

Ruprecht Machleidt

List of Publications by Year in descending order

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papers

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149
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times ranked

2958
citing authors

#	ARTICLE	IF	CITATIONS
1	Elastic proton scattering off nonzero spin nuclei. <i>Physical Review C</i> , 2022, 105, .	1.1	9
2	Impact of three-body forces on elastic nucleon-nucleus scattering observables. <i>Physical Review C</i> , 2021, 103, .	1.1	16
3	Weinberg's Proposal of 1990: A Very Personal View. <i>Few-Body Systems</i> , 2021, 62, 1.	0.7	8
4	The Relevance of Pion-Exchange Contributions Versus Contact Terms in the Chiral Effective Field Theory Description of Nucleon-Nucleon Scattering. <i>Few-Body Systems</i> , 2021, 62, 1.	0.7	14
5	Nucleon-nucleon potentials from $\hat{\tau}$ -full chiral effective-field-theory and implications. <i>Physical Review C</i> , 2021, 104, .	1.1	11
6	Family of chiral two- plus three-nucleon interactions for accurate nuclear structure studies. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2020, 808, 135651.	1.5	49
7	Temperature effects on the neutron matter equation of state obtained from chiral effective field theory. <i>Modern Physics Letters A</i> , 2020, 35, 2050156.	0.5	5
8	Nucleon-Nucleon Scattering Up to N5LO in Chiral Effective Field Theory. <i>Frontiers in Physics</i> , 2020, 8, .	1.0	16
9	Can chiral EFT give us satisfaction?. <i>European Physical Journal A</i> , 2020, 56, 1.	1.0	23
10	Mixed-strategy approach to band-edge analysis and modeling in semiconductors. <i>Physical Review B</i> , 2020, 101, .	1.1	8
11	Momentum Distributions in ^3He with Chiral Potentials. <i>Springer Proceedings in Physics</i> , 2020, , 439-443.	0.1	1
12	Unitary limit and linear scaling of neutrons in harmonic trap with tuned CD-Bonn and square-well interactions. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2019, 797, 134815.	1.5	1
13	Comparing proton momentum distributions in ^2H and ^3He nuclei via $2\text{H}(e,e'p)$ and $3\text{He}(e,e'p)$ measurements. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2019, 797, 134890.	1.5	14
14	Momentum distributions and short-range correlations in the deuteron and ^3He with modern chiral potentials. <i>Physical Review C</i> , 2019, 99, .	1.1	16
15	Consistent, high-quality two-nucleon potentials up to fifth order of the chiral expansion. <i>Journal of Physics: Conference Series</i> , 2018, 966, 012011.	0.3	0
16	The nuclear force: Meson theory versus chiral effective field theory. <i>International Journal of Modern Physics E</i> , 2017, 26, 1740018.	0.4	3
17	The nuclear force: Meson theory versus chiral effective field theory. , 2017, , 225-256.		0
18	High-quality two-nucleon potentials up to fifth order of the chiral expansion. <i>Physical Review C</i> , 2017, 96, .	1.1	238

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19	Historical perspective and future prospects for nuclear interactions. International Journal of Modern Physics E, 2017, 26, 1730005.	0.4	39
20	Chiral nucleon-nucleon forces in nuclear structure calculations. EPJ Web of Conferences, 2016, 117, 02001.	0.1	1
21	Chiral Symmetry and the Nucleon-Nucleon Interaction. Symmetry, 2016, 8, 26.	1.1	6
22	Chiral EFT based nuclear forces: achievements and challenges. Physica Scripta, 2016, 91, 083007.	1.2	68
23	Dominant contributions to the nucleon-nucleon interaction at sixth order of chiral perturbation theory. Physical Review C, 2015, 92, .	1.1	69
24	The explosion of chiral many-body forces: How to deal with it?. Journal of Physics: Conference Series, 2015, 580, 012002.	0.3	0
25	Statistical uncertainties of a chiral interaction at next-to-next-to leading order. Journal of Physics G: Nuclear and Particle Physics, 2015, 42, 034003.	1.4	29
26	Toward order-by-order calculations of the nuclear and neutron matter equations of state in chiral effective field theory. Physical Review C, 2015, 91, .	1.1	87
27	Spin-polarized neutron-rich matter at different orders of chiral effective field theory. Physical Review C, 2015, 92, .	1.1	12
28	Peripheral nucleon-nucleon scattering at fifth order of chiral perturbation theory. Physical Review C, 2015, 91, .	1.1	140
29	Chiral effective field theory for nuclear forces: Achievements and challenges. EPJ Web of Conferences, 2014, 66, 01011.	0.1	2
30	Nuclear-matter equation of state with consistent two- and three-body perturbative chiral interactions. Physical Review C, 2014, 89, .	1.1	110
31	Muon capture on the deuteron and the neutron-neutron scattering length. Physical Review C, 2014, 90, .	1.1	5
32	Study of nucleonic matter with a consistent two- and three-body perturbative chiral interaction. Journal of Physics: Conference Series, 2014, 527, 012010.	0.3	0
33	Infinite-Cutoff Renormalization of the Chiral Nucleon-Nucleon Interaction up to N3LO. Few-Body Systems, 2013, 54, 2191-2205.	0.7	30
34	Recent Progress in the Theory of Nuclear Forces. Few-Body Systems, 2013, 54, 821-826.	0.7	3
35	Nuclear Forces from Chiral Effective Field Theory: Achievements and Challenges. Few-Body Systems, 2013, 54, 5-10.	0.7	2
36	Reduced regulator dependence of neutron-matter predictions with perturbative chiral interactions. Physical Review C, 2013, 87, .	1.1	89

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37	Half-Skyrmions and the equation of state for compact-star matter. <i>Physical Review C</i> , 2013, 87, .	1.1	29
38	Nonperturbative renormalization of the chiral nucleon-nucleon interaction up to next-to-next-to-leading order. <i>Physical Review C</i> , 2013, 88, .	1.1	54
39	Optimized Chiral Nucleon-Nucleon Interaction at Next-to-Next-to-Leading Order. <i>Physical Review Letters</i> , 2013, 110, 192502.	2.9	267
40	Nuclear forces. , 2013, , .		0
41	LIVING AT THE EDGE OF STABILITY: THE ROLE OF CONTINUUM AND THREE-NUCLEON FORCES. , 2013, , .		0
42	Continuum Effects and Three-Nucleon Forces in Neutron-Rich Oxygen Isotopes. <i>Physical Review Letters</i> , 2012, 108, 242501.	2.9	193
43	Dirac-Brueckner-Hartree-Fock versus chiral effective field theory. <i>Physical Review C</i> , 2012, 86, .	1.1	48
44	Evolution of Shell Structure in Neutron-Rich Calcium Isotopes. <i>Physical Review Letters</i> , 2012, 109, 032502.	2.9	231
45	Calculation of doublet capture rate for muon capture in deuterium within chiral effective field theory. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2012, 709, 93-100.	1.5	11
46	Nuclear forces from chiral EFT: The unfinished business. <i>Journal of Physics: Conference Series</i> , 2011, 267, 012014.	0.3	1
47	Conference Discussion of the Nuclear Force. <i>Few-Body Systems</i> , 2011, 50, 31-44.	0.7	8
48	Nuclear Forces from Chiral EFT: The Unresolved Issues. <i>Few-Body Systems</i> , 2011, 50, 83-89.	0.7	2
49	Chiral effective field theory and nuclear forces. <i>Physics Reports</i> , 2011, 503, 1-75.	10.3	1,209
50	Chiral Symmetry and the Nucleon-Nucleon Interaction. , 2011, , 317-343.		0
51	Nuclear forces from chiral EFT: the unfinished business. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2010, 37, 064041.	1.4	25
52	Renormalization of the leading-order chiral nucleon-nucleon interaction and bulk properties of nuclear matter. <i>Physical Review C</i> , 2010, 81, .	1.1	30
53	RECENT ADVANCES IN THE THEORY OF NUCLEAR FORCES AND ITS RELEVANCE FOR THE MICROSCOPIC APPROACH TO DENSE MATTER. <i>International Journal of Modern Physics E</i> , 2010, 19, 1734-1742.	0.4	1
54	Nucleon-nucleon charge symmetry breaking and the $d\bar{d}\pi^+\pi^0$ reaction. <i>Physical Review C</i> , 2009, 80, .	1.1	11

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55	Low-momentum ring diagrams of neutron matter at and near the unitary limit. <i>Physical Review C</i> , 2008, 77, .	1.1	9
56	Renormalization of chiral two-pion exchange NN interactions: Momentum space versus coordinate space. <i>Physical Review C</i> , 2008, 77, .	1.1	79
57	ROLES OF ALL-ORDER CORE POLARIZATIONS AND BROWN-RHO SCALING IN NUCLEAR EFFECTIVE INTERACTIONS. , 2008, , .		0
58	SHELL-MODEL CALCULATIONS WITH LOW-MOMENTUM NUCLEON-NUCLEON INTERACTIONS BASED UPON CHIRAL PERTURBATION THEORY. , 2008, , .		0
59	Low-momentum nucleon-nucleon interactions and shell-model calculations. <i>Physical Review C</i> , 2007, 75, .	1.1	43
60	The theory of nuclear forces: Is the never-ending story coming to an end?. <i>Nuclear Physics A</i> , 2007, 790, 17c-23c.	0.6	6
61	Nuclear structure calculations and modern nucleon-nucleon potentials. <i>Physical Review C</i> , 2005, 71, .	1.1	32
62	Towards a consistent approach to nuclear structure: EFT of two- and many-body forces. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2005, 31, S1235-S1244.	1.4	34
63	Modelling nucleon-nucleon scattering above 1 GeV. <i>European Physical Journal A</i> , 2004, 22, 105-117.	1.0	18
64	The nuclear force problem: Are we seeing the end of the tunnel?. <i>Nuclear Physics A</i> , 2004, 737, 223-227.	0.6	1
65	Towards a model-independent low momentum nucleon-nucleon interaction. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2003, 576, 265-272.	1.5	86
66	Realistic two-baryon potential coupling two-nucleon and nucleon- Λ -isobar states: Fit and applications to three-nucleon system. <i>Physical Review C</i> , 2003, 68, .	1.1	146
67	Accurate charge-dependent nucleon-nucleon potential at fourth order of chiral perturbation theory. <i>Physical Review C</i> , 2003, 68, .	1.1	1,282
68	Chiral π -exchange at fourth order and peripheral NN scattering. <i>Physical Review C</i> , 2002, 66, .	1.1	151
69	Microscopic nuclear structure based upon a chiral NN potential. <i>Physical Review C</i> , 2002, 66, .	1.1	24
70	Chiral NN model and A puzzle. <i>Physical Review C</i> , 2002, 65, .	1.1	34
71	Accurate nucleon-nucleon potential based upon chiral perturbation theory. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2002, 524, 93-98.	1.5	192
72	CHIRAL SYMMETRY AND THE NUCLEON-NUCLEON INTERACTION: DEVELOPING AN ACCURATE NN POTENTIAL BASED UPON CHIRAL EFFECTIVE FIELD THEORY. , 2002, , .		1

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73	The nucleon-nucleon interaction. Journal of Physics G: Nuclear and Particle Physics, 2001, 27, R69-R108.	1.4	156
74	High-precision, charge-dependent Bonn nucleon-nucleon potential. Physical Review C, 2001, 63, .	1.1	1,489
75	BRUECKNER THEORY OF NUCLEAR MATTER WITH NONNUCLEONIC DEGREES OF FREEDOM AND RELATIVITY. International Journal of Modern Physics B, 2001, 15, 1535-1550.	1.0	4
76	Charge symmetry breaking of the nucleon-nucleon interaction: $\bar{\pi}$ - π mixing versus nucleon mass splitting. Physical Review C, 2001, 63, .	1.1	45
77	Charge Dependence of the $\bar{\pi}$ - π NN Coupling Constant and Charge Dependence of the Nucleon-Nucleon Interaction. Few-Body Systems, 2000, 28, 139-146.	0.7	9
78	BRUECKNER THEORY OF NUCLEAR MATTER WITH NONNUCLEONIC DEGREES OF FREEDOM AND RELATIVITY. , 2000, , .		0
79	The Dirac-Brueckner Approach. International Review of Nuclear Physics, 1999, , 121-169.	1.0	5
80	Nuclear Saturation with In-Medium Meson Exchange Interactions. Physical Review Letters, 1999, 82, 1827-1830.	2.9	24
81	Nuclear forces and nuclear structure. , 1999, , .		1
82	Comment Triton Binding Energy and Minimal Relativity. Few-Body Systems, 1998, 24, 87-90.	0.7	8
83	Charge asymmetry of the nucleon-nucleon interaction. Physical Review C, 1998, 58, 1393-1402.	1.1	23
84	Charge dependence of the nucleon-nucleon interaction. Physical Review C, 1998, 58, 3153-3162.	1.1	27
85	Weak capture of protons by protons. Physical Review C, 1998, 58, 1263-1277.	1.1	106
86	Skyrme-model $\bar{\pi}$ - π NN form factor and nucleon-nucleon interaction. Physical Review C, 1997, 55, 1088-1095.	1.1	13
87	Modern nucleon-nucleon potentials and symmetry energy in infinite matter. Nuclear Physics A, 1997, 627, 85-100.	0.6	75
88	Nonlocal nature of the nuclear force and its impact on nuclear structure. Physical Review C, 1996, 53, R1483-R1487.	1.1	535
89	$\bar{\pi}$ - π NN coupling constants from NN elastic data between 210 and 800 MeV. Physical Review C, 1995, 52, 1203-1211.	1.1	25
90	Strength of the $\bar{\pi}$ -meson coupling to nucleons. Physical Review C, 1994, 50, 1731-1734.	1.1	57

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91	Comment on "Neutron-proton spin-correlation parameter at 68 MeV". Physical Review Letters, 1994, 72, 2664-2664.	2.9	6
92	Nucleon-nucleon potentials in comparison: Physics or polemics?. Physics Reports, 1994, 242, 5-35.	10.3	41
93	Microscopic calculation of in-medium proton-proton cross sections. Physical Review C, 1994, 49, 566-569.	1.1	172
94	Self-consistent relativistic calculation of nucleon mean free path. Physical Review C, 1993, 48, 1062-1068.	1.1	16
95	Effect of charge dependence of the nucleon-nucleon interaction on the properties of nuclear and neutron matter. Physical Review C, 1993, 47, 888-890.	1.1	0
96	Momentum-dependent mean field based upon the Dirac-Brueckner approach for nuclear matter. Physical Review C, 1993, 48, 2707-2713.	1.1	10
97	Relativistic ring-diagram nuclear matter calculations. Physical Review C, 1993, 47, 2661-2665.	1.1	2
98	Microscopic calculation of in-medium nucleon-nucleon cross sections. Physical Review C, 1993, 48, 1702-1712.	1.1	213
99	Dirac effects in the Hartree-Fock description of finite nuclei employing realistic forces. Physical Review Letters, 1993, 71, 46-49.	2.9	49
100	Relativistic microscopic description of proton-nucleus scattering at intermediate energies. Physical Review C, 1993, 48, 2443-2450.	1.1	11
101	Relativistic corrections to the triton binding energy. Physical Review C, 1992, 46, 1636-1641.	1.1	17
102	Properties of dense nuclear and neutron matter with relativistic nucleon-nucleon interactions. Physical Review C, 1992, 45, 2782-2794.	1.1	102
103	Bonn potential and sd-shell nuclei. Physical Review C, 1992, 46, 910-922.	1.1	38
104	Meson exchange potentials and the problem of saturation in finite nuclei. Nuclear Physics A, 1991, 530, 14-26.	0.6	29
105	Role of single-particle spectrum in the ring-diagram approach for nuclear matter. Physical Review C, 1991, 43, 1469-1472.	1.1	4
106	Recent determinations of the NN coupling constant and deuteron properties. Physical Review Letters, 1991, 66, 564-567.	2.9	30
107	Parametrization of the relativistic effective interaction in nuclear matter. Nuclear Physics A, 1990, 515, 715-735.	0.6	27
108	Uncertainties in the two-nucleon potential and nuclear matter predictions. Physical Review C, 1990, 41, 2346-2352.	1.1	7

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109	Relativistic nuclear structure. II. Finite nuclei. Physical Review C, 1990, 42, 1981-1988.	1.1	59
110	Relativistic nuclear structure. I. Nuclear matter. Physical Review C, 1990, 42, 1965-1980.	1.1	511
111	The Meson Theory of Nuclear Forces and Nuclear Structure. , 1989, , 189-376.		1,093
112	Charge form factors and root mean square radii of ^3He and ^3H with the new Bonn potential. Physical Review C, 1988, 38, 2366-2376.	1.1	14
113	Meson retardation and the triton binding energy. Physical Review C, 1988, 38, 1397-1402.	1.1	8
114	Neutron-proton scattering observables at 325 MeV, the μ_1 parameter, and the tensor force. Physical Review C, 1988, 37, 1549-1553.	1.1	12
115	Nuclear charge symmetry breaking and the ^3H \sim ^3He binding energy difference. Physical Review C, 1988, 37, 781-785.	1.1	35
116	Extension of the Bonn meson exchange NN potential above pion production threshold: Role of the delta isobar. Physical Review C, 1988, 38, 1828-1842.	1.1	38
117	Essential mechanisms in the triton binding. Physical Review C, 1988, 37, 1245-1252.	1.1	37
118	Extension of the Bonn meson exchange NN potential above pion production threshold: Nucleon renormalization and unitarity. Physical Review C, 1988, 37, 1647-1655.	1.1	33
119	The Bonn meson-exchange model for the nucleon-nucleon interaction. Physics Reports, 1987, 149, 1-89.	10.3	2,228
120	Charge dependence of the nucleon-nucleon interaction due to pion-mass difference. Physical Review C, 1986, 34, 1181-1186.	1.1	23
121	Effects of pion-fold-pion diagrams in the energy-independent nucleon-nucleon potential. Nuclear Physics A, 1985, 443, 601-627.	0.6	2
122	Hermitian folded-diagram potentials in nucleon-nucleon scattering. Physical Review C, 1985, 32, 1-10.	1.1	4
123	Role of exchange in isobar contributions to the NN interaction. Physical Review C, 1984, 29, 1792-1799.	1.1	10
124	Nuclear saturation in a relativistic Brueckner-Hartree-Fock approach. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1984, 149, 283-287.	1.5	215
125	Current status of the Bonn-potential. European Physical Journal D, 1982, 32, 233-236.	0.4	1
126	The mass of a bound Δ^0 -isobar. Nuclear Physics A, 1982, 375, 334-360.	0.6	32

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127	The ρ , ω and σ meson exchange contribution to the NN interaction. Nuclear Physics A, 1981, 372, 349-376.	0.6	10
128	Isobar contributions to the NN interaction. Physical Review C, 1981, 24, 1143-1151.	1.1	12
129	Noniterative isobar diagrams and their effect in NN scattering. Physical Review C, 1981, 24, 1159-1174.	1.1	9
130	Role of the single-particle potential in nuclear matter calculations including mesonic and isobar degrees of freedom. Nuclear Physics A, 1980, 350, 396-410.	0.6	18
131	Noniterative two- ρ exchange in the nuclear medium. Physical Review C, 1980, 22, 1744-1754.	1.1	5
132	Role of noniterative ρ exchange in NN scattering. Physical Review C, 1979, 19, 948-957.	1.1	11
133	The ρ (1236) probability in the ground state of the nuclear many-body system. Nuclear Physics A, 1979, 322, 369-381.	0.6	26
134	Mesonic and isobar degrees of freedom in the ground state of the nuclear many-body system. Physical Review C, 1978, 18, 2416-2429.	1.1	27
135	Isobar contributions to the two-nucleon interaction derived from noncovariant perturbation theory. Physical Review C, 1978, 18, 870-886.	1.1	40
136	Influence of the ρ resonance on ground-state properties of nuclei. Physical Review C, 1977, 15, 1432-1439.	1.1	8
137	Effect of the ρ (1236) resonance on NN scattering, nuclear matter and neutron matter. Nuclear Physics A, 1977, 280, 429-466.	0.6	81
138	Trinucleon properties with one-boson-exchange potentials. Zeitschrift für Physik A, 1977, 280, 93-97.	1.4	20
139	Meson exchange corrections and properties of nuclear matter and neutron matter. Nuclear Physics A, 1976, 264, 484-492.	0.6	28
140	OBEP and eikonal form factor. Nuclear Physics A, 1976, 256, 497-508.	0.6	21
141	OBEP and eikonal form factor. Nuclear Physics A, 1976, 256, 479-496.	0.6	157
142	Mesonic degrees of freedom and ground-state properties of nuclei. Nuclear Physics A, 1976, 262, 389-399.	0.6	8
143	One-boson-exchange potential and the ground state of ^{16}O . Nuclear Physics A, 1975, 241, 18-28.	0.6	13
144	One-boson-exchange potential and structure of finite nuclei in the local-density approximation. Nuclear Physics A, 1975, 251, 93-104.	0.6	6

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145	An OBE model for the two-nucleon problem based on non-covariant perturbation theory. Nuclear Physics A, 1975, 242, 429-444.	0.6	45
146	Momentum-space OBEP, two-nucleon and nuclear matter data. Nuclear Physics A, 1975, 247, 495-520.	0.6	130
147	One-boson-exchange potential and effective interaction. Nuclear Physics A, 1974, 232, 398-416.	0.6	4
148	Neutron matter with a relativistic one-boson-exchange potential. Nuclear Physics A, 1973, 205, 292-298.	0.6	5