R. Wienke, NAUI Technical Publication, Montclair (90).
- High Altitude Diving And Decompression, B.R. Wienke, YMCA Instructor Manual, Champagne (90).
- Phase Dynamics In Diving, B.R. Wienke, American Academy Of Underwater Sciences Workshop Biomechanics Of Safe Ascents, Woods Hole, Sept (89); *Proc. Biomechanics Of Safe Ascents* 13, 90.
- Thermonuclear Burn Kinetics, B.R. Wienke and J.E. Morel, ISR Technical Advisory Committee Meeting, Los Alamos, Nov (89).
- Transport And Burn, B.R. Wienke and J.E. Morel, Nuclear Explosives Design Physics Conference, Livermore, Oct (89); *NEDPC Proc.* 2, 132 (89).
- Multitissue Algorithm And Issues: Parts I and II, B.R. Wienke, *Sources* 12, 53 (Nov-Dec 89); 1, 54 (Jan-Feb 90).
- Gas Ignition And Modeling, B.R. Wienke, DOE-AWE JOWOG 32, Livermore, Apr (89).
- Burn Propagation, B.R. Wienke, LLNL-LANL Boost Physics Meeting, Los Alamos, Mar (89).
- Muon-Catalyzed Fusion, B.R. Wienke, M. Leon, M.A. Paciotti, and J.S. Cohen, X-4 Group Seminar, Aug (88); Los Alamos National Laboratory Report, LA-UR 88-3403, Oct (88).
- Effective Cross Sections And Sources In Moving Material, B.R. Wienke and T.R. Hill, *Nuc. Sci. Eng.* 104, 188 (90).
- N₂ Transfer And Critical Pressures In Tissue Compartments, B.R. Wienke, *Math. Comput. Model.* 12, 1 (89).
- Tables, Meters, And Decompression Models: Fact And Fancy, B.R. Wienke, NAUI International Conference On Underwater Education, Houston, Jun (89); *IQ-89 Proc.*, 270 (89).
- A Chaotic Single Inner Sweep Iteration Algorithm For The Discrete Ordinates Method S_n , R.E. Hiromoto and B.R. Wienke, Santa Fe American Nuclear Society Topical Meeting, Apr (89); *Adv. Nuc. Eng. Comp. Rad. Shield.* 2, 70 (89).
- Lagrangian-Eulerian Hydrodynamics Mapping Algorithm, W.B. Harvey and B.R. Wienke, Santa Fe American Nuclear Society Topical Meeting, Apr (89); *Adv. Nuc. Eng. Comp. Rad. Shield.* 2, 77 (89).
- Alpha Particle Transport And Thermonuclear Burn In Mixtures, B.R. Wienke and J.E. Morel, Santa Fe American Nuclear Society Topical Meeting, Apr (89); *Adv. Nuc. Eng. Comp. Rad. Shield.* 2, 49 (89); *Nuc. Sci. Eng.* 105, 79 (90).
- Bubble Mechanics: Physiological Implications, B.R. Wienke, NAUI Regional Southeast Conference On Underwater Education, Atlanta, Nov (88).
- Bubbles—The New Look, B.R. Wienke, *NDA News* 2, 34 (Mar-Apr 88).
- Tissue Gas Exchange Models And Decompression Computations: A Review, B.R. Wienke, *Undersea Biomed. Res.* 16, 53 (89).
- Computational Decompression/Operational Models, B.R. Wienke, Third International Conference On Supercomputing And Second World Supercomputer Exhibition, Boston, May (88); *Proc. Third. Int. Conf. Supercomputing* 2, 233 (88).
- Supercomputing Applications, B.R. Wienke and B.L. Buzbee, *Physics Teacher* 27, 10 (89).
- Bubble And Bends And Bio-Transport, B.R. Wienke and B.A. Hills, Wing Conference On Transport Theory, Invariant Imbedding, And Integral Equations, Santa Fe, Jan (88); *Transport Theory, Invariant Imbedding, And Integral Equations*, 179 (89), Marcel Dekker Incorporated (New York).
- Multigroup Particle Transport In A Moving Material, B.R. Wienke, T.R. Hill, and P.P. Whalen, Paris American Nuclear Society Topical Meeting, Apr (87); *Adv. Reac. Phys. Math. Comp. (Paris)* 2, 1073 (87); *J. Comp. Phys.* 72, 177 (87).
- Moving Material Transport Effects, B.R. Wienke, T.R. Hill, and P.P. Whalen, Nuclear Explosives Design Physics Conference, Los Alamos, Oct (87); *NEDPC Proc.* 1, 103 (88); P-Division Seminar, Los Alamos, May (88); M-Division Hydrodynamics Forum, Los Alamos, Nov (88); *Def. Res. Rev.* 1, 32 (88).
- Computational Decompression Models, B.R. Wienke, *Int. J. Bio-Med. Comp.* 21, 205 (87).
- Equivalent Multitissue and Thermodynamic Decompression Algorithms, B.R. Wienke, *Int. J. Bio-Med. Comp.* 24, 227 (89).
- Bubble Mechanics, B.R. Wienke, NAUI International Conference On Underwater Education, Santa Ana, Nov (87); *IQ-87 Proc.*, 254 (87).
- Issues And M-Values, B.R. Wienke, American Academy Of Underwater Sciences Conference, Seattle, Nov (87); *Proc. Seventh Conf. Amer. Acad. Under. Sci.* 1, 299 (87).
- Nucleation, Gas Separation, Bubble Growth And Destruction, B.R. Wienke, American Academy Of Underwater Sciences Conference, Seattle, Nov (87); *Proc. Seventh Conf. Amer. Acad. Under. Sci.* 1, 285 (87).
- Eulerian And Lagrangian Particle Transport With Drag, B.R. Wienke, T.R. Hill, and P.P. Whalen, *Comp. Phys. Comm.* 43, 171 (87).
- Mapping Schemes Of A Deterministic Particle Transport Algorithm On The Intel Hypercube, R.G. Brickner, R.E. Hiromoto, and B.R. Wienke, International Conference On Vector And Parallel Computing, Loen, Jun (86).

Phenomenological Models For Nitrogen Transport In Tissues, B.R. Wienke, *Il Nuovo Cim.* 8D, 417 (86).

Thermodynamic Decompression-The Downs And Ups, B.R. Wienke, NAUI International Conference On Underwater Education, Miami, Oct (86); IQ-86 Proc., 277 (86); American Academy of Underwater Sciences Conference, Tallahassee, Nov (86); Proc. Sixth Conf. Amer. Acad. Under. Sci. 1, 69 (86).

WACO: Neutronics And Computations, B.R. Wienke, TAC Review Meeting, Los Alamos, Jun (86); Weapons Theoretical Staff Meeting, Los Alamos, Jun (86); Explosives Division Forum, Los Alamos, Sept (86).

Parallel Iterative Transport Algorithms And Comparative Performance On Distributed And Common Memory Systems, R.G. Brickner, R.E. Hiromoto, and B.R. Wienke, Nuclear Explosives Code Development Conference, Albuquerque, Nov (86); NECDC Proc. 1, 362 (87); Los Angeles American Nuclear Society Meeting, Nov (87); Trans. Amer. Nuc. Soc. 55, 321 (87).

Scalar And Vector Lagrangian-Eulerian Mapping Algorithm, W.B. Harvey, B.R. Wienke, S.T. Bennion, and G.A. Buzbee, Nuclear Explosives Code Development Conference, Albuquerque, Nov (86); NECDC Proc. 1, 420 (87).

Decompression, B.R. Wienke, UNM Medical League Forum, Albuquerque, Oct (86).

DECOMP: Computational Package For Nitrogen Transport Modeling In Tissues, B.R. Wienke, *Comp. Phys. Comm.* 40, 327 (86).

Moving Material Effects In Design Calculations, B.R. Wienke, T.R. Hill, A.C. Juveland, and M.P. Sohn, Nuclear Explosives Design Physics Conference, Livermore, Oct (85); NEDPC Proc. 1, 612 (85); DOE-AWE JOWOG 32, Aldermaston, Nov (87).

Chaotic Iteration And Parallel Divergence, B.R. Wienke and R.E. Hiromoto, Parallel Computing-85 Conference, Berlin, Sep (85); Parallel Computing-85, 205 (85), Elsevier Science Publishers (Amsterdam).

Parallel Processing Numerical Transport Algorithms, B.R. Wienke and R.E. Hiromoto, *Comp. Phys. Comm.* 37, 363 (85); Taxonomy Parallel Algorithms Workshop, Santa Fe, Nov (83); Vector And Parallel Processors In Computational Science Conference, Oxford, Aug (84).

Parallel S_n Multigroup Methods, B.R. Wienke and R.E. Hiromoto, Conference On Algorithms, Architectures And The Future Of Scientific Computation, Austin, Mar (85); Methods Group Seminar, Lawrence Livermore National Laboratory, Jun (85); Supercomputing: Algorithms, Architectures, And Scientific Computing, 240 (86), University of Texas Press (Austin).

Coupled Multigroup Cross Sections For Hydrogen Interactions In Plasmas, B.R. Wienke, J.E. Morel, T.E. Cayton and R.B. Howell, *Nuc. Instr. Meth.* A240, 162 (85).

Tissues, Half-Lives, Critical Ratios And All That Stuff, B.R. Wienke, National YMCA Underwater Activities Convention, Atlanta, Aug (85); NAUI International Conference On Underwater Education, San Diego, Nov (85); IQ-85 Proc., 343 (85).

Approximate And Exact Photon-Maxwellian Electron Cross Sections And A Monte Carlo Sampling Scheme, B.R. Wienke, J.S. Hendricks and T.E. Booth, *J. Quant. Spect. Rad. Trans.* 33, 555 (85).

Relativistic Photon Maxwellian Electron Cross Sections, B.R. Wienke, International Conference Nuclear Data For Basic And Applied Science, Santa Fe, May (85); *Astron. Astrophys.* 336 (85); *Nuclear Data For Basic And Applied Science* 1, 977 (85), Gordon and Breach Publishers (New York).

Multigroup Radiation Transport And Methods, B.R. Wienke and J.E. Morel, Numerical Applications Group Seminar, Los Alamos National Laboratory, Nov (84).

Diving The Solar Pond At The Los Alamos National Laboratory, B.R. Wienke, *Ascent Lines* 2, 11 (84).

Temperature Dependent Klein-Nishina Scattering Density With A Sampling Scheme, B.R. Wienke, J.J. Devaney, T.E. Booth and J.S. Hendricks, Nuclear Explosives Code Developers Conference, San Diego, Nov (84).

Computational Properties Of The S_n Method For Design Calculations, J.E. Morel, B.R. Wienke and M.P. Sohn, Nuclear Explosives Code Developers Conference, San Diego, Nov (84); NECDC Proc. 1, 263 (87).

CTSS Screen Editor Experiment At LANL, B.R. Wienke, DNA Contractors Meeting, Los Angeles, Feb (84); TAC Committee Meeting, Los Alamos, Mar (84).

Parallel S_n Transport Algorithms, B.R. Wienke and R.E. Hiromoto, Computational Physics Group Seminar, Los Alamos, May (84); *Trans. Theory Stat. Phys.* 15, 49 (86).

HPLAS: Multigroup Cross Section And Reaction Rate Processor For Coupled H , H_2 and H_2^+ Transport Applications In Plasmas, B.R. Wienke, J.E. Morel, T.E. Cayton and R.B. Howell, *Comp. Phys. Comm.* 34, 87 (84).

Fitted Temperature Corrected Compton Cross Sections For Monte Carlo Applications And A Sampling Distribution, B.R. Wienke, B.L. Lathrop and J.J. Devaney, *Nuc. Sci. Eng.* 88, 71 (84).

ESECT - EMAP: Algorithm For Computing Intersection Volumes Of Overlaid Meshes In Cylindrical Coordinates, B.R. Wienke, *Nuc. Sci. Eng.* 84, 305 (83); *Comp. Phys. Comm.* 39, 259 (86).

Suprathermal Electron Energy Deposition In Plasmas With The Fokker-Planck Method, B.R. Wienke, *J. Comp. Phys.* 51, 208 (83).

Scaling And Electron Penetration In Slab Plasmas, B.R. Wienke, *Trans. Theory Stat. Phys.* 11, 233 (83); Detroit American Nuclear Society Meeting, Jun (83); *Trans. Amer. Nuc. Soc.* 4, 128 (83).

Temperature Corrected Photon-Maxwellian Electron Cross Sections For Radiation Transport, B.R. Wienke and B.L. Lathrop, Salt Lake City American Nuclear Society Topical Meeting, Mar (83); *Proc. Adv. React. Comp.* 2, 686 (83).

DEPOS: Parametric Electron Energy Deposition Module In Slabs, B.L. Lathrop and B.R. Wienke, Salt Lake City American Nuclear

Society Topical Meeting, Mar (83); Proc. Adv. Reac. Comp. 1, 206 (83); Comp. Phys. Comm. 38, 389 (85).

Fast Scheme For Photon-Maxwellian Electron Cross Sections, B.R. Wienke and B.L. Lathrop, New York American Physical Society Meeting, Jan (83); Bull. Amer. Phys. Soc. 28, 23 (83); J. Comp. Phys. 53, 331 (84).

Discrete Ordinates Methods And Charged Particle Transport, B.R. Wienke, Fusion Theory Group Seminar, University of Madrid, May (83).

MAXWEL: Exact Photon Cross Section Processor For Relativistic Maxwellian Electrons, B.L. Lathrop and B.R. Wienke, Nuc. Sci. Eng. 85, 319 (83); Comp. Phys. Comm. 32, 309 (84).

Approximate And Exact Schemes For Photon Maxwellian Electron Scattering Cross Sections, B.R. Wienke and B.L. Lathrop, Dense Plasma Physics Conference, Sarasota, Nov (83); Comp. Phys. Comm. 34, 77 (84).

Time Flies In A Solar Pond, B.R. Wienke, NAUI International Conference On Underwater Education, Chicago, Nov (83); IQ-14 Proc., 295 (83).

Diving In A Solar Pond, B.R. Wienke, Skin Diver Magazine 32, 106 (Dec 83).

Electron Transport In One-Dimensional Plasmas, B.R. Wienke, Nuc. Tech-Fus. 4, 426 (83).

Parallel Processing Numerical Transport Algorithms, B.R. Wienke and R.E. Hiromoto, Taxonomy Parallel Algorithms Workshop, Santa Fe, Nov (83); Vector And Parallel Processors In Computational Science Conference, Oxford, Aug (84); Comp. Phys. Comm. 37, 363 (85).

Advances In Discrete Ordinates Electron Transport, J.E. Morel and B.R. Wienke, Los Angeles American Nuclear Society Meeting, Jun (82); Trans. Amer. Nuc. Soc. 41, 475 (82).

DITTO Radiation Transport, B.R. Wienke, LANL Radiation Hydrodynamics Workshop, Los Alamos, Mar (82).

Air Temperature And Cross Factors At Altitude, B.R. Wienke, NAUI International Conference On Underwater Education, Ontario, Nov (82); National YMCA Underwater Activities Convention, Key West, Jun (82); Ascent Lines 1, 12 (84).

Shielding Materials Study: Phase I, B.R. Wienke, G. Hughes and J. Mack, LANL Weapons Diagnostics Group Seminar, Los Alamos, Mar (81).

Acceleration Schemes For Solution Of Integrodifferential Transport Equations, B.R. Wienke, Numerical And Simulation Investigation Group Meeting, Berkley, May (81).

ESN: One Dimensional S_n Transport Module For Electrons, B.R. Wienke, Miami American Nuclear Society Meeting, Jun (81); Trans. Amer. Nuc. Soc. 38, 355 (81); J. Quant. Spect. Rad. Trans. 28, 311 (82); Nuc. Sci. Eng. 81, 302 (82).

Altitude Diving: Practice And Some Theory, B.R. Wienke, NAUI Albuquerque High Altitude Diving Workshop, Jul (81).

Charged Particle Differential Collision Terms In S_n Applications, B.R. Wienke, Nuc. Sci. Eng. 79, 430 (81).

SNEX: Semianalytic Solution Of The Linear Transport Equations In One Dimension, B.R. Wienke, Washington American Physical Society Meeting, Apr (80); Bull. Amer. Phys. Soc. 25, 31 (80); Comp. Phys. Comm. 38, 397 (85).

Difference Schemes And Inversion Of The Linear Transport Equation, B.R. Wienke, Washington American Physical Society Meeting, Apr (80); Bull. Amer. Phys. Soc. 25, 31 (80).

Investigations Of Hot Electron Driven Implosions, C. Longmire, M. Alme, S. Chavin and B.R. Wienke, Mission Research Corporation Report AMRC-R-216, Mar (80).

Hot Electron Transport With The Discrete Ordinates Method, B.R. Wienke, Joint Mission Research Corporation-LANL Seminar, Los Alamos, Mar (80).

Reduction Of Azimuthally Symmetric Collision Kernels, B.R. Wienke, J. Quant. Spect. Rad. Trans. 24, 385 (80).

Hydrogen Transport In A Toroidal Plasma Using Multigroup Discrete Ordinates Methodology, B.R. Wienke, W.F. Miller and T.J. Seed, Nuc. Tech. 42, 272 (79).

Open Water Training At Altitude, B.R. Wienke, NAUI International Conference On Underwater Education, Houston, Oct (79); IQ-11 Proc., 250 (79).

Electron Transport And Small Angle Collisions, B.R. Wienke, J. Quant. Spect. Rad. Trans. 22, 301 (79); San Francisco American Physical Society Meeting, Jan (82); Bull. Amer. Phys. Soc. 27, 35 (82).

Discrete Ordinates Techniques For Electron Transport, B.R. Wienke, Mission Research Corporation Report AMRC-N-120, Dec (79).

Moment Generated Radiative Transfer Functions For Relativistic Maxwellian Electrons, B.R. Wienke, J. Quant. Spect. Rad. Trans. 19, 163 (78).

RIGATRON Nucleonics: One Dimensional Analysis, B.R. Wienke, D.J. Dudziak and G.E. Bosler, LASL Report LA-7183-MS, Mar (78).

Scoping Nucleonics Studies For The RIGATRON Fusion Reactor Concept, B.R. Wienke, D.J. Dudziak and G.E. Bosler, Santa Fe American Nuclear Society Topical Conference On Fusion Engineering, May (78); Trans. Adv. Tech. Controlled Nuc. Fus. 1, 73 (78).

Calculational Efficiency Of Numerical Transport Methods: Slab Geometry, R.E. Alcouffe, E.W. Larsen, W.F. Miller and B.R. Wienke, Washington American Nuclear Society Meeting, Nov (78); Trans. Amer. Nuc. Soc. 30, 250 (78); Nuc. Sci. Eng. 71, 111 (79).

Elastic Neutron Scattering From Distributed Fusion Neutrons, Deuterons, Tritium And Lithium, B.R. Wienke and R.E. Seamon, Nuc. Sci. Eng. 63, 236 (77).

PLASMX: Multigroup Ionization And Charge Exchange Cross Section Processor For Neutral Hydrogen Atom Transport In Plasmas, J.E. Morel and B.R. Wienke, LASL Report LA-6661-MS, Jan (77).

Neutral Hydrogen Transport In A 2D Toroidal Plasma, B.R. Wienke, W.F. Miller and T.J. Seed, San Francisco American Nuclear Society Meeting, Nov (77); Trans. Amer. Nuc. Soc. 27, 88 (77).

Depth-Dependent And Time-Averaged Diffusion Model For Nitrogen Saturation-Desaturation Processes, B.R. Wienke, Ind. J. Tech. 15, 326 (77).

Altitude Correction Factors: Theory And Use, B.R. Wienke, Southwest Regional YMCA Instructors Convention, Dallas, Dec (77).

Electron Transport With Discrete Ordinates, B.R. Wienke, Mission Research Corporation Seminar, Santa Barbara, Jul (77); Atlanta American Physical Society Plasma Physics Meeting, Nov (77); Bull. Amer. Phys. Soc. 22, 1189 (77); LASL Seminar, Dec (77).

Small Angle Expansion Of The Boltzmann Operator For Numerical Charged Particle Transport Calculations, B.R. Wienke, Miami American Physical Society Meeting, Nov (77); Bull. Amer. Phys. Soc. 22, 1250 (77).

Order Derivatives Of Bessel Functions, B.R. Wienke, Bull. Cal. Math. Soc. 69, 389 (77).

Induced Scattering And The Linear Transport Kernel, B.R. Wienke, Bull. Cal. Math. Soc. 69, 373 (77).

Altitude Correction Factors, B.R. Wienke, Ascent Lines 5, 4 (76).

Haldane's Principle Revisited, B.R. Wienke, Undersea J. 9, 9 (76).

Impact Parameter Expansion Of The Veneziano Amplitude, B.R. Wienke, Phys. Rev. 13, 668 (76).

Differential Equation Reduction Of Principal Value Collision Integrals In Nonrelativistic Perturbation Theory, B.R. Wienke, Il Nuovo Cim. 34B, 297 (76).

Relativistic Compton Scattering From Moving Electrons And Angular Moments, B.R. Wienke, J. Quant. Spect. Rad. Trans. 15, 151 (75).

Partial Wave Expansion Of The Induced Collision Kernel, B.R. Wienke, Nuc. Sci. Eng. 56, 201 (75).

Reduction Scheme For Principal Value Collision Integrals, B.R. Wienke, Denver American Physical Society Meeting, Apr (75); Bull. Amer. Phys. Soc. 20, 428 (75); Ind. J. Pure. Appl. Phys. 14, 225 (76).

Mean, Mean Square And Most Probable Momentum For A Relativistic Maxwellian Ensemble, B.R. Wienke, Amer. J. Phys. 43, 317 (75).

Invariant Compton Kernels For Radiation Transport, B.R. Wienke, New Orleans American Nuclear Society Meeting, Jun (75); Trans. Amer. Nuc. Soc. 21, 528 (75).

Classical Transport In A Moving Fluid, B.R. Wienke, St Petersburg American Physical Society Plasma Physics Meeting, Nov (75); Bull. Amer. Phys. Soc. 20, 1258 (75).

Cross Sections For $d(\pi^+, 2p)$ Reactions With Distorted Protons, B.R. Wienke, Anaheim American Physical Society Meeting, Jan (75); Bull. Amer. Phys. Soc. 20, 847 (75); Prog. Theor. Phys. 53, 1199 (75).

Transport Equation In an Accelerated Material, Legendre Moments And A Diffusion Approximation, B.R. Wienke, Nuc. Sci. Eng. 53, 329 (74).

Transport Equation In Modified Eulerian Coordinates, B.R. Wienke, Phys. Fluids 17, 1135 (74).

Pion Exchange Mechanism For $(\pi^+, 2p)$ Reactions, B.R. Wienke, Salt Lake City American Physical Society Meeting, Jun (74); Bull. Amer. Phys. Soc. 19, 667 (74); Prog. Theor. Phys. 52, 567 (74).

Capture $\mu^- + Li_6 \rightarrow H_3 + H_3$ With Final State Interactions, B.R. Wienke and S.L. Meyer, Chicago American Physical Society Meeting, Feb (74); Bull. Amer. Phys. Soc. 19, 44 (74); Phys. Rev. 9C, 943 (74).

Relativistic Invariance And Photon-Electron Scattering Kernels In Transport Theory, B.R. Wienke, Nuc. Sci. Eng. 52, 247 (73).

Anisotropic Elastic Scattering And Moving Media, B.R. Wienke, Nuc. Sci. Eng. 52, 482 (73).

Summary Of Radiation Transport And Radiation Hydrodynamics, B.R. Wienke, LASL Report LA-5392-MS, Sep (73).

Current Propagators And Spectral Sum Rules For Large And Small Momentum, B.R. Wienke, J. Phys. 6A, 649 (73).

Leptonic Decays Of Vector Mesons And A Unitary Singlet Contribution To The Electromagnetic Current Of Hadrons, B.R. Wienke, Phys. Rev. 7D, 2253 (73).

Elastic Scattering Probability Functions In Arbitrary Coordinate Systems, B.R. Wienke, Nuc. Sci. Eng. 51, 508 (73).

Current Algebra And Symmetries, B.R. Wienke, LASL Seminar, Jul (72); Physics Department Seminar, St Louis University, Jul (72).

Low Energy Axial Vector Form Factors For K_{e4} Decay Based On Broken Chiral Symmetry, B.R. Wienke and N.G. Deshpande, Phys. Rev. 5D, 725 (72).

Proposed Determination Of The Muon Neutrino Mass From Muon Capture, S.L. Meyer and B.R. Wienke, Northwestern University Report, Feb (72).

On Kaon Mass Shell Form Factors In K_{l3} And K_{l4} Decays, B.R. Wienke, Il Nuovo Cim. 8A, 1 (72).

Capture Processes In Light Nuclei, B.R. Wienke, LASL Seminar, Feb (71); Physics Department Seminar, Utah State University, Feb (71).

Field Theoretic Description Of (π^+, p) And (p, π^+) Reactions In Nuclei, B.R. Wienke, LASL Seminar, Dec (71); Washington American Physical Society Meeting, Apr (72); Bull. Amer. Phys. Soc. 17, 589 (72); Physics Department Seminar, Marquette University, May (72); Prog. Theor. Phys. 49, 1220 (73).

Muon Capture In Li_6 In The Ditrion Channel, B.R. Wienke and S.L. Meyer, Phys. Rev. 3C, 2179 (71).

Current Algebra And $\omega - \phi$ Mixing, B.R. Wienke and N.G. Deshpande, Chicago American Physical Society Meeting, Jan (70); Bull. Amer. Phys. Soc. 15, 60 (70).

K^- Capture In He_4 In The Multiple Impulse Approximation, B.R. Wienke, Phys. Rev. 1D, 2515 (70); Physics Department Seminar, Iowa State University, Feb (71); Argonne National Laboratory Seminar, Dec (71).

Low Energy Theorems On K_{e4} Decay, B.R. Wienke and N.G. Deshpande, Austin American Physical Society Meeting, Mar (71).

Current Algebra And Symmetry Breaking In The Interaction Of Mesons, B.R. Wienke, Northwestern University, Doctor of Philosophy Thesis, Sep (71).

Current Algebra Predictions Of $\omega - \phi$ Mixing, B.R. Wienke and N.G. Deshpande, Phys. Rev. 1D, 2180 (70).

$U(3)$ Current Algebra And Spectral Sum Rules For Vector Mesons, B.R. Wienke and N.G. Deshpande, Phys. Rev. 188, 2117 (69).

Nuclear Deformation And Moments, K. Lee and B.R. Wienke, Washington American Physical Society Meeting, Jun (66); Bull. Amer. Phys. Soc. 11, 57 (66).

Nuclear Deformation And Moments, B.R. Wienke, Marquette University, Master of Science Thesis, Jun (65).

CITATIONS – thru 95 only

S.M. Egi, Undersea Hyper. Med. 22, 281 (95).

C.L. Gazze, Nuc. Sci. Eng. 118, 217 (94).

Y. Nakad, J. Nuc. Sci. T. 30, 120 (93); J. Nuc. Sci. T. 30, 18 (93).

R.P. Datta, Supercomp. 9, 15 (92); J. Phys. D 26, 107 (93); Phys. St. 180, 85 (93).

J. Conkin, Aviat. Sp. Eng. 63, 965 (92).

M. Yavuz, Nuc. Sci. Eng. 112, 52 (92).

E.L. Shroub, Astrophys. 38, 558 (92).

Z. Weiss, Ann. Nuc. Eng. 19, 779 (92).

A.A. Sibirtse, Sov. J. Nuc. R. 55, 729 (92); Sov. J. Nuc. R. 55, 541 (92).

Y.Y. Azmy, J. Supercomp. 6, 211 (92).

A. Badruzzaman, Prog. Nuc. Eng. 25, 265 (91).

S. Woolf, RL-TR-91-289, Rome Laboratory (91).

S.P. Henderson, Nuc. Sci. Eng. 107, 201 (91).

L.A. Henderson, J. Supercomp. 4, 83 (90).

M.L. Simmons, J. Supercomp. 4, 153 (90).

A. Badruzzaman, Trans. Amer. Nuc. Soc. 60, 329 (89).

A. Apelblat, J. Math. Anal. 137, 17 (89).

A. Badruzzaman, Trans. Amer. Nuc. Soc. 56, 529 (88).

H.L. Rajic, Nuc. Sci. Eng. 103, 392 (88).

F. Seidel, Kernenergie 31, 185 (88).

D.S. Kershaw, J. Quant. Spect. Rad. Trans. 38, 347 (87).

E.H. Canfield, Astrophys. J. 323, 565 (87).

S. Atzeni, Plas. Phys. Rev. 29, 1535 (87).

E.L. Shoub, Phys. Fluids 30, 1340 (87).

R.A. Eramzhya, Phys. Rep. 36, 229 (86).

G. Velarde, Laser Part. Beams 4, 349 (86).

W.L. Filippone, Nuc. Sci. Eng. 92, 421 (86).

E.L. Shoub, Phys. Fluids 30, 1340 (86).

J.J. Honrubia, Nuc. Sci. Eng. 93, 386 (86).

F. Shurrer, Atomkern. 46, 238 (85).

B.L. Buzbee, Comp. Phys. Comm. 37, 1 (85).

J.M. Mack, Lecture Notes Physics (Springer-Verlag), 240, 272 (85).

J.J. Honrubia, Trans. Amer. Nuc. Soc. 50, 269 (85).

T.E. Booth, Nuc. Sci. Eng. 90, 248 (85).

H.S. Picker, Phys. Rev. 30C, 1751 (84).

J.M. Aragonas, Atomkern. 44, 209 (84).

P. Nelson, Trans. Amer. Nuc. Soc. 46, 436 (84).

J.S. Hendricks, Trans. Amer. Nuc. Soc. 47, 226 (84).

J.C. Garth, Trans. Amer. Nuc. Soc. 46, 413 (84).

U. Weinert, Physica 121A, 1501 (83).

W.L. Filippone, Trans. Amer. Nuc. Soc. 45, 604 (83).

S.L. Mintz, Phys. Rev. 28C, 1389 (83).

K. Junker, Nuc. Phys. 407A, 460 (83).

J.C. Garth, Trans. Amer. Nuc. Soc. 44, 274 (83).

J.E. Morel, Trans. Amer. Nuc. Soc. 41, 475 (82).

D.J. Bond, J. Phys. 15A, 2723 (82).

G.A. Reeves, Astrophys. J. 259, 25 (82).

R. Roosen, Il Nuovo Cim. 66A, 101 (81).

T.A. Mehlhorn and J.J. Duderstadt, J. Comp. Phys. 38, 86 (80).

T.W. Tran, Atomkern. 36, 218 (80).

U. Weinert, Arch. Rational Mech. 74, 165 (1980).

N.C. Mukopadhyay, Nuc. Phys. 335A, 111 (80).

J.R. Nix, Progress Particle and Nuclear Physics (Pergamon Press) 2, 257 (79).

D. Shvarts, Nuc. Fus. 19, 1457 (79).

G.C. Pomraning, Nuc. Sci. Eng. 69, 6 (79).

R. Roosen, Il Nuovo Cim. 49A, 217 (79).

S.L. Mintz, Phys. Rev. 19C, 746 (79); 20C, 286 (79).

H.L. Wilson, SIAM J. Appl. Math. 36, 230 (79).

Y.A. Batusov, Soviet J. Nuc. Res. 28, 233 (78).

T.J. Seed, Trans. Amer. Nuc. Soc. 30, 621 (78).

G.G. Arushano, Ukr. Fiz. Zh. 23, 297 (78).

K. Kume, Prog. Theor. Phys. 58, 575 (77).

J.K. Bajaj, Pramana 8, 309 (77).

A.A. Amsden, Phys. Rev. 15C, 2059 (77).

N.C. Mukhopadhyay, Phys. Rep. 30, 1 (77).

F. Cannata, *Il Nuovo Cim. Riv.* 7, 133 (77).
 T. Lee, *Nuc. Phys.* 256A, 509 (76).
 R. Ribberfors, *J. Quant. Spect. Rad. Trans.* 16, 689 (76).
 A. Reitan, *Nuc. Phys.* 237A, 465 (75).
 L.S. Kisslinger, *Nuc. Phys.* 254A, 493 (75).
 H.W. Fearing, *Phys. Rev.* 11C, 1210 (75).
 R.S. Bhalerao, *Pramana* 5, 154 (75).
 M.P. Khanna, *Phys. Rev.* 12D, 1512 (75).
 C.V. Sastry, *Phys. Rev.* 11D, 1979 (75).
 G.A. Miller, *Phys. Lett.* 51B, 129 (74); *Nuc. Phys.* 224A, 269 (74).
 S. Dahlgren, *Phys. Scrip.* 10, 104 (74).
 M.P. Khanna, *Lett. Il Nuovo Cim.* 9, 277 (74).
 E. Ajzenberg-Selove, *Nuc. Phys.* 227A, 1 (74).
 B. Hoisted, *Phys. Scrip.* 9, 201 (74).
 J. Amato, *Phys. Rev.* 9C, 501 (74).
 S. Dahlgren, *Phys. Lett.* 47B, 439 (73); *Nuc. Phys.* 204A, 53 (73); *Nuc. Phys.* 211A, 243 (73).
 D.F. Greenberg, *Il Nuovo Cim.* 68A, 459 (70).

REVIEWS AND PROPOSALS

Influence Of Temperature On Decompression Sickness Risk In A Large Animal Model, S. Kayar, Office of Naval Research, NMRC (01).
 Fast Iterative Methods For Discrete Ordinates Particle Transport Calculations, M.L. Adams and E.W. Larsen, *Prog. Nuc. Eng.* (01).
 The Physiological Kinetics Of Nitrogen And The Prevention Of Decompression Illness, D. Doolette and S.J. Mitchell, *Clinical Pharmacokinetics*, (00).
 Time Optimal Parallel Ray Tracing Sweeps In Plane Parallel Discrete Ordinates: Implementation And Testing On A Hypercube, R.D. Jarvis and P. Nelson, *Nuc. Sci. Eng.* (97).
 Bilinear Discontinuous Numerical Solution Of The Time Dependent Transport Equation In Slab Geometry, J.S. Warsa, A.K. Prinja, and J.W. Van Denburg, *Nuc. Sci. Eng.* (95).
 Neutron Yields For Antiproton Microfission Experiments, C.E. Gazze, R.J. Newton, R.A. Lewis, P. Chiang, and G.A. Smith, *Nuc. Sci. Eng.* (94).
 Exponential Characteristic Spatial Quadrature For Discrete Ordinates Radiation Transport In Slab Geometry, K. Mathews, G. Sjoden, and B. Minor, *Nuc. Sci. Eng.* (93).
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 Spatial Domain Decomposition For Neutron Transport Problems, M. Yavuz and E.W. Larsen, *Nuc. Sci. Eng.* (89).
 Numerical Investigation Of Hydraulic Network Conservation Equations On MIMD Parallel Computers, P.N. Mahana et. al., *Nuc. Sci. Eng.* (88).
 The F_n Method For Radiative Transfer Models That Include Polarization Effects, R.D.M. Garcia and C.E. Siewert, *J. Comp. Phys.* (88).
 Charged Particle Transport In One Dimension, J.W. Wilson, L.W. Townsend, B. Ganapol, S.Y. Chun, and W.W. Buck, *Nuc. Sci. Eng.* (87).
 Fusion Burn Kinetics, B.R. Wienke, R.J. Juzaitis, and J.E. Morel, LANL ISRD Proposal (87).
 Streaming Ray Formulation Of Electron Transport, W.L. Filippone, *Nuc. Sci. Eng.* (86).
 Strategies And Performance Norms For Efficient Utilization Of Vector Pipeline Computers Illustrated By Classical Mechanical Simulation Of Rotationally Inelastic Collisions, D.C. Cochrane and D.G. Truhar, *Parallel Comp.* (86).
 Feasibility Of The Utilization Of Best Available Technology In Development Of Compilers And Compiler Techniques And Tools, A. Carlton, DOE SBIR Proposal 3646-85-I (85).
 Semi-Automatic Vectorizing Compiler, S.E. Richfield, DOE SBIR Proposal 3372-85-I (85).
 Application Of The P_n Method To The Calculation Of The Angular Flux Of Gamma Ray, P.R.M. Storchi, *J. Comp. Phys.* (83).
 Time Dependent One Dimensional Transport Calculations Using The Streaming Ray Method, W.L. Filippone and B.D. Ganapol, *Nuc. Sci. Eng.* (82).
 Angular Quadrature Sets For The Streaming Ray Method In x-y Geometry, R. England and W.L. Filippone, *Nuc. Sci. Eng.* (82).
 A Modified Wigner Rational Approximation For Lumped Escape Probability From Isolated Bare Lumps, A. Kumar, *Nuc. Sci. Eng.* (81).
 An Improved Single Parameter Escape Probability Function, D. Kwiat, *Nuc. Sci. Eng.* (80).
 Generalized Variational Principles For Controlled Thermonuclear Reactor Neutronics Analysis, E.T. Cheng, *Nuc. Sci. Eng.* (79).
 Sputtering Calculations With Discrete Ordinates, T.J. Hoffman et. al., *Nuc. Sci. Eng.* (78).

Anisotropy Of Scattering And Fission in Neutron Transport Theory, V.C. Boffi, Nuc. Sci. Eng. (77).

Angular Effects In Toroidal Diffusion, G.C. Pomraning, Nuc. Sci. Eng. (77).

Acceleration Of The Convergence Of The Integral Transform Method, V.G. Boffi, Nuc. Sci. Eng. (76).

Orders Of Scattering Analysis Of Particle Transport In Finite Slabs, S. Woolf, Nuc. Sci. Eng. (76).