

December 28, 2015

Curriculum Vitae

RUPRECHT MACHLEIDT

Personal Data

Professional Status	Professor of Physics
Field of Research	Theoretical Nuclear Physics
Institution	University of Idaho
Address	Department of Physics University of Idaho Moscow, Idaho 83844-0903 U. S. A.
Telephon	Office (208) 885-6380
E-mail	<i>machleid@uidaho.edu</i>
Personal Website	http://machleidt.weebly.com
Nationality	U.S. and German citizen

Research Interests

Theoretical nuclear physics; theory of nuclear forces, meson theory, chiral effective field theory; nucleon-nucleon (NN) scattering below and above the pion-production threshold; NN potentials, nuclear many-body forces, few-nucleon physics; ab initio approaches to nuclear structure and reactions; nuclear matter theory with relativity and subnuclear degrees of freedom.

Some Other Interests

Nuclear medicine, radiation therapies for the treatment of cancer, proton therapy; Greek philosophy and modern particle physics, the dream of a theory of everything through history; the Intelligent Design controversy, Science and Religion.

Main Research Accomplishments

- Meson theory of nuclear forces. The Bonn meson-exchange model for the nucleon-nucleon interaction, R. Machleidt, K. Holinde, and Ch. Elster, *Physics Reports* **149**, 1 (1987) [2884 citations according to Google Scholar]; R. Machleidt, The meson theory of nuclear forces and nuclear structure, *Advances in Nuclear Physics* **19**, 189 (1989) [1785 citations].
- The Dirac-Brueckner approach to nuclear matter. Major publications: R. Brockmann and R. Machleidt, *Physics Letters B* **149**, 283 (1984) [259 citations]; R. Brockmann and R. Machleidt, *Physical Review C* **42**, 1965 (1990) [741 citations].
- High-precision NN potentials (“CD-Bonn”). Major publications: R. Machleidt, F. Sammarruca, and Y. Song, *Physical Review C* **53**, 1483 (1996) [801 citations]; R. Machleidt, *Physical Review C* **63**, 024001 (2001) [1476 citations].
- Chiral effective field theory and nuclear forces. Major publications: D. R. Entem and R. Machleidt, *Physical Review C* **68**, 041001 (2003) [936 citations]; R. Machleidt and D. R. Entem, *Physics Reports* **503**, 1 (2011) [426 citations].
- Total of 149 publications in refereed journals plus 153 conference contributions; 14,575 citations and h-index of 46 according to Google Scholar.
- 69 invited talks and lectures during the past 10 years.
- On-line article about *Nuclear Forces* written for Scholarpedia (the peer-reviewed open-access encyclopedia) has been accessed 50,000+ times within two years.

Educational Background

Ph.D., Physics, University of Bonn, Germany, 1973.

M.S., Physics, University of Bonn, Germany, 1971.

Professional Experience

Acting Chair, Department of Physics, University of Idaho, August 2003 - July 2006.

Professor of Physics (tenured), University of Idaho, since 1991.

Associate Professor of Physics, University of Idaho, 1988-91.

Adjunct Associate Professor of Physics, University of California at Los Angeles (UCLA), 1986-88.

Visiting Associate Research Physicist, Los Alamos Meson-Physics Facility (LAMPF), Los Alamos National Laboratory, Los Alamos, New Mexico, 1986-88.

Visiting Faculty Member, Virginia Polytechnic Institute and State University (VPI), Blacksburg, Virginia, Fall 1985.

Visiting Senior Scientist, Canada's National Meson-Physics Facility (TRIUMF), Vancouver, Canada, 1983-85.

Wissenschaftlicher Assistent (\approx assistant professor/research associate), Institute for Theoretical Nuclear Physics, University of Bonn, Germany, 1978-83.

Postdoctoral Research Associate, State University of New York at Stony Brook, 1976-77.

Postdoctoral Research Associate, University of Bonn, Germany, 1974-75.

Teaching and Advising

I have taught a large repertoire of physics courses that ranges from popular science to advanced graduate classes.

I have advised and co-advised a large number of undergraduate and graduate (M.S. and Ph.D.) students.

Professional Activities

Consultant

Los Alamos National Laboratory, Physics Division (P-15), Los Alamos, New Mexico, 1986-88.

Reviews for Funding Agencies

U.S. National Science Foundation (NSF),

Theoretical Physics Program,

Condensed Matter Theory Program.

U.S. Department of Energy (DOE).

San Diego Supercomputer Center.

Natural Science and Engineering Research Council of Canada (NSERC).

Australian Research Council (ARC).

Foundation for Research Development of South Africa.

Italian Department for Teaching and University Research (MIUR).

CINECA, Consortium of 54 Italian Universities.

Istituto Nazionale di Fisica Nucleare (INFN), Italy.

Fondo Nacional de Investigacion Cientifica y Tecnologica, Santiago, Chile.

FWF, Der Wissenschaftsfonds (Austrian Science Fund), Vienna, Austria.

Refereeing for Physics Journals

Physical Review C

Physical Review Letters

Reviews of Modern Physics

Nuclear Physics

Physics Letters

Journal of Physics G: Nuclear and Particle Physics

Few Body Systems

Jordan Journal of Physics

Turkish Journal of Physics

Scholarpedia

Conferences and Workshops

Co-organizer of several international physics conferences and workshops.

Member of the Advisor Board of many physics conferences and workshops.

Awards, Memberships, Fellowships

Fellow, American Physical Society, since 2000.

University of Idaho Faculty Award for Research Excellence, 2001.

Vandal Pride Award, University of Idaho, 2002.

Distinguished Faculty Member, University of Idaho Chapter of the

Honor Society of Phi Kappa Phi, since 2000.
Faculty Excellence Award, University of Idaho Alumni Association, 2000.
Faculty Excellence Award, Navy ROTC, University of Idaho, 1998.
Affiliate, Institute for Nuclear Theory (INT), University of Washington,
Seattle, Washington.
Fellowship, Deutsche Forschungsgemeinschaft, 1983-85.
Postdoctoral Fellowship, Deutsche Forschungsgemeinschaft, 1976-77.

Funding

Nuclear Theory at the University of Idaho, DOE Office of Science, \$315,000, PIs: F. Sammarruca and R. Machleidt, 08/2015-07/2018.

Nuclear Theory at the University of Idaho, DOE Office of Science, \$285,000, PIs: F. Sammarruca and R. Machleidt, 08/2012-07/2015.

Nuclear Theory at the University of Idaho, DOE Office of Science, \$230,000, PIs: F. Sammarruca and R. Machleidt, 08/2009-07/2012.

Chiral Symmetry and the Nucleon-Nucleon Interaction, NSF, Theoretical Physics Program, PI: R. Machleidt, \$141,000; 5/2001-4/2007.

Relativistic Nuclear Few- and Many-Body Problems, NSF, Theoretical Physics Program, PI: R. Machleidt, \$134,564; 5/1997-4/2001.

Relativistic Meson-Nuclear Physics, NSF, Theoretical Physics Program, PI: R. Machleidt, \$87,800; 8/92-1/96.

Relativistic Nuclear Many-Body Physics, Idaho State Board of Education, PI: R. Machleidt, \$30,000; 7/92-6/93.

A Critical Study of Meson-Theoretic Approaches to Nuclear Forces and Nuclear Structure, NSF, Idaho EPSCoR Program, PI: R. Machleidt, \$70,918; 5/90-4/92.

Relativistic Nuclear Structure Physics, NATO, Scientific Affairs Division, Collaborative Research Program, \$7,100; 3/89-7/92.

Relativistic Meson-Nuclear Physics, NSF, Theoretical Physics Program, PIs: P. A. Deutchman and R. Machleidt, \$131,120; 9/89-2/93.

University of Idaho, Research Office, \$7,440 for partial postdoctoral support, PI: R. Machleidt, 3/89-8/89.

University of Idaho, College of Letters and Science, \$27,000; PI: R. Machleidt, 9/88-8/89.

Relativistic Nuclear Currents and Nucleon Electroproduction, NSF, United States – Federal Republik of Germany Cooperative Science Program, \$8,600; 3/88-8/91.

Invited Talks, Lectures, Panel Discussions (since 2000)

Ancient Greek Philosophy and Modern Physics: Amazing Parallels, Colloquium, Physics Department, University of Idaho, October, 2015.

Understanding the Atomic Nucleus: Recent Dramatic Advances and Remaining Challenges, Colloquium, Institute of Cosmic Science, University of Barcelona, Barcelona, Spain, October, 2015.

Why all that fuss about the Higgs Boson?, Colloquium, Physics and Astronomy Department, University of Calgary, Calgary, Alberta, Canada, September, 2015.

The Theory of Nuclear Forces: Eight Decades of Struggle, Invited Talk, IMP-CUSTIPEN workshop on “Properties of exotic nuclei and asymmetric nuclear matter”, Institute of Modern Physics, Chinese Academy of Science, Lanzhou, China, August, 2015.

Recent advances in chiral nuclear forces, Invited Talk, PKU-CUSTIPEN workshop on “Advances in computations of nuclear structure and nuclear forces”, Department of Physics, Peking University, Beijing, China, August, 2015.

... and for *Desert: a Higgs Boson*, After-Dinner Talk, North-West Meeting of the American Physical Society, Washington State University, Pullman, Washington, May 2015.

Chiral Nuclear Forces at N_4LO , Invited Keynote Talk, Workshop on “Progress in Ab Initio Techniques in Nuclear Physics”, TRIUMF, Canada’s National Laboratory for Particle and Nuclear Physics, Vancouver, BC, Canada, February 2015.

Recent Advances in our Understanding of Nuclear Forces and Nuclear Structure, Colloquium, Department of Physics, Washington State University, Pullman, Washington, September 9, 2014.

The Theory of Nuclear Forces: Eight Decades of Struggle, Invited Talk, Kavli Institute for Theoretical Physics China, Beijing, P. R. of China, August 2014.

Nuclear Forces, Series of four Invited Lectures, Department of Physics, Peking University, Beijing, P. R. of China, August 2014.

Nuclear Forces, Series of six Invited Lectures, Department of Physics, Tohoku University, Sendai, Japan, June/July 2014.

Chiral EFT and nuclear forces: Are we in trouble?, R. Machleidt, Invited Talk, Workshop on Nuclear Theory in the Supercomputing Era - 2014, Khabarovsk, Russia, June 2014.

The explosion of chiral many-body forces: How to deal with it?, Invited Talk, 11th International Spring Seminar on Nuclear Physics, Ischia, Italy, May, 2014.

Why all that fuss about the Higgs Boson?, Invited Keynote Talk, 56-th Annual Meeting of the Idaho Academy of Science, Moscow, Idaho, March 21, 2014.

Klaus Erkelenz and the Bonn Potential, Colloquium, Symposium in Memory of Klaus Erkelenz, University of Bonn, Germany, November 15, 2013.

Nuclear Physics—a Blessing to Mankind: Recent Advances in Radiation Therapies for Cancer, Renfrew Interdisciplinary Colloquium, University of Idaho, September 10, 2013.

Nuclear Forces, Series of four Invited Lectures, 12th Center of Nuclear Studies (CNS) International Summer School, University of Tokyo, Tokyo, August 2013.

Nuclear theory at the University of Idaho, Presentation to International Panel appointed by the Department of Energy, Washington, D.C., June 2013.

In Memoriam Gerald E. Brown, presentation at ECT* Workshop From Few-Nucleon Forces to Many-Nucleon Structure, Trento, Italy, June 2013.

Chiral Effective Field Theory for Nuclear Forces: Achievements and Challenges, R. Machleidt, Invited Plenary Talk, International Nuclear Physics Conference, Florence, Italy, June 2013.

Origin and Properties of Strong Inter-Nucleon Interactions, R. Machleidt, Invited Keynote Talk, Workshop on Nuclear Theory in the Supercomputing Era - 2013, Iowa State University, Ames, Iowa, May 2013.

What holds the nucleus together?, R. Machleidt, Invited Talk, Society of Physics Students (SPS) Zone-17 Meeting, Washington State University, Pullman, Washington, April 6, 2013.

Chiral Effective Field Theory for Nuclear Forces: The Path to Nuclear Structure from First Principles, R. Machleidt, Invited Keynote Talk, Workshop on “Progress in Ab Initio Techniques in Nuclear Physics”, TRIUMF, Vancouver, BC, Canada, February 2013.

Higgs Boson, Science on Tap, Coeur d’Alene, Idaho, January 8, 2013.

Teaching Intelligent Design: The Scientific, Theological, and Legal Controversy, R. Machleidt, Colloquium, Department of Physics, University of Idaho, December 2012.

Who needs a Higgs Boson? R. Machleidt, Colloquium, Department of Physics, University of Idaho, October 2012.

Nuclear Forces, R. Machleidt, Lecture Series, International Scientific Meeting on Nuclear Physics, La Rábida, Huelva (Spain), September 2012.

Recent Progress in the Theory of Nuclear Forces, R. Machleidt, Invited Plenary Talk, 20th International IUPAP Conference on Few-Body Problems in Physics, Fukuoka, Japan, August 2012.

Nuclear forces from chiral effective field theory: Achievements and challenges, R. Machleidt, Invited Talk, 31st International Workshop on Nuclear Theory, Rila Mountains, Bulgaria, June 2012.

Three-nucleon forces in chiral perturbation theory, R. Machleidt, Invited Plenary Talk, 2012 April Meeting of the American Physical Society, Atlanta, Georgia, April 2012.

Three-Nucleon Forces at N^3LO and Beyond, R. Machleidt, Invited Keynote Talk, Workshop on “Perspectives of the Ab Initio No-Core Shell Model”, TRIUMF, Vancouver, BC, Canada, February, 2012.

Nuclear forces from chiral effective field theory: Achievements and challenges, R. Machleidt, Invited Keynote Talk, Fifth Asia-Pacific Conference on Few-Body Problems in Physics (APFB2011), Seoul, South Korea, August 2011.

Sub-leading three-nucleon forces in chiral perturbation theory, R. Machleidt, Invited Keynote Talk, International Workshop on Three-Nucleon Forces in Vacuum and in the Medium, European Center for Theoretical Studies in Nuclear Physics and Related Areas (ECT*), Trento, Italy, July 2011.

What holds the nucleus together?, R. Machleidt, Invited Talk, Society of Physics Students (SPS) Zone-17 Meeting, Vantage Wind Farm, Vantage, Washington, April 16, 2011.

The nuclear force problem: Have we finally reached the end of the tunnel?, R. Machleidt, Invited Talk, 474th WE-Heraeus-Seminar on “Strong Interactions: From Methods to Structures”, Physikzentrum Bad Honnef (Germany), February 2011.

Have we finally cracked the nuclear force problem?, R. Machleidt, Invited Keynote Talk, International Workshop on the NN Interaction and the Nuclear Many-Body Problem, Tata Institute of Fundamental Research, Mumbai, India, November 2010.

Understanding the Atomic Nucleus: Recent Dramatic Advances and Remaining Challenges, R. Machleidt, Portuguese National Conference on Physics and Iberian Meeting on Physics Education, Vila Real, Portugal, September 2010.

Round table discussion of the nuclear force, Invited Member of the Panel, 21st European Conference on Few-Body Problems in Physics, Salamanca, Spain, August 2010.

Nuclear forces from chiral EFT: The unresolved issues, R. Machleidt, Invited Talk, 21st European Conference on Few-Body Problems in Physics, Salamanca, Spain, August 2010.

Nuclear forces from chiral EFT: The unfinished business, R. Machleidt, Invited Talk, 10th International Spring Seminar on Nuclear Physics, New Quests in Nuclear Structure, Vietri sul Mare, Italy, May 2010.

Nuclear Forces from Chiral EFT: The Unfinished Business, Theory Seminar, Jefferson Lab, Newport News, VA, April 2010.

Nuclear Physics a Blessing to Mankind: Recent Advances in Radiation Therapies for Cancer, R. Machleidt, Colloquium, Department of Physics, University of Idaho, September 2009.

Recent Advances in the Theory of Nuclear Forces and its Relevance for the Microscopic Approach to Dense Matter, Invited Talk, International Workshop on Nuclear Dynamics in Heavy Ion Reactions and the Symmetry Energy, Shanghai, China, August 2009.

The Missing Three-Nucleon Forces: Where Are They?, Invited Talk, 28th International Workshop on Nuclear Theory, Rila Mountains, Bulgaria, June 2009.

The Missing Three-Nucleon Forces: Where Are They?, Invited Talk, national Institute for Nuclear Theory (INT), University of Washington, Seattle, Washington, Program on ‘Effective Field Theories and the Many-Body Problem’, Spring 2009.

The Missing Three-Nucleon Forces: Where Are They?, Invited Talk, 2009 Mardi Gras “Special Symmetries and Ab Initio Methods for Light Nuclei” Workshop, Louisiana State University, February 2009.

Solving a Half-Century-Old Mystery: Why is There Carbon Dating? R. Machleidt, Colloquium, Department of Physics, University of Idaho, January 2009.

The Nuclear Force Problem: Is the Never-Ending Story Coming to an End?, Colloquium, Department of Physics, The University of Arizona, Tucson, Arizona, November 7, 2008.

Chiral Three-Nucleon Forces Beyond Next-to-Next-to-Leading Order, Particle and Nuclear Theory Seminar, Department of Physics, The University of Arizona, Tucson, Arizona, November 6, 2008.

Nuclear Two- and Many-Body Forces from Chiral EFT: Current Status and Open Issues, Invited Talk, 410. WE-Heraeus Seminar, Ab-Initio Nuclear Structure—Where Do We Stand?, Bad Honnef, Germany, July 2008.

Solving a Five Decade-Old Mystery: Why is There Carbon Dating?, Invited Talk, Tenth Annual Meeting of the Northwest Section of the American Physical Society, Portland, Oregon, May 2008.

Nucleon-Nucleon Interactions from Effective Field Theories, Invited Talk, From Quarks to the Nuclear Many-Body Problem, A Conference on Recent Advances in Nuclear Many-Body Physics, Oslo, Norway, May 2008.

Nuclear Two- and Many-Body Forces from Chiral EFT: Current Status and Open Issues, Invited Talk, national Institute for Nuclear Theory (INT), University of Washington, Seattle, Washington, Program on ‘Nuclear Many-Body Approaches for the 21st Century’, Fall 2007.

Recent Advances in the Theory of Nuclear Forces and Its Impact on Microscopic Nuclear Structure, Invited Talk, International Symposium on Exotic States of Nuclear Matter, Catania, Italy, June 2007.

NN and NNN Interactions, Invited Contribution, 2007 Town Meeting for NSAC Long Range Plan, Chicago, January 2007.

Is Intelligent Design Science or Religion? Scientific, Theological and Legal Arguments in the Dover School Board Trial, R. Machleidt, Colloquium, Department of Physics, University of Idaho, December 2006.

Nuclear Forces, Series of four invited lectures, DAE-BRNS Workshop on Physics and Astrophysics of Hadrons and Hadronic Matter, Visva Bharati University, Shantiniketan, West Bengal, India, November 2006.

NN and Many-Body Interactions: Chiral Perturbation Theory, Effective Interactions, Invited Review Talk, SURA Workshop on the Physics of Nucleons and Nuclei, Washington, DC, October 2006.

The Theory of Nuclear Forces: Is the Never-Ending Story Coming to an End?, Invited Plenary Talk, 18th International IUPAP Conference on Few-Body Problems in Physics, Santos, S. Paulo, Brazil, August 2006.

Nuclear Forces from Effective Field Theory: A New Era in Microscopic Nuclear Structure, Invited Talk, Nuclear Structure '06, Conference on Nuclei at the Limits, Oak Ridge National Laboratory, Oak Ridge, Tennessee, July 2006.

The Nuclear Force Problem: Is the Never-Ending Story Coming to an End?, Invited Talk, 25th International Workshop on Nuclear Theory, Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Rila Mountains, Bulgaria, June 2006.

The nuclear force problem: Is the never-ending story coming to an end? R. Machleidt, Colloquium, Department of Physics, Washington State University, February 2006.

The history of the nuclear force: A long story of hope, error and desperation that finally is coming to a good end, R. Machleidt, Colloquium, Department of Physics, University of Idaho, December 2005.

The Nuclear Force Problem: Is the Never-Ending Story Coming to an End?, Colloquium, Argonne National Laboratory, Argonne, Illinois, November 2005.

The never-ending dream of mankind: The theory of everything, R. Machleidt, University Interdisciplinary Colloquium, University of Idaho, October 2005.

Have We Finally Cracked the Nuclear Force Problem?, Colloquium, TRIUMF, Canada's National Laboratory for Particle and Nuclear Physics, Vancouver, Canada, September 2005.

Nuclear Forces, Series of four invited lectures, 4th International Summer School of the Center for Nuclear Study (CNS), Tokyo, Japan, August 2005.

From the Deuteron to the TeV Region: How Well Do We Know the Nucleon-Nucleon Interaction? Invited Talk, International Workshop "Nuclear Forces and QCD: Never the Twain Shall Meet?", European Center for Theoretical Studies in Nuclear Physics and Related Areas (ECT*), Trento, Italy, June 2005.

Recent Advances in the Theory of Nuclear Forces, Invited Talk, International Symposium on Correlation Dynamics in Nuclei—on the occasion of the 50th anniversary of the Configuration Mixing theory of Arima and Horie, Tokyo, Japan, Jan 31 - Feb 4, 2005.

Towards a Consistent Approach to Nuclear Structure: EFT of Two- and Many-Body Forces, Invited Talk, national Institute for Nuclear Theory (INT), Workshop on 'Nuclear Forces and the Quantum Many-Body Problem', University of Washington, Seattle, Washington, October, 2004.

The Nucleon-Nucleon Interaction at Intermediate Energies, Invited Talk, Caucasian-German School and Workshop on Hadron Physics, Georgian Academy of Science and the Tbilisi State University, Tbilisi, Georgia, August/September 2004.

The Never-Ending Dream of Mankind: The Theory of Everything, After-Dinner Talk, North-West Section Meeting of The American Physical Society, Washington State University, Pullman, Washington, May 2004.

Uses of Nuclear Physics in Medicine, Invited Lecture for the ‘Lecture Series in the Sciences’, The University of Southern Mississippi, College of Science and Technology and the Hattiesburg Clinic, Hattiesburg, Mississippi, March 2004.

Some Issues Concerning the NN Interaction Based Upon Chiral Effective Field Theory, Invited Talk, Program on Theories of Nuclear Forces and Nuclear Systems, Institute for Nuclear Theory, University of Washington, Seattle, Washington, November 2003.

Nuclear Physics: A Blessing to Mankind, R. Machleidt, Colloquium, Department of Physics, Washington Sate University, September 2003.

Effective Field Theory and the Nucleon-Nucleon Interaction, R. Machleidt, Colloquium, Department of Physics, University of Naples, Naples, Italy, July 2003.

Recent Progress on Chiral NN Potentials, Invited Talk, International Workshop on Recent Advances in the Nuclear Shell Model, European Center for Theoretical Studies in Nuclear Physics and Related Areas (ECT*), Trento, Italy, July 2003.

Recent Progress on Chiral NN Potentials, Invited Talk, Worshop on Chiral Dynamics of Hadrons and Hadrons in the Medium, University of Valencia, Valencia, Spain, June 2003.

The nuclear force problem: Are we seeing the end of the tunnel?, Invited Lead Talk, 17-th Intern. IUPAP Conf. on Few-Body Problems in Physics, Duke University, Durham, North Carolina, June 2003.

Nuclear physics: A Blessing to Mankind, R. Machleidt, Colloquium, Department of Physics, University of Idaho, February 2003.

Chiral Symmetry and the Nucleon-Nucleon Interaction: Recent Progress, Invited Plenary Talk, April Meeting of the American Physical Society, Albuquerque, NM, April 2002.

Accurate NN potential based upon chiral perturbation theory, Invited Talk, ECT* Workshop: Current Theoretical and Experimental Investigations of the Nuclear Many-Body Problem and Applications, Trento, Italy, September 2001.

Developing an accurate NN potential based upon chiral perturbation theory, Invited Talk, INT Workshop on Theories of Nuclear Forces and Few-Nucleon Systems, Seattle, WA, June 2001.

Chiral symmetry and the nucleon-nucleon interaction: developing an accurate NN potential based upon chiral effective field theory, Invited Talk, 7-th Int. Spring Seminar on Nuclear Structure Physics “Challenges of Nuclear Structure”, Maiori (near Naples), Italy, May 2001.

Light-front studies of nuclear correlations, Invited Talk, CEBAF/INT Workshop “Correlations in Nucleons and Nuclei”, University of Washington, Seattle, March 2001.

Nucleon-nucleon potentials, Invited Talk, INT Program “Nuclear Structure for the 21st Century”, University of Washington, Seattle, October 2000.

The nuclear force in the third millennium, Invited Talk, XVIIth European Conference on Few-Body Problems in Physics, Evora, Portugal, September 2000.

Nucleon-nucleon potentials, Invited Talk, 2000 Gordon Research Conference on Photonic Reactions, Tilton School, Tilton, New Hampshire, August 2000.

The nuclear force in the third millennium after Jesus Christ: a preview, Invited Talk, Workshop on The Nuclear Standard Model: Ieri, Oggi, Domani; Elba International Physics Center, Elba, Italy, June 2000.

RUPRECHT MACHLEIDT

*Publications***Reviews and Book Chapters**

149. *Nuclear forces from chiral effective field theory*, R. Machleidt, in: NN and 3N Interactions, edited by L. Blokhintsev and I. Strakvsky (NOVA, New York, 2014) Chapter 1, pp. 1-42.
148. *Nuclear Forces*, R. Machleidt, Scholarpedia **9**(1), 30710 (2014).
147. *Nuclear Forces*, R. Machleidt, Lecture Series, International Scientific Meeting on Nuclear Physics, La Rábida, Huelva (Spain), September 2012, AIP Conference Proceedings **1541**, 61-103 (2013).
146. *Chiral effective field theory and nuclear forces*, R. Machleidt and D. R. Entem, **Physics Reports** **503**, pp. 1-75 (2011).
145. *Chiral symmetry and the nucleon-nucleon interaction*, R. Machleidt, in: From Nuclei to Stars—Festschrift in Honor of Gerald E. Brown, edited by Sabine Lee (World Scientific, Singapore, 2011), Chapter 14, pp. 317-343.
144. *Nuclear Forces from Chiral Effective Field Theory*, R. Machleidt, Lecture Series, Proc. DAE-BRNS Workshop on Physics and Astrophysics of Hadrons and Hadronic Matter, Visva Bharati University, Santiniketan, West Bengal, India (2007); Chapter (54 pages).
143. *The nucleon-nucleon interaction*, R. Machleidt and I. Slaus, Topical Review, J. Phys. G: Nucl. Part. Phys. **27**, R69-R108 (2001).
142. *Brueckner theory of nuclear matter with nonnucleonic degrees of freedom and relativity*, R. Machleidt, Proc. 10th International Conference on Recent Progress in Many-Body Theories, Seattle, Washington, USA, September 1999, Advances in Quantum Many-Body Theory, Vol. **3** (World Scientific, Singapore, 2000) pp. 247-262; Int J. Mod. Phys. **B15**, 1535 (2001).
141. *The Dirac Brueckner Approach*, R. Brockmann and R. Machleidt, in: Int. Rev. Nucl. Phys., Vol. **8**, Nuclear Methods and the Nuclear Equation of State, M. Baldo, ed. (World Scientific, Singapore, 1999) Chapter 2.
140. *Nucleon-nucleon potentials in comparison: physics or polemics?*, R. Machleidt and G. Q. Li, Physics Reports, **242**, 5 (1994).

139. *One-boson-exchange potentials and nucleon-nucleon scattering*, R. Machleidt, in: Computational Nuclear Physics 2 — Nuclear Reactions, K.Langanke, J. A. Maruhn, and S. E. Koonin, eds. (Springer, New York, 1993) Chapter 1.
138. *The meson theory of nuclear forces and nuclear structure*, R. Machleidt, Advances in Nucl. Phys., Vol. **19**, Chapter 2, pp. 189-376 (1989).
137. *The Bonn meson-exchange model for the nucleon-nucleon interaction*, R. Machleidt, K. Holinde, and Ch. Elster, Phys. Reports, Vol. **149**, pp. 1-89 (1987).
136. *The meson theory of nuclear forces and nuclear matter*, R. Machleidt, Proc. Workshop on Relativistic Dynamics and Quark-Nuclear Physics, Los Alamos (NM, USA), 1985, eds. M. Johnson and A. Picklesimer (John Wiley, New York, 1986) pp. 71–174.

Refereed Publications

135. *Spin-polarized neutron-rich matter at different orders of chiral effective field theory*, F. Sammarruca, R. Machleidt, and N. Kaiser, Phys. Rev. C **92**, 054327 (2015).
134. *Dominant contributions to the nucleon-nucleon interaction at sixth order of chiral perturbation theory*, D. R. Entem, N. Kaiser, R. Machleidt, and Y. Nosyk, Phys. Rev. C **92**, 064001 (2015).
133. *Towards order-by-order calculations of the nuclear and neutron matter equations of state in chiral effective field theory*, F. Sammarruca, L. Coraggio, J. W. Holt, N. Itaco, R. Machleidt, and L. E. Marcucci, Phys. Rev. C **91**, 054311 (2015).
132. *Statistical uncertainties of a chiral interaction at next-to-next-to leading order*, J. A. Ekstrom, B. Carlsson, K. Wendt, Ch. Forssen, M. Hjorth-Jensen, R. Machleidt, S. Wild, J. Phys. G: Nucl. Part. Phys. **42**, 034003 (2015).
131. *Peripheral nucleon-nucleon scattering at fifth order of chiral perturbation theory*, D. R. Entem, N. Kaiser, R. Machleidt, and Y. Nosyk, Phys. Rev. C **91**, 014002 (2015).
130. *Muon capture on the deuteron and the neutron-neutron scattering length*, L. E. Marcucci and R. Machleidt, Phys. Rev. C **90**, 054001 (2014).
129. *The nuclear matter equation of state with consistent two- and three-body perturbative chiral interactions*, L. Coraggio, J. W. Holt, N. Itaco, R. Machleidt, L. E. Marcucci, and F. Sammarruca, Phys. Rev. C **89**, 044321 (2014).
128. *Origin and properties of strong inter-nucleon interactions*, R. Machleidt, in : Nuclear Theory in the Supercomputing Era - 2013, edited by A. M. Shirokov and A. I. Mazur (Pacific National University, Khabarovsk, Russia, 2014) p. 336.

127. *Chiral effective field theory for nuclear forces: Achievements and challenges*, R. Machleidt, EPJ Web of Conferences **66**, 01011 (2014).
126. *Nonperturbative renormalization of the chiral nucleon-nucleon interaction up to next-to-next-to-leading order*, E. Marji, A. Canul, Q. MacPherson, R. Winzer, C. Zeoli, D. R. Entem, and R. Machleidt, Phys. Rev. C **88**, 054002 (2013).
125. *Optimized chiral nucleon-nucleon interaction at next-to-next-to-leading order*, A. Ekström, G. Baardsen, C. Forssén, G. Hagen, M. Hjorth-Jensen, G. R. Jansen, R. Machleidt, W. Nazarewicz, T. Papenbrock, J. Sarich, and S. M. Wild, Phys. Rev. Lett. **110**, 192502 (2013).
124. *Recent Progress in the Theory of Nuclear Forces*, R. Machleidt, Q. MacPherson, E. Marji, R. Winzer, C. Zeoli and D. R. Entem, Few-Body Systems **54**, 821 (2013).
123. *Half-Skyrmions and the Equation of State for Compact-Star Matter*, H. Dong, T. T. S. Kuo, H. K. Lee, R. Machleidt and M. Rho, Phys. Rev. C **87**, 054332 (2013).
122. *Reduced regulator dependence of neutron-matter predictions with chiral interactions*, L. Coraggio, J. W. Holt, N. Itaco, R. Machleidt and F. Sammarruca, Phys. Rev. C **87**, 014322 (2013).
121. *Nuclear Forces from Chiral Effective Field Theory: Achievements and Challenges*, R. Machleidt, Few-Body Systems **54**, 5 (2013).
120. *Infinite-cutoff renormalization of the chiral nucleon-nucleon interaction at N^3LO* , C. Zeoli, R. Machleidt and D. R. Entem, Few-Body Systems **54**, 2191 (2013).
119. *Dirac-Brueckner-Hartree-Fock versus chiral effective field theory*, F. Sammarruca, B. Chen, L. Coraggio, N. Itaco and R. Machleidt, Phys. Rev. C **86**, 054317 (2012).
118. *Strong nuclear interactions*, R. Machleidt, McGraw Hill Encyclopedia of Science & Technology (2012).
117. *Evolution of shell structure in neutron-rich calcium isotopes*, G. Hagen, M. Hjorth-Jensen, G. R. Jansen, R. Machleidt and T. Papenbrock, Phys. Rev. Lett. **109**, 032502 (2012).
116. *Continuum effects and three-nucleon forces in neutron-rich oxygen isotopes*, G. Hagen, M. Hjorth-Jensen, G. R. Jansen, R. Machleidt and T. Papenbrock, Phys. Rev. Lett. **108**, 242501 (2012).

115. *Calculation of doublet capture rate for muon capture in deuterium with chiral effective field theory*, J. Adam, M. Tater, E. Truhlik, E. Epelbaum, R. Machleidt, P. Ricci, Phys. Lett. B **709**, 93 (2012).
114. *Conference discussion on the nuclear force*, F. Gross, T. D. Cohen, E. Epelbaum, and R. Machleidt, Few-Body Systems **50**, 31 (2011).
113. *Nuclear forces from chiral EFT: The unresolved issues*, R. Machleidt, Few-Body Systems **50**, 83 (2011).
112. *Low-momentum interactions with Brown-Rho-Ericson scalings and the density dependence of the nuclear symmetry energy*, Huan Dong, T. T. S. Kuo, and R. Machleidt, Phys. Rev. C **83**, 054002 (2011).
111. *Nuclear forces from chiral EFT: The unfinished business*, R. Machleidt and D. R. Entem, J. Phys. G: Nucl. Part. Phys. **37**, 064042 (2010).
110. *Unitarity potentials and neutron matter at the unitary limit*, H. Dong, L.-W. Siu, T. T. S. Kuo, R. Machleidt, Phys. Rev. C **81**, 034003 (2010).
109. *Renormalization of the leading-order chiral nucleon-nucleon interaction and bulk properties of nuclear matter*, R. Machleidt, P. Liu, D. R. Entem, E. R. Arriola, Phys. Rev. C **81**, 024001 (2010).
108. *Neutron stars, β -stable ring-diagram equation of state, and Brown-Rho scaling*, H. Dong, T. T. S. Kuo, and R. Machleidt, Phys. Rev. C **80**, 065803 (December 2009).
107. *Nucleon-nucleon charge symmetry breaking and the $dd \rightarrow \alpha\pi^0$ reaction*, A. C. Fonseca, R. Machleidt, and G. A. Miller, Phys. Rev. C **80**, 027001 (2009).
106. *Shell model description of the C-14 dating beta decay with Brown-Rho-scaled NN interactions*, J. W. Holt, G. E. Brown, T. T. S. Kuo, J. D. Holt, and R. Machleidt, Phys. Rev. Lett. **100**, 062501 (2008).
105. *Low-momentum ring diagrams of neutron matter at and near the unitary limit*, L.-W. Siu, T. T. S. Kuo, R. Machleidt, Phys. Rev. C **77**, 034001 (2008).
104. *Renormalization of chiral two-pion exchange NN interactions: momentum vs. coordinated space*, D. R. Entem, E. Ruiz Arriola, M. Pavon Valderrama, R. Machleidt, Phys. Rec. C **77**, 044006 (2008).
103. *The theory of nuclear forces: Is the never-ending story coming to an end?*, R. Machleidt, Nucl. Phys. **A790**, 17c (2007).

102. *Low momentum nucleon-nucleon interactions and shell-model calculations*, L. Coraggio, A. Covello, A. Gargano, N. Itaco, D. R. Entem, T. T. S. Kuo, and R. Machleidt, Phys. Rev. C **75**, 024311 (2007).
101. *Recent advances in the theory of nuclear forces*, R. Machleidt and D. R. Entem, Journal of Physics: Conference Series **20**, 77 (2005).
100. *Towards a consistent approach to nuclear structure: EFT of two- and many-body forces*, R. Machleidt and D. R. Entem, J. Phys. G: Nucl. Part. Phys. **31**, S1235 (2005).
99. *Nuclear structure calculations and modern nucleon-nucleon potentials*, L. Coraggio, A. Covello, A. Gargano, N. Itaco, T. T. S. Kuo, and R. Machleidt, Phys. Rev. C **71**, 014307 (2005).
98. *Modelling nucleon-nucleon scattering above 1 GeV*, K. O. Eysler, R. Machleidt, and W. Scobel, Eur. Phys. J. **A22**, 105 (2004).
97. *Comment on ‘Determination of the chiral coupling constants c_3 and c_4 in new pp and np partial wave analyses’*, D. R. Entem and R. Machleidt, e-Print Archiv: nucl-th/0303017.
96. *The nuclear force problem: Are we seeing the end of the tunnel?*, R. Machleidt, Nucl. Phys. **A737**, 223 (2004).
95. *Accurate charge-dependent nucleon-nucleon potential at fourth order of chiral perturbation theory*, D. R. Entem and R. Machleidt, Phys. Rev. C **68**, 041001 (2003).
94. *Realistic two-baryon potential coupling two-nucleon and nucleon- Δ -isobar states: Fit and applications to three nucleon system*, A. Deltuva, R. Machleidt, and P. U. Sauer, Phys. Rev. C **68**, 024005 (2003).
93. *Towards a model-independent low momentum nucleon-nucleon interaction*, S. K. Bogner, T. T. S. Kuo, A. Schwenk, D. R. Entem, and R. Machleidt, Phys. Lett. B **576**, 265 (2003).
92. *Chiral 2π exchange at fourth order and peripheral NN scattering*, D.R. Entem and R. Machleidt, Phys. Rev. C **66**, 014002 (2002).
91. *Microscopic nuclear structure based upon a chiral NN potential*, L. Coraggio, A. Covello, A. Gargano, N. Itaco, T. T. S. Kuo, D. R. Entem, and R. Machleidt, Phys. Rev. C **66**, 021303 (2002).

90. *Chiral NN model and A_y puzzle*, D.R. Entem, R. Machleidt, and Witala, Phys. Rev. C **65**, 064005 (2002).
89. $\Delta(1232)$ *isobar excitations and the ground state of nuclei*, T. Frick, S. Kaiser, H. Mütter, A. Polls, D.R. Entem, and R. Machleidt, Phys. Rev. C **65**, 034316i (2002).
88. *Accurate nucleon-nucleon potential based upon chiral perturbation theory*, D.R. Entem and R. Machleidt, Phys. Lett. B **524**, 93 (2002).
87. *Charge symmetry breaking in the nucleon-nucleon interaction: ρ - ω mixing versus nucleon mass splitting*, R. Machleidt and H. Mütter, Phys. Rev. C **63**, 034005 (2001).
86. *The nuclear force in the third millenium*, R. Machleidt, Nucl. Phys. **A689**, 11 (2001).
85. *High-precision, charge-dependent, Bonn nucleon-nucleon potential*, R. Machleidt, Phys. Rev. C **63**, 024001 (2001).
84. *How sensitive are various NN observables to changes in the πNN coupling constant?*, R. Machleidt, Physica Scripta **T87**, 47 (2000).
83. *Charge-dependence of the πNN coupling constant and charge-dependence of the NN interaction*, R. Machleidt and M. K. Banerjee, Few-Body Systems **28**, 139 (2000).
82. *Modern nucleon-nucleon interactions and charge-symmetry breaking in nuclei*, C. Harzer, H. Muether, and R. Machleidt, Phys. Lett. **B459**, 1 (1999).
81. *Infinite nuclear matter on the light front: nucleon-nucleon correlations*, G. A. Miller and R. Machleidt, Phys. Rev. C **60**, 035202 (1999).
80. *Light front theory of nuclear matter*, G. A. Miller and R. Machleidt, Phys. Lett. **B455**, 19 (1999).
79. *Nuclear saturation with in-medium meson exchange interactions*, R. Rapp, R. Machleidt, J. W. Durso, and G. E. Brown, Phys. Rev. Lett. **82**, 1827 (1999).
78. *Isospin symmetry breaking nucleon-nucleon potentials and nuclear structure*, H. Muether, A. Polls, and R. Machleidt, Phys. Lett. **B445**, 259 (1999).
77. *Charge-dependence of the nucleon-nucleon interaction*, G. Q. Li and R. Machleidt, Phys. Rev. C **58**, 3153 (1998).
76. *Charge-asymmetry of the nucleon-nucleon interaction*, G. Q. Li and R. Machleidt, Phys. Rev. C **58**, 1393 (1998).

75. *Weak capture of protons by protons*, R. Schiavilla, V.G.J. Stoks, W. Gloeckle, H. Kamada, A. Nogga, J. Carlson, R. Machleidt, V.R. Pandharipande, R.B. Wiringa, A. Kievsky, S. Rosati, and M. Viviani, Phys. Rev. C **58**, 1263 (1998).
74. *Phase-shift equivalent NN potentials and the deuteron*, A. Polls, H. Muether, R. Machleidt, and M. Hjorth-Jensen, Phys. Lett. **B432**, 1 (1998).
73. *Triton binding energy and minimal relativity*, F. Sammarruca and R. Machleidt, Few-Body Systems **24**, 87 (1998).
72. *Modern nucleon-nucleon potentials and symmetry energy in infinite matter*, L. Engvik, M. Hjorth-Jensen, R. Machleidt, H. Muether, A. Polls, Nucl. Phys. **A627**, 85 (1997).
71. *Skyrme-model πNN form factor and nucleon-nucleon interaction*, G. Holzwarth and R. Machleidt, Phys. Rev. C **55**, 1088 (1997).
70. *The non-local nature of the nuclear force and its impact on nuclear structure*, R. Machleidt, F. Sammarruca, and Y. Song, Phys. Rev. C **53**, 1483 (1996).
69. *Proper comparison of NN potentials with NN data*, R. Machleidt and G. Q. Li, Comments Nucl. Part. Phys. **22**, 19 (1996).
68. *Off-shell NN potential and nuclear binding*, R. Machleidt, F. Sammarruca, and Y. Song, Few-Body Systems Suppl. **9**, 410 (1995).
67. *πNN coupling constants from NN elastic data between 210 and 800 MeV*, D. V. Bugg and R. Machleidt, Phys. Rev. C **52**, 1203 (1995).
66. *Strength of ρ meson coupling to nucleons*, G. E. Brown and R. Machleidt, Phys. Rev. C **50**, 1731 (1994).
65. *Comment on “Neutron-proton spin-correlation parameter A_{zz} at 68 MeV”*, R. Machleidt and I. Slaus, Phys. Rev. Lett. **72**, 2664 (1994).
64. *Microscopic calculation of in-medium proton-proton cross sections*, G. Q. Li and R. Machleidt, Phys. Rev. C **49**, 566 (1994).
63. *Constraints on the πNN coupling constant from the NN system*, R. Machleidt and G. Q. Li, πN Newsletter **9**, 37 (1993).
62. *Momentum-dependent mean field based upon the Dirac-Brueckner approach for nuclear matter*, G. Q. Li and R. Machleidt, Phys. Rev. C **48**, 2707 (1993).

61. *Relativistic microscopic description of proton-nucleus scattering at intermediate energies*, G. Q. Li, R. Machleidt, R. Fritz, H. Müther, and Y. Z. Zhuo, Phys. Rev. C **48**, 2443 (1993).
60. *Microscopic calculation of in-medium nucleon-nucleon cross sections*, G. Q. Li and R. Machleidt, Phys. Rev. C **48**, 1702 (1993).
59. *Self-consistent relativistic calculation of nucleon mean free path*, G. Q. Li, R. Machleidt, and Y. Z. Zhuo, Phys. Rev. C **48**, 1062 (1993).
58. *Dirac effects in the Hartree-Fock description of finite nuclei employing realistic forces*, R. Fritz, H. Müther, and R. Machleidt, Phys. Rev. Lett. **71**, 46 (1993).
57. *Relativistic ring-diagram nuclear matter calculations*, M. F. Jiang, R. Machleidt, and T. T. S. Kuo, Phys. Rev. C **47**, 2661 (1993).
56. *Effect of charge-dependence of the nucleon-nucleon interaction on the properties of nuclear and neutron matter*, G. Q. Li and R. Machleidt, Phys. Rev. C **47**, 888 (1993).
55. *Relativistic corrections to the triton binding energy*, F. Sammarruca, D. P. Xu, and R. Machleidt, Phys. Rev. C **46**, 1636 (1992).
54. *Bonn potential and s-d shell nuclei*, M.-F. Jiang, R. Machleidt, D.B. Stout, and T.T.S. Kuo, Phys. Rev. C **46**, 910 (1992).
53. *Properties of dense nuclear and neutron matter with relativistic nucleon-nucleon interactions*, G. Q. Li, R. Machleidt, and R. Brockmann, Phys. Rev. C **45**, 2782 (1992).
52. *Recent determinations of the πNN coupling constant and deuteron properties*, R. Machleidt and F. Sammarruca, Phys. Rev. Lett. **66**, 564 (1991).
51. *Three-nucleon physics: paradigm and pitfalls*, I. Slaus, R. Machleidt, W. Tornow, W. Glöckle, and W. Witala, Comments Nucl. Part. Phys. **20**, 85 (1991).
50. *Meson-exchange potentials and the problem of saturation in finite nuclei*, K. W. Schmid, H. Müther, and R. Machleidt, Nucl. Phys. **A 530**, 14 (1991).
49. *Role of the single-particle spectrum in the ring-diagram approach for nuclear matter*, M.F. Jiang, R. Machleidt, and T.T.S. Kuo, Phys. Rev. C **43**, 1469 (1991).
48. *Relativistic nuclear structure I: Nuclear matter*, R. Brockmann and R. Machleidt, Phys. Rev. C **42**, 1965 (1990).

47. *Relativistic nuclear structure II: Finite nuclei*, H. Mütter, R. Machleidt, and R. Brockmann, Phys. Rev. C **42**, 1981 (1990).
46. *Parametrization of the Relativistic Effective Interaction in Nuclear Matter*, H. Elsenhans, H. Mütter, and R. Machleidt, Nucl. Phys. **A515**, 715 (1990).
45. *Uncertainties in the two-nucleon potential and nuclear matter predictions*, M.F. Jiang, R. Machleidt, and T.T.S. Kuo, Phys. Rev. C **41**, 2346 (1990).
44. *Strength of tensor force and s-d shell effective interactions*, M.F. Jiang, R. Machleidt, D.B. Stout, and T.T.S. Kuo, Phys. Rev. C **40**, 1857 (1989).
43. *Charge form factors and root mean square radii of ^3He and ^3H with the new Bonn potential*, Kr. T. Kim, Y.E. Kim, D.J. Klepacki, R.A. Brandenburg, E.P. Harper, and R. Machleidt, Phys. Rev. C **38**, 2366 (1988).
42. *Extension of the Bonn meson-exchange NN potential above pion production threshold: Role of delta-isobars*, Ch. Elster, K. Holinde, D. Schütte, R. Machleidt, Phys. Rev. C **38**, 1828 (1988).
41. *Mesic retardation and the triton binding energy*, R.A. Brandenburg, G.S. Chulick, R. Machleidt, A. Picklesimer, and R.M. Thaler, Phys. Rev. C **38**, 1397 (1988).
40. *Extension of the Bonn meson-exchange NN potential above pion production threshold: Nucleon renormalization and unitarity*, Ch. Elster, W. Ferchlaender, K. Holinde, D. Schütte, and R. Machleidt, Phys. Rev. C **37**, 1647 (1988).
39. *Neutron-proton scattering observables at 325 MeV, the ϵ_1 parameter, and the tensor force*, G.S. Chulick, Ch. Elster, R. Machleidt, A. Picklesimer, and R.M. Thaler, Phys. Rev. C **37**, 1549 (1988).
38. *Essential mechanisms in the triton binding*, R.A. Brandenburg, G.S. Chulick, R. Machleidt, A. Picklesimer, and R.M. Thaler, Phys. Rev. C **37**, 1245 (1988).
37. *Nuclear charge symmetry breaking and the $^3\text{H} - ^3\text{He}$ binding energy difference*, R.A. Brandenburg, G.S. Chulick, Y.E. Kim, D.J. Klepacki, R. Machleidt, A. Picklesimer, and R.M. Thaler, Phys. Rev. C **37**, 781 (1988).
36. *Dirac-Brueckner-Hartree-Fock approach in finite nuclei*, H. Mütter, R. Machleidt, and R. Brockmann, Phys. Lett. **202B**, 483 (1988).
35. *On relativistic effects in the low-energy spectra of nuclei*, H. Mütter, R. Machleidt, and R. Brockmann, Phys. Lett. **198B**, 45 (1987).

34. *Charge dependence of the nucleon-nucleon interaction due to pion-mass difference*, C.Y. Cheung and R. Machleidt, Phys. Rev. C **34**, 1181 (1986).
33. *On the effective σ -boson in the relativistic Dirac-Brueckner approach to nuclear matter*, R. Machleidt and R. Brockmann, Phys. Lett. **160B**, 364 (1985).
32. *Effects of pion-fold-pion diagrams in the energy-independent nucleon-nucleon potential*, G. DeGuzman, T.T.S. Kuo, K. Holinde, R. Machleidt, A. Faessler, and H. Mütter, Nucl. Phys. **A443**, 601 (1985).
31. *Hermitian folded-diagram potential in nucleon-nucleon scattering*, K. Holinde, M. Johnson, and R. Machleidt, Phys. Rev. C **32**, 1 (1985).
30. *Influence of mesonic and nuclear selfenergies on the binding energy of nuclear matter*, R. Machleidt and K. Holinde, Phys. Lett. **152B**, 295 (1985).
29. *Nuclear saturation in a relativistic Brueckner-Hartree-Fock approach*, R. Brockmann and R. Machleidt, Phys. Lett. **149B**, 283 (1984).
28. *Role of ρ -exchange in isobar contributions to the NN interaction*, X. Bagnoud, K. Holinde, and R. Machleidt, Phys. Rev. C **29**, 1792 (1984).
27. *Higher order meson-exchanges in NN scattering and nuclear matter*, R. Machleidt, Nuovo Cim. **76A**, 425 (1983).
26. *Current status of the Bonn potential*, R. Machleidt, K. Holinde, and X. Bagnoud, Czech. J. Phys. **B32**, 233 (1982).
25. *The mass of a bound Δ -isobar*, K. Dreissigacker, S. Furui, Ch. Hajduk, P.U. Sauer, and R. Machleidt, Nucl. Phys. **A375**, 334 (1982).
24. *The $\pi\sigma$, $\pi\rho$, and $\pi\omega$ meson exchange contribution to the NN interaction*, K. Holinde and R. Machleidt, Nucl. Phys. **A372**, 349(1981).
23. *Non-iterative isobar diagrams and their effect in NN scattering*, K. Holinde, R. Machleidt, A. Faessler, and H. Mütter, Phys. Rev. C **24**, 1159 (1981).
22. *Isobar contributions to the NN interaction*, X. Bagnoud, K. Holinde, and R. Machleidt, Phys. Rev. C **24**, 1143 (1981).
21. *Role of the single-particle potential in nuclear matter calculations including mesonic and isobar degrees of freedom*, R. Machleidt and K. Holinde, Nucl. Phys. **A350**, 396 (1980).

20. *Non-iterative two- π exchange in the nuclear medium*, H. Mütter, A. Faessler, M.R. Anastasio, K. Holinde, and R. Machleidt, Phys. Rev. C **22**, 1744 (1980),
19. *Ring diagrams in nuclear matter*, R. Machleidt, Nucl. Phys. **A328**, 582 (1979).
18. *The $\Delta(1236)$ probability in the ground state of the nuclear many-body system*, M.R. Anastasio, A. Faessler, H. Mütter, K. Holinde, and R. Machleidt, Nucl. Phys. **A322**, 369 (1979).
17. *Role of non-iterative π exchange in NN scattering*, K. Holinde, R. Machleidt, M.R. Anastasio, A. Faessler, and H. Mütter, Phys. Rev. C **19**, 948 (1979).
16. *Mesonic and isobar degrees of freedom in the ground state of the nuclear many-body system*, M.R. Anastasio, A. Faessler, H. Mütter, K. Holinde, and R. Machleidt, Phys. Rev. C **18**, 2416 (1978).
15. *Isobar contributions to the two-nucleon interaction derived from non-covariant perturbation theory*, K. Holinde, R. Machleidt, M.R. Anastasio, A. Faessler, and H. Mütter, Phys. Rev. C **18**, 870 (1978).
14. *Influence of the Δ -resonance on ground state properties of nuclei*, K. Holinde, R. Machleidt, A. Faessler, and H. Mütter, Phys. Rev. C **15**, (1977).
13. *Effect of the Δ -resonance on NN-scattering, nuclear matter, and neutron matter*, K. Holinde and R. Machleidt, Nucl. Phys. **A280**, 429 (1977).
12. *Tri-nucleon properties with one-boson-exchange potentials*, R.A. Brandenburg, P.U. Sauer, and R. Machleidt, Z. Physik **A280**, 93 (1977).
11. *Meson exchange corrections and properties of nuclear matter and neutron matter*, K. Kotthoff, R. Machleidt, and D. Schütte, Nucl. Phys. **A264**, 484 (1976).
10. *Mesonic degrees of freedom and groundstate properties of nuclei*, A. Faessler, H. Mütter, R. Machleidt, and D. Schütte, Nucl. Phys. **A262**, 389 (1976).
9. *OBEP and eikonal form factor; II. nuclear matter results*, K. Holinde and R. Machleidt, Nucl. Phys. **A256**, 497 (1976).
8. *OBEP and eikonal form factor; I. two-nucleon data*, K. Holinde and R. Machleidt, Nucl. Phys. **A256**, 479 (1976).
7. *One-boson-exchange potential and structure of finite nuclei in the local density approximation*, R. Machleidt, K. Holinde, and J. Németh, Nucl. Phys. **A251**, 93 (1975).

6. *Momentum-space OBEP, two-nucleon and nuclear matter data*, K. Holinde and R. Machleidt, Nucl. Phys. **A247**, 495 (1975).
5. *An OBE model for the two-nucleon problem based on non-covariant perturbation theory*, K. Kotthoff, K. Holinde, R. Machleidt, and D. Schütte, Nucl. Phys. **A242**, 429 (1975).
4. *One-boson-exchange potential and the groundstate of ^{16}O* , R. Machleidt, H. Müther, and A. Faessler, Nucl. Phys. **A241**, 18 (1975).
3. *One-boson-exchange potential and effective interaction*, R. Machleidt, K. Erkelenz, and K. Holinde, Nucl. Phys. **A232**, 398 (1974).
2. *An improved relativistic OBEP, two-nucleon and infinite nuclear matter data*, K. Erkelenz, K. Holinde, and R. Machleidt, Phys. Lett. **49B**, 209 (1974).
1. *Neutron matter with a relativistic one-boson-exchange potential*, K. Bleuler, K. Erkelenz, K. Holinde, and R. Machleidt, Nucl. Phys. **A205**, 292 (1973).

Written Contributions to International Conferences, APS Meetings, and Workshops

153. *The explosion of chiral many-body forces: How to deal with it?*, R. Machleidt, Proc. 11th International Spring Seminar on Nuclear Physics, Shell Model and Nuclear Structure: Achievements of the past two decades, Ischia, Italy, May 2014, edited by A. Gargano, J. Phys.: Conf. Ser. **580**, 012002 (2015).
152. *Study of nucleonic matter with a consistent two- and three-body perturbative chiral interaction*, L. Coraggio, J.W. Holt, N. Itaco, R. Machleidt, L.E. Marcucci, and F. Sammarruca, J. Phys.: Conf. Ser. **527**, 012010 (2014).
151. *Nonperturbative renormalization of the chiral nucleon-nucleon interaction up to next-to-next-to-leading order*, R. Machleidt, 2014 Fall Meeting of the APS Division of Nuclear Physics, Kona, Hawaii, October 2014, Bull. Am. Phys. Soc. (2014).
150. *Three-nucleon forces in chiral perturbation theory*, R. Machleidt, 2012 April Meeting of the American Physical Society, Atlanta, Georgia, April 2012, Bull. Am. Phys. Soc. **57**, No. 3, p. 43 (2012).
149. *Nuclear forces from chiral effective field theory: Achievements and challenges*, R. Machleidt, Proc. 31st International Workshop on Nuclear Theory, Rila Mountains, Bulgaria, June 2012, edited by A. Georgieva and N. Minkov (Heron Press, Sofia, 2012).
148. *Finite-cutoff renormalization of the chiral NN potential*, R. Machleidt, E. Marji, and Ch. Zeoli, 2011 April Meeting of the American Physical Society, Anaheim, California, April 30 - May 3, 2011, Bull. Am. Phys. Soc. **56**, No. 4, 100 (2011).
147. *The nuclear force problem: Have we finally reached the end of the tunnel?*, R. Machleidt, E. Marji, and Ch. Zeoli, Proc. 474th WE-Heraeus-Seminar on "Strong Interactions: From Methods to Structures", Physikzentrum Bad Honnef (Germany), February 2011, arXiv:1104.0847.
146. *Have we finally cracked the nuclear force problem?*, R. Machleidt, International Workshop on the NN Interaction and the Nuclear Many-Body Problem, Tata Institute of Fundamental Research, Mumbai, India, November 2010, Book of Abstracts.
145. *Infinite-cutoff renormalization of the chiral NN potential up to N³LO*, R. Machleidt and Ch. Zeoli, 2010 Fall Meeting of the APS Division of Nuclear Physics, Santa Fe, New Mexico, November 2010, Bull. Am. Phys. Soc. **55**, No. 14, 128 (2010).

144. *Understanding the Atomic Nucleus: Recent Dramatic Advances and Remaining Challenges*, R. Machleidt, Portuguese National Conference on Physics and Iberian Meeting on Physics Education, Vila Real, Portugal, September 2010, Abstract.
143. *Round table discussion of the nuclear force*, T. Cohen, E. Epelbaum, R. Timmermans, R. Machleidt, and F. Gross, 21st European Conference on Few-Body Problems in Physics, Salamanca, Spain, August 2010, Book of Abstracts, p. 19.
142. *Nuclear forces from chiral EFT: The unresolved issues*, R. Machleidt, 21st European Conference on Few-Body Problems in Physics, Salamanca, Spain, August 2010, Book of Abstracts, p. 19.
141. *Nuclear forces from chiral EFT: The unfinished business*, R. Machleidt, Proc. 10th International Spring Seminar on Nuclear Physics, New Quests in Nuclear Structure, Vietri sul Mare, Italy, May 2010, edited by A. Covello (World Scientific, Singapore) in press.
140. *Neutron star and β -stable EOS with Brown-Rho scaled low-momentum NN interactions*, H. Dong, T.T.S. Kuo, and R. Machleidt, Third Joint Meeting of the Nuclear Physics Divisions of the American Physical Society and the Physical Society of Japan, Waikoloa, Hawaii, October 2009, Bull. Am. Phys. Soc. **54**, No. 10, p. 135 (2009).
139. *Renormalization of the leading-order chiral nucleon-nucleon interaction and bulk properties of nuclear matter*, R. Machleidt, P. Liu, and D. R. Entem, Third Joint Meeting of the Nuclear Physics Divisions of the American Physical Society and the Physical Society of Japan, Waikoloa, Hawaii, October 2009, Bull. Am. Phys. Soc. **54**, No. 10, p. 135 (2009).
138. *Recent Advances in the Theory of Nuclear Forces and its Relevance for the Microscopic Approach to Dense Matter*, R. Machleidt, Proc. International Workshop on Nuclear Dynamics in Heavy Ion Reactions and the Symmetry Energy, Shanghai, China, August 2009, edited by Yu-Gang Ma et al., Intern. J. Mod. Phys. E **19**, 1734 (2010).
137. *The Missing Three-Nucleon Forces: Where Are They?*, R. Machleidt, Proc. 28th International Workshop on Nuclear Theory, Rila Mountains, Bulgaria, June 2009, edited by S. Dimitrova (Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Science) p. 145.
136. *The missing three-nucleon forces: Where are they?*, R. Machleidt, Eleventh Annual Meeting of the Northwest Section of the American Physical Society, Vancouver, B.C., Canada, May 2009, Abstract.

135. *Roles of all-order core polarization and Brown-Rho scaling in nucleon effective interactions*, T. T. S. Kuo, J. W. Holt, G. E. Brown, J. D. Holt, and R. Machleidt, Changing Facets of Nuclear Structure, Proc. 9th International Spring Seminar on Nuclear Physics, Vico Equense, Italy, May 2007, edited by A. Covello (World Scientific, Singapore, 2008).
134. *Chiral Three-Nucleon Forces at N^3LO* , R. Machleidt, 2008 Fall Meeting of the APS Division of Nuclear Physics, Oakland, California, October 2008, Bull. Am. Phys. Soc. **53**, No. 12, p. 61 (2008).
133. *Recent Advances in the Theory of Nuclear Forces and Its Impact on Microscopic Nuclear Structure*, R. Machleidt, Proc. International Symposium on Exotic States of Nuclear Matter, Catania, Italy, June 2007, edited by U. Lombardo *et al.* (World Scientific, Singapore, 2008) p. 307.
132. *Nuclear Two- and Many-Body Forces from Chiral EFT: Current Status and Open Issues*, R. Machleidt, 410. WE-Heraeus Seminar, Ab-Initio Nuclear Structure—Where Do We Stand?, Bad Honnef, Germany, July 2008, Abstract.
131. *Solving a Five Decade-Old Mystery: Why is There Carbon Dating?*, R. Machleidt, Tenth Annual Meeting of the Northwest Section of the American Physical Society, Portland, Oregon, May 2008, Abstract.
130. *Nucleon-Nucleon Interactions from Effective Field Theories*, R. Machleidt, From Quarks to the Nuclear Many-Body Problem, A Conference on Recent Advances in Nuclear Many-Body Physics, Oslo, Norway, May 2008, Abstract.
129. *Chiral NN potentials and renormalization*, R. Machleidt and D. R. Entem, 2007 Fall Meeting of the APS Division of Nuclear Physics, Newport News Virginia, October 2007, Bull. Am. Phys. Soc. **52**, No. 9, 184 (2007).
128. *Shell-model calculations with low-momentum nucleon-nucleon interactions based upon chiral perturbation theory*, L. Coraggio, A. Covello, A. Gargano, N. Itaco, R. Machleidt, and D. R. Entem, International Nuclear Physics Conference, Tokyo, Japan, June 2007, Abstract.
127. *NN renormalization in chiral effective field theory*, D. R. Entem and R. Machleidt, International Nuclear Physics Conference, Tokyo, Japan, June 2007, Abstract.
126. *Recent Advances in the Theory of Nuclear Forces and Its Impact on Microscopic Nuclear Structure*, R. Machleidt, International Symposium on Exotic States of Nuclear Matter, Catania, Italy, June 2007, Abstract.

125. *Roles of all-order core polarization and Brown-Rho scaling in nucleon effective interactions*, T. T. S. Kuo, J. W. Holt, G. E. Brown, J. D. Holt, and R. Machleidt, 9th International Spring Seminar on Nuclear Physics, Vico Equense, Italy, May 2007, Abstract.
124. *Recent Advances in Our Understanding of Nuclear Forces*, R. Machleidt, abstract, 9th Annual Meeting of the Northwest Section of the APS, Pocatello, Idaho, May 2007.
123. *Proton Therapy for Cancer: A Superior Method for the Treatment of Localized Tumors* R. Machleidt, abstract, 9th Annual Meeting of the Northwest Section of the APS, Pocatello, Idaho, May 2007.
122. *Renormalization of chiral NN potentials and Weinberg power counting*, R. Machleidt and D. R. Entem, 2007 April Meeting of the American Physical Society, Jacksonville, Florida, April 2007, Bull. Am. Phys. Soc. **52**, 199 (2007).
121. *Evolution versus creation in the public school curriculum: History of the legal battles*, R. Machleidt, 2007 April Meeting of the American Physical Society, Jacksonville, Florida, April 2007, Bull. Am. Phys. Soc. **52**, 151 (2007).
120. *The Theory of Nuclear Forces: Is the Never-Ending Story Coming to an End?*, R. Machleidt, 18th International IUPAP Conference on Few-Body Problems in Physics, Santos, S. Paulo, Brazil, August 2006, Book of Abstracts, p. 25.
119. *Nuclear Forces from Effective Field Theory: A New Era in Microscopic Nuclear Structure*, R. Machleidt, Nuclear Structure '06, Conference on Nuclei at the Limits, Oak Ridge National Laboratory, Oak Ridge, Tennessee, July 2006, book of abstracts, p. 102.
118. *The Nuclear Force Problem: Is the Never-Ending Story Coming to an End?*, R. Machleidt, Proc. 25th International Workshop on Nuclear Theory, Institute for Nuclear Research and Nuclear Energy, Bulgarian Academy of Sciences, Rila Mountains, Bulgaria, June 2006.
117. *Plato's Ideas and the Theories of Modern Particle Physics: Amazing Parallels*, R. Machleidt, 8th Annual Meeting of the Northwest Section of the APS, University of the Puget Sound, Tacoma, Washington, May 2005.
116. *Nuclear Physics and Cancer Treatment: Recent Advances*, R. Machleidt, 8th Annual Meeting of the Northwest Section of the APS, University of the Puget Sound, Tacoma, Washington, May 2005.

115. *Very-Low Momentum Nucleon-Nucleon Interaction Based upon Chiral Perturbation Theory*, R. Machleidt, L. Coraggio, and D. Entem, 2005 Fall Meeting of the APS Division of Nuclear Physics, Hawaii, September 2005, Bull. Am. Phys. Soc. **50**, 184 (2005).
114. *Effective Field Theory Approach to Two- and Many-Body Forces*, R. Machleidt, 7th Annual Meeting of the Northwest Section of the APS, University of Victoria, Victoria, British Columbia, Canada, May 2005.
113. *Plato's Timaeus and Modern Particle Physics*, R. Machleidt, 2005 April Meeting of the American Physical Society, Tampa, Florida, April 2005, Bull. Am. Phys. Soc. **50**, 138 (2005).
112. *Modelling Nucleon-Nucleon Scattering above 1 GeV*, R. Machleidt, O. Eysler, and W. Scobel, 2005 April Meeting of the American Physical Society, Tampa, Florida, April 2005, Bull. Am. Phys. Soc. **50**, 51 (2005).
111. *Concerns of Small Departments*, R. Machleidt, "Physics in the Public Interest", APS/AAPT Physics Department Chairs Conference, American Center for Physics, College Park, Maryland, June 2004, Notes of Breakout Group Discussion.
110. *Configuration-Space Representation of a Chiral Nucleon-Nucleon Potential*, H. Shimoyama and R. Machleidt, American Physical Society Northwest Section Meeting, University of Idaho, Moscow, Idaho, May 2004, Abstract.
109. *Modelling Nucleon-Nucleon Scattering above 1 GeV*, R. Machleidt, O. Eysler, and W. Scobel, American Physical Society Northwest Section Meeting, University of Idaho, Moscow, Idaho, May 2004, Abstract.
108. *The NN interaction in chiral perturbation theory*, D. R. Entem and R. Machleidt, Workshop on Relativistic Structure Models for the Physics of Radioactive Nuclear Beams, Bad Honnef, Germany, May 2003, Abstract.
107. *Chiral perturbation theory and the NN interaction*, D. R. Entem and R. Machleidt, Workshop on Contributions of Short- and Long-Range Correlations to Nuclear Binding and Saturation, European Center for Theoretical Studies in Nuclear Physics and Related Areas (ECT*), Trento, Italy, June 2003, Abstract.
106. *Nucleon-deuteron scattering with Δ -isobar excitation: Construction of a realistic two-baryon coupled-channel potential*, A. Deltuva, R. Machleidt, and P. U. Sauer, 17-th Intern. IUPAP Conf. on Few-Body Problems in Physics, Duke University, Durham, North Carolina, June 2003, Book of Abstracts.

105. *The nuclear force problem: Are we seeing the end of the tunnel?*, R. Machleidt, 17-th Intern. IUPAP Conf. on Few-Body Problems in Physics, Duke University, Durham, North Carolina, June 2003, Book of Abstracts.
104. *Accurate nucleon-nucleon potential based upon chiral perturbation theory to order four*, 2002 Fall Meeting of the APS Division of Nuclear Physics, Michigan, October 2002, Bull. Am. Phys. Soc. **47**, 34 (2002).
103. *Accurate NN Potential Based upon Chiral Effective Lagrangians*, Contributed Paper, Northwest Section Meeting of the APS, Banff, Alberta, Canada, May 2002.
102. *Accurate nucleon-nucleon potential based upon chiral perturbation theory*, 2001 Fall Meeting of the APS Division of Nuclear Physics, Wailea, Maui, Hawaii, October 2001, Bull. Am. Phys. Soc. **46**, 139 (2001).
101. *Accurate nucleon-nucleon potential based upon chiral perturbation theory*, D. R. Entem and R. Machleidt, Proc. International Nuclear Physics Conference 2001, Berkeley, California, July 2001, to be published.
100. *Chiral symmetry and the nucleon-nucleon interaction: developing an accurate NN potential based upon chiral effective field theory*, D.R. Entem and R. Machleidt, Proc. 7-th Int. Spring Seminar on Nuclear Structure Physics “Challenges of Nuclear Structure”, Maiori (near Naples), Italy, May 2001, ed. by A. Ciovoello (World Scientific, Singapore, 2002) pp. 113-128.
99. *Current status of the NN potential market: a critical analysis*, R. Machleidt, Proc. Symposium on Current Topics in the Field of Light Nuclei, Cracow, Poland, June 1999, p. 702.
98. *The nucleon-nucleon interaction at intermediate energies*, R. Machleidt, Proc. International Workshop on Intermediate Energy Spin Physics, Jülich, Germany, November 1998, F. Rathmann, W.T.H. van Oers, and C. Wilkin, eds. (Forschungszentrum Jülich, Jülich, 1999) p. 169.
97. *Open questions concerning the NN interaction at moderate energies*, R. Machleidt, Proc. IUCF Workshop on Few-Nucleon Physics with Stored, Cooled Beams, Bloomington, Indiana, September 1998, p. 156.
96. *Nuclear forces and nuclear structure*, R. Machleidt, Proc. Nuclear Structure '98, International conference on nuclear structure physics, Gatlinburg, Tennessee, August 1998, edited by C. Baktash, AIP Conference Proceedings **481**, 3 (1999).

95. *Nuclear forces and nuclear structure*, R. Machleidt, Proc. 6th International Spring Seminar on Nuclear Physics, Highlights of Modern Nuclear Structure, S. Agata sui due Golfi, near Naples, Italy, May 1998, edited by A. Covello (World Scientific, Singapore, 1999), p. 57.
94. *The precise value of the πNN coupling constant: a Pandora's box*, R. Machleidt, Pions and Beyond, A conference in honor of the 60th birthday of Professor Phil Deutchman, Moscow, Idaho, April 1998, Proceedings, J. W. Norbury and K. M. Maung, eds., p. 10.
93. *Light-front Brueckner theory of nuclear matter*, R. Machleidt and G. A. Miller, 1998 April Meeting of the American Physical Society, Columbus, Ohio, April 1998, Bull. Am. Phys. Soc. **43**, 1103 (1998).
92. *Charge-dependence of the πNN coupling constant and charge-dependence of the NN interaction*, R. Machleidt and M. K. Banerjee, 1998 April Meeting of the American Physical Society, Columbus, Ohio, April 1998, Bull. Am. Phys. Soc. **43**, 1075 (1998).
91. *Saturation of nuclear matter with in-medium meson exchange interactions*, R. Rapp, R. Machleidt, J. W. Durso, and G. E. Brown, 1997 Fall Meeting of the APS Division of Nuclear Physics, Whistler, BC, Canada, October 1997, Bull. Am. Phys. Soc. **42**, 1654 (1997).
90. *Nuclear forces and nuclear structure*, R. Machleidt, Proc. XX Brazilian Workshop on Nuclear Physics, Guaratingueta, Sao Paulo, Brazil, September 1997, S. R. Souza et al., eds. (World Scientific, Singapore, 1998) p. 156.
89. *Microscopic in-medium NN cross-sections up to 2 GeV*, R. Machleidt and F. Sammarruca, 6th Conf. on the Intersections of Particle and Nuclear Physics, Big Sky, Montana, May 1997, Contributed Paper, AIP Conference Proceedings **412**, 707 (1997).
88. *Skyrme-model πNN form factor and nucleon-nucleon interaction*, G. Holzwarth and R. Machleidt, 1996 Fall Meeting of the APS Division of Nuclear Physics, Cambridge, Massachusetts, October 1996, Bull. Am. Phys. Soc. **41**, 1255 (1996).
87. *In-medium nucleon-nucleon inelastic cross sections*, F. Sammarruca and R. Machleidt, 1996 Fall Meeting of the APS Division of Nuclear Physics, Cambridge, Massachusetts, October 1996, Bull. Am. Phys. Soc. **41**, 1240 (1996).
86. *Controversial role of relativity in the three-nucleon system*, F. Sammarruca and R. Machleidt, 1996 Fall Meeting of the APS Division of Nuclear Physics, Cambridge, Massachusetts, October 1996, Bull. Am. Phys. Soc. **41**, 1248 (1996).

85. *Chiral symmetry and the nucleon-nucleon interaction*, R. Machleidt, Proc. XIII Int. Seminar on High Energy Physics Problems, Relativistic Nuclear Physics and Quantum Chromodynamics, Joint Institute for Nuclear Research, Dubna, Russia, 1996, Vol. I, A. M. Baldin and V. V. Burov, eds. (Joint Institute for Nuclear Research, Dubna, 1998) p. 154.
84. *Skyrme-model πNN form factor and nucleon-nucleon interaction*, G. Holzwarth and R. Machleidt, XIV Int. Conf. on Particles and Nuclei (PANIC'96), Williamsburg, Virginia, 1996, Contributed Paper.
83. *Triton binding energy and minimal relativity*, F. Sammarruca and R. Machleidt, Proc. XIV Int. Conf. on Particles and Nuclei (PANIC'96), Williamsburg, Virginia, 1996, C. E. Carlson and J. J. Domingo, eds. (World Scientific, Singapore, 1997), p. 696.
82. *The new high-precision, charge-dependent Bonn NN potential (CD-BONN) and triton binding*, R. Machleidt, F. Sammarruca, and Y. Song, APS Division of Nuclear Physics Fall Meeting, Bloomington, Indiana, 1995, Bull. Am. Phys. Soc. **40**, 1614 (1995).
81. *Off-shell NN potential and nuclear binding*, Mesons in Light Nuclei, Straz pod Ralskem, Czech Republic, July 1995, Abstract.
80. *How well do we know the nuclear forces after 50 years of research?*, 11-th Nordic Meeting on Intermediate and High Energy Nuclear Physics, Gräftåvallen, Sweden, January 1995, Abstract.
79. *In-medium nucleon-nucleon cross sections up to 2 GeV*, R. Machleidt and G. Q. Li, VIII Conference on Many-Body Problems in Physics, Schloss Seggau, Austria, August 1994.
78. *Microscopic in-medium nucleon-nucleon cross sections up to 2 GeV*, R. Machleidt and G. Q. Li, Fifth Conference on the Intersections of Particle and Nuclear Physics, St. Petersburg, Florida, June 1994.
77. *Off-shell NN potential and triton binding energy*, Y. Song and R. Machleidt, 14-th Int. Conf. on Few Body Problems in Physics, Williamsburg, Virginia, May 1994, Contributed Paper.
76. *The πNN and ρNN coupling constants and the two-nucleon system*, R. Machleidt, 14-th Int. Conf. on Few Body Problems in Physics, Williamsburg, Virginia, May 1994, Contributed Paper.
75. *Constraints on the πNN coupling constant from the NN system*, R. Machleidt and G. Q. Li, Fifth International Symposium on Meson-Nucleon Physics and the Structure of the Nucleon, Boulder, Colorado, Sept. 1993.

74. *Nuclear equation of state based on relativistic nucleon-nucleon interactions*, First Symposium on Nuclear Physics in the Universe, Oak Ridge, Tennessee, Sept. 1992.
73. *Relativistic corrections to the triton binding energy*, F. Sammarruca, D. P. Xu, and R. Machleidt, Annual Meeting of the Division of Nuclear Physics of the American Physical Society, Santa Fe, New Mexico, 1992.
72. *Charge-symmetry breaking due to n - p mass difference and $\rho^0 - \omega$ mixing*, G. Q. Li and R. Machleidt, Annual Meeting of the Division of Nuclear Physics of the American Physical Society, Santa Fe, New Mexico, 1992.
71. *πNN and ρNN coupling constants and nucleon-nucleon scattering*, R. Machleidt, G. Q. Li, and F. Sammarruca, Annual Meeting of the Division of Nuclear Physics of the American Physical Society, Santa Fe, New Mexico, 1992.
70. *Charge-dependence of the NN interaction due to hadron mass splitting*, R. Machleidt and G. Q. Li, International Nuclear Physics Conference, Wiesbaden, Germany, 1992, Contributed Paper.
69. *Relativistic description of intermediate-energy nucleus-nucleus collisions*, G. Q. Li and R. Machleidt, International Nuclear Physics Conference, Wiesbaden, Germany, 1992, Contributed Paper.
68. *Charge-dependence of the NN interaction in S , P , and D waves*, R. Machleidt and G. Q. Li, April Meeting of the American Physical Society, Washington, D. C., 1992.
67. *Subthreshold antikaon and antiproton productions in nucleus-nucleus collision*, G. Q. Li and R. Machleidt, April Meeting of the American Physical Society, Washington, D. C., 1992.
66. *Relativistic description of intermediate-energy nucleus-nucleus collisions*, G. Q. Li and R. Machleidt, 8th Winter Workshop on Nuclear Dynamics, Jackson Hole, Wyoming, USA, Jan. 1992 (World Scientific, Singapore), to be published.
65. *Relativistic corrections to the triton binding energy*, F. Sammarruca, D.P. Xu, and R. Machleidt, 13-th International Conference on Few-Body Problems in Physics, Adelaide, Australia, 1992, Book of Contributions, I. R. Afnan and R. T. Cahill, eds., p. 296.
64. *Ring-diagrams and relativistic corrections in nuclear matter*, M.F. Jiang, R. Machleidt, and T.T.S. Kuo, The Seventh International Conference on Recent Progress in Many-Body Theories (MB VII), Minneapolis, Minnesota, 1991, Contributed Paper.

63. *Bonn potential and s-d shell effective interaction*, D.B. Stout, T.T.S. Kuo, M.F. Jiang, and R. Machleidt, The Seventh International Conference on Recent Progress in Many-Body Theories (MB VII), Minneapolis, Minnesota, 1991, Contributed Paper.
62. *Relativistic corrections to the triton binding energy*, R. Machleidt and D.P. Xu, Spring Meeting of the American Physical Society, Washington, D.C., 1991, Bull. Am. Phys. Soc. **36**, 1401 (1991).
61. *Discrepancy between recent determinations of the πNN coupling constant and deuteron properties*, F. Sammarruca and R. Machleidt, Spring Meeting of the American Physical Society, Washington, D.C., 1991, Bull. Am. Phys. Soc. **36**, 1401 (1991).
60. *Charge dependence of the nucleon-nucleon interaction at low energies*, R. Machleidt and D.P. Xu, PANIC XII, Intern. Conf. on Particles and Nuclei, Cambridge, Massachusetts, 1990, Contributed Papers, p. II-37.
59. *Relativistic corrections to the ring-diagram approach in nuclear matter*, M.F. Jiang, R. Machleidt, and T.T.S. Kuo, PANIC XII, Intern. Conf. on Particles and Nuclei, Cambridge, Massachusetts, 1990, Contributed Papers, p. X-21.
58. *Bonn Potential and sd-Shell Effective Interaction*, R. Machleidt, M.F. Jiang, D.B. Stout, and T.T.S. Kuo, Proc. Symposium in Honor of Akito Arima: Nuclear Physics in the 1990's, Santa Fe, New Mexico, 1990.
57. *Relativistic ring-diagram nuclear matter calculations*, T.T.S. Kuo, M.F. Jiang, and R. Machleidt, Proc. Symposium in Honor of Akito Arima: Nuclear Physics in the 1990's, Santa Fe, New Mexico, 1990.
56. *The ϵ_1 mixing parameter and the triton binding energy*, R. Machleidt and D.P. Xu, Spring Meeting of The American Physical Society, Washington, D.C., 1990, Bull. Am. Phys. Soc. **35**, 978 (1990).
55. *Charge independence breaking in the NN interaction*, D.P. Xu and R. Machleidt, Spring Meeting of The American Physical Society, Washington, D.C., 1990, Bull. Am. Phys. Soc. **35**, 978 (1990).
54. *Relativistic ring-diagram nuclear matter calculations*, M.F. Jiang, R. Machleidt, and T.T.S. Kuo, Spring Meeting of The American Physical Society, Washington, D.C., 1990, Bull. Am. Phys. Soc. **35**, 1041 (1990).
53. *Bonn potential and s-d shell effective interactions*, M. F. Jiang, R. Machleidt, T. T. S. Kuo, and D. B. Stout, Spring Meeting of The American Physical Society, Washington, D.C., 1990, Bull. Am. Phys. Soc. **35**, 1076 (1990).

52. *The ϵ_1 mixing parameter at intermediate energies and the bound state of the three-nucleon system*, R. Machleidt, Proc. 12th Intern. Conf. on Few Body Problems in Physics (Few Body XII), Vancouver, Canada, 1989, Contributed Papers, ed. B. K. Jennings (TRIUMF Report TRI-89-2) p. G51 (1989).
51. *Dirac-Brueckner-Hartree-Fock and beyond*, H. Müther, H. Elsenhans, R. Brockmann, R. Machleidt, G. E. Brown, and M. Prakash, Frühjahrstagung Kern- und Mittelenergiephysik der Deutschen Physikalischen Gesellschaft, Berlin, Germany, 1988, Verh. Dtsch. Phys. Ges. **23**, p. B4.5 (1988).
50. *Relativistic Brueckner-Hartree-Fock approach for finite nuclei*, R. Brockmann, R. Machleidt, and H. Müther, Frühjahrstagung Kern- und Mittelenergiephysik der Deutschen Physikalischen Gesellschaft, Berlin, Germany, 1988, Verh. Dtsch. Phys. Ges. **23**, p. B3.2 (1988).
49. *The NN tensor force, NN observables, and tri-nucleon binding energies*, G.S. Chulick, R.A. Brandenburg, R. Machleidt, A. Picklesimer, and R.M. Thaler, Spring Meeting of The American Physical Society, Washington, D.C., 1987, Bull. Am. Phys. Soc. **32**, 1059 (1987).
48. *Binding Energies of Tri-Nucleon Systems*, G.S. Chulick, R.A. Brandenburg, R. Machleidt, A. Picklesimer, and R.M. Thaler, Spring Meeting of The American Physical Society, Washington, D.C., 1987, Bull. Am. Phys. Soc. **32**, 1058 (1987).
47. *The Bonn meson-exchange NN potential above pion-production threshold*, Ch. Elster, K. Holinde, D. Schütte, and R. Machleidt, Spring Meeting of The American Physical Society, Washington, D.C., 1987, Bull. Am. Phys. Soc. **32**, 1013 (1987).
46. *Derivation of the Triton Properties*, R. Machleidt, Spring Meeting of The American Physical Society, Washington, D.C., 1987, Bull. Am. Phys. Soc. **32**, 1114 (1987).
45. *Extension of the Bonn meson exchange NN potential above pion production threshold*, Ch. Elster, K. Holinde, and R. Machleidt, Proc. Intern. Conf. on Atomic Physics and Few Body Systems, Tokyo and Sendai (Japan), 1986, Contributed Papers.
44. *The Bonn potential and the relativistic Dirac-Brueckner approach to nuclear matter*, R. Machleidt, Proc. Second Workshop on Perspectives in Nuclear Physics at Intermediate Energies, Trieste (Italy), 1985.
43. *The Bonn potential and the Dirac-Brueckner approach to nuclear matter*, R. Machleidt, Proc. Intern. Conf. on Antinucleon- and Nucleon-Nucleus Interactions, Telluride (CO, USA), 1985, eds. G.E. Walker, C.D. Goodman, and C. Olmer (Plenum Press, New York, 1985) p. 117.

42. *The Bonn Potential*, Ch. Elster, K. Holinde, and R. Machleidt, Proc. Intern. Winter Meeting on the NN and $N\bar{N}$ Interaction, Schladmingen (Austria), 1985.
41. *Nuclear saturation in a relativistic Brueckner-Hartree-Fock approach*, R. Brockmann and R. Machleidt, Proc. Intern. Workshop on Gross Properties of Nuclei and Nuclear Excitation XIII, Hirschegg (Austria), 1985, ed. H. Feldmeier (GSI, Darmstadt, 1985) p. 167.
40. *Relativistic meson-exchange NN-interaction and nuclear matter in the Dirac-Brueckner approach*, R. Machleidt and R. Brockmann, Proc. Los Alamos Workshop on Dirac Approaches to Nuclear Physics, Los Alamos (NM, USA), 1985, eds. J.R. Shepard, C.Y. Cheung, and R.L. Boudrie (LA-10438-C, Los Alamos, New Mexico, 1985) p.328.
39. *A consistent meson-theoretic description of the NN interaction*, R. Machleidt, Proc. IX. European Conf. on Few Body Problems, Tbilisi (USSR), 1984 (World Scientific, Singapore, 1985).
38. *NN observables derived from the Bonn potential*, Ch. Elster, K. Holinde, and R. Machleidt, Proc. Intern. Conf. on Particle and Nuclear Physics (PANIC X), Heidelberg (W. Germany), 1984, Vol. I, p. C28.
37. *Charge independence breaking in a meson theory of the NN interaction*, C.Y. Cheung and R. Machleidt, Proc. Intern. Conf. on Particle and Nuclear Physics (PANIC X), Heidelberg (W. Germany), 1984, Vol. I, p. C13.
36. *Mesonic and nuclear selfenergy effects in nuclear matter*, R. Machleidt and K. Holinde, Proc. Intern. Conf. on Nuclear Physics, Florence (Italy), 1983, Vol. I, p. 39.
35. *An explicit and consistent meson-exchange model for the NN interaction*, R. Machleidt and K. Holinde, Proc. Intern. Conf. on Nuclear Physics, Florence (Italy), 1983, Vol. I, p. 19.
34. *The deuteron asymptotic D/S ratio in the framework of the OBE model for the NN interaction*, R. Machleidt and K. Holinde, Proc. of the 10th Intern. Conf. on Few Body Problems (Few Body X), Karlsruhe (W. Germany), 1983, Contributed Papers.
33. *A comprehensive and consistent meson-exchange model for the NN interaction*, Proc. of the 10th Intern. Conf. on Few Body Problems (Few Body X), Karlsruhe (W. Germany), 1983, Contributed Papers.
32. *Nuclear forces within a consistent meson-exchange model*, R. Machleidt, Proc. Symp. on Quarks and Nuclear Structure, Bad Honnef (W. Germany), 1983, ed. K. Bleuler, (Springer, Berlin, 1984), Lecture Notes in Physics **197**, 352 (1984).

31. *The Bonn potential*, R. Machleidt, Proc. 5th Topical School "Quarks, Mesons and Isobars in Nuclei", Motril (Spain), 1982, eds. R. Guardiola and A. Polls (World Scientific, Singapore, 1983).
30. *Higher order meson-exchanges in NN-scattering and nuclear matter*, R. Machleidt, Proc. Workshop on Medium Energy Interactions in Nuclear Physics, Pavia (Italy), 1982 (Studia Ghisleriana, Pavia, 1982) p. 326.
29. *Pion-self-energy effects in nuclear matter calculations*, R. Machleidt and K. Holinde, Proc. Intern. Conf. on Nuclear Structure, Amsterdam, 1982, eds. A. van der Woude and B.J. Verhaar, Vol. I, p. 214.
28. *Recent developments in the Bonn potential*, R. Machleidt, K. Holinde, X. Bagnoud, and Ch. Hamburger, Proc. Intern. Conf. on Nuclear Structure, Amsterdam, 1982, eds. A. van der Woude and B.J. Verhaar, Vol. I, p. 9.
27. *Nucleon-nucleon interaction with pionic and isobar degrees of freedom*, K. Dreissigacker, S. Furui, Ch. Hajduk, P.U. Sauer, and R. Machleidt, Proc. 9th Intern. Conf. on High Energy Physics and Nuclear Structure (9-ICOHEPANS), Versailles (France), 1981, Contributed Papers, p. 393.
26. *Isobar contributions to the NN interaction*, X. Bagnoud, K. Holinde, and R. Machleidt, Proc. 9th Intern. Conf. on High Energy Physics and Nuclear Structure (9-ICOHEPANS), Versailles (France), 1981, Contributed Papers, p. 5.
25. *The $\pi\sigma$, $\pi\rho$ and $\pi\omega$ exchange contributions to the NN interaction*, K. Holinde and R. Machleidt, Proc. 9th Intern. Conf. on High Energy Physics and Nuclear Structure (9-ICOHEPANS), Versailles (France), 1981, Contributed Papers, p. 4.
24. *Non-iterative $\pi\sigma$ -exchange contributions to the NN-interaction*, K. Holinde and R. Machleidt, Proc. Workshop on Nuclear Physics with Real and Virtual Photons "From Collective States to Quarks in Nuclei", Bologna (Italy), 1980, Contributed Papers, p. 11.
23. *Nuclear matter properties including mesonic and isobar degrees of freedom and using continuous single particle potentials*, K. Holinde and R. Machleidt, Proc. Intern. Conf. on Nuclear Physics, Berkeley (CA, USA), 1980, Abstracts, p. 792.
22. *Non-iterative two-pion exchange and its effects in NN-scattering and nuclear matter*, K. Holinde, R. Machleidt, A. Faessler, H. Müther, and M.R. Anastasio, Proc. Intern. Conf. on Nuclear Physics, Berkeley (CA, USA), 1980, Abstracts, p. 17.

21. *A nucleon-nucleon potential with an explicit description of the 2π -exchange contribution*, K. Holinde, R. Machleidt, A. Faessler, H. Müther, and M.R. Anastasio, Proc. 9th Conf. on the Few Body Problem, Eugene (Oregon, USA), 1980, Contributed Papers, p. 201.
20. *Explicit 3π -exchange contributions to the NN interaction*, K. Holinde and R. Machleidt, Proc. 9th Conf. on the Few Body Problem, Eugene (Oregon, USA), 1980, Contributed Papers, p. 200.
19. *Effect of non-iterative isobar diagrams on NN scattering data*, K. Holinde, R. Machleidt, A. Faessler, H. Müther, and M.R. Anastasio, Proc. 5th Intern. Symp. on Polarization Phenomena in Nuclear Physics, Santa Fe (NM, USA), 1980, AIP Conf. Proc. **69**, 200 (1981).
18. *Theoretical determination of the asymptotic D- to S-state normalization of the deuteron wave function*, R. Machleidt and K. Holinde, Proc. European Symp. on Few Body Problems in Nuclear and Particle Physics, Sesimbra (Portugal), 1980, Contributed papers, p. 28.
17. *Mesonic effects in nuclear matter*, R. Machleidt, K. Holinde, M.R. Anastasio, A. Faessler, and H. Müther, Proc. XVIII. Intern. Winter Meeting on Nuclear Physics, Bormio (Italy), 1980, (University of Milan, Milan, 1980) p. 656.
16. *Mesonic and isobar degrees of freedom in nuclear matter*, R. Machleidt and K. Holinde, Proc. 8th Intern. Conf. on High Energy Physics and Nuclear Structure (8-ICOHEPANS), Vancouver (Canada), 1979, Abstracts and Contributed Papers, p. 108.
15. *The effect of the Δ -isobar in the two-nucleon problem*, K. Holinde and R. Machleidt, Proc. 3rd Nordic Meeting on High Energy Reactions in Nuclei, Geilo (Norway), 1979, p. 16.
14. *Role of non-iterative diagrams in NN-scattering*, K. Bleuler, K. Holinde, R. Machleidt, A. Faessler, and H. Müther, Proc. Intern. Conf. on Few Body Systems and Nuclear Forces, Graz (Austria), 1978, eds. H. Zingl, M. Haftel, and H. Zankel (Springer, New York, 1978), Lecture Notes in Physics **82**, 21 (1978).
13. *Role of the range of isobar potentials and of the $N\Delta$ -vertex in NN-scattering*, K. Holinde and R. Machleidt, Proc. Second Intern. Conf. on the Nucleon-Nucleon Interaction, Vancouver (Canada), 1977, eds. D.F. Meadsday, H.W. Fearing, and A. Strathdee (American Institute of Physics, New York, 1978), AIP Conf. Proc. **41**, 190 (1978).

12. *The effect of the $\Delta(1236)$ -resonance in NN-scattering, nuclear matter and neutron matter including all partial waves*, K. Holinde and R. Machleidt, Proc. Intern. Topical Conf. on Meson Nuclear Physics, Pittsburgh (PA, USA), 1976, eds. P.D. Barnes, R.A. Eisenstein, and L.S. Kisslinger (American Institute of Physics, New York, 1976) p. 663.
11. *An OBE-model including the $N\Delta$ -interaction, two-nucleon and nuclear matter results*, K. Bleuler, K. Holinde, and R. Machleidt, Proc. VII. Intern. Conf. on Few Body Problems in Nuclear and Particle Physics, Delhi (India), 1975/76, eds. Mitra, Slaus, Bhasu, and Gupta (North-Holland, Amsterdam, 1976) p. 39.
10. *Tri-nucleon properties with one-boson-exchange potentials*, R.A. Brandenburg, P.U. Sauer, and R. Machleidt, Proc. VII. Intern. Conf. on Few Body Problems in Nuclear and Particle Physics, Delhi (India), 1975/76, eds. Mitra, Slaus, Bhasu, and Gupta (North-Holland, Amsterdam, 1976) p. 135.
9. *A momentum space OBEP including the $N-\Delta$ interaction*, K. Holinde and R. Machleidt, Comptes Rendus Effects Mesoniques dans les Noyaux, Diffusion d'Electrons á Energie Intermediaire, Rencontre de Saclay (France), 1975, p. 163.
8. *An OBEP regularized by an eikonal form factor*, K. Holinde and R. Machleidt, Proc. Intern. Symp. on Interaction Studies in Nuclei, Mainz (W. Germany), 1975, eds. H. Jochim and B. Ziegler (North-Holland, Amsterdam, 1975) p. 665.
7. *Improved one-boson-exchange nucleon-nucleon interaction*, K. Holinde, R. Machleidt, and K. Bleuler, Proc. Intern. Conf. on Few Body Problems in Nuclear and Particle Physics, Québec (Canada), 1974, eds. R.J. Slobodrian, B. Cujec, and K. Ramavataram (Les Press de l'Université Laval, Québec, 1975) p. 145.
6. *Effective forces in nuclear structure*, K. Bleuler and R. Machleidt, Proc. XII. Intern. Winter Meeting on Nuclear Physics, Villar (Switzerland), 1974 (University of Milan, Milan, 1974) p. 325.
5. *One-boson-exchange potential, effective interaction and structure of finite nuclei*, K. Bleuler, K. Erkelenz, K. Holinde, and R. Machleidt, Proc. Intern. Symp. on Correlations in Nuclei, Balatonfüred (Hungary), 1973, ed. J. Németh (The Hungarian Physical Society, Budapest, 1974) p. 339.
4. *Meson current corrections to the state equation of neutron matter*, K. Bleuler, K. Holinde, K. Kotthoff, and R. Machleidt, Proc. Intern. Conf. on Nuclear Physics, Munich, 1973, eds. J. de Boer and H.J. Mang, Vol. I (North-Holland, Amsterdam, 1973) p. 13.

3. *Meson current corrections in nuclear matter*, K. Holinde, K. Kotthoff, R. Machleidt, and D. Schütte, Proc. Intern. Conf. on Nuclear Physics, Munich, 1973, eds. J. de Boer and H.J. Mang, Vol. I (North-Holland, Amsterdam, 1973) p. 12.
2. *A density-dependent local effective interaction derived from a relativistic one-boson-exchange potential (OBEP)*, K. Bleuler, K. Erkelenz, K. Holinde, and R. Machleidt, Proc. Intern. Conf. on Nuclear Physics, Munich, 1973, eds. J. de Boer and H.J. Mang, Vol. I (North-Holland, Amsterdam, 1973) p. 9.
1. *One-boson-exchange potential and structure of finite nuclei in the local density approximation*, J. Németh, K. Holinde, and R. Machleidt, Proc. Intern. Conf. on Nuclear Physics, Munich, 1973, eds. J. de Boer and H.J. Mang, Vol. I (North-Holland, Amsterdam, 1973) p. 18.