

Daniel Baye

List of Publications by Year in descending order

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143
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81900

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79
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145
all docs

145
docs citations

145
times ranked

2296
citing authors

#	ARTICLE	IF	CITATIONS
1	A compilation of charged-particle induced thermonuclear reaction rates. Nuclear Physics A, 1999, 656, 3-183.	1.5	1,887
2	Generalised meshes for quantum mechanical problems. Journal of Physics A, 1986, 19, 2041-2059.	1.6	338
3	The R -matrix theory. Reports on Progress in Physics, 2010, 73, 036301.	20.1	315
4	Supersymmetry between deep and shallow nucleus-nucleus potentials. Physical Review Letters, 1987, 58, 2738-2741.	7.8	217
5	The Lagrange-mesh method. Physics Reports, 2015, 565, 1-107.	25.6	166
6	Microscopic R-matrix theory in a generator coordinate basis. Nuclear Physics A, 1977, 291, 230-240.	1.5	126
7	Microscopic theory of the ${}^8\text{Be}(\hat{1}\pm, \hat{1}^3){}^{12}\text{C}$ reaction in a three-cluster model. Physical Review C, 1987, 36, 54-59.	2.9	109
8	Regularization of singularities in Lagrange-mesh calculations. Journal of Physics B: Atomic, Molecular and Optical Physics, 1993, 26, 811-826.	1.5	102
9	Lagrange-mesh method for quantum-mechanical problems. Physica Status Solidi (B): Basic Research, 2006, 243, 1095-1109.	1.5	97
10	The unexplained accuracy of the Lagrange-mesh method. Physical Review E, 2002, 65, 026701.	2.1	96
11	Three-body systems with Lagrange-mesh techniques in hyperspherical coordinates. Physical Review C, 2003, 67, .	2.9	95
12	Nonperturbative time-dependent approach to breakup of halo nuclei. Physical Review C, 1999, 59, 3232-3239.	2.9	86
13	Time-dependent analysis of the breakup of ${}^{\text{Be}11}\text{on}{}^{\text{C}12}\text{at}67\text{MeV}\hat{a}^{\wedge}\text{nucleon}$. Physical Review C, 2004, 70, .	2.9	85
14	Electromagnetic transitions and radiative capture in the generator-coordinate method. Nuclear Physics A, 1983, 407, 77-97.	1.5	79
15	Three-body continuum states on a Lagrange mesh. Nuclear Physics A, 2006, 765, 370-389.	1.5	79
16	Probing the weakly-bound neutron orbit of ${}^{\text{Ne}}$ with total reaction and one-neutron removal cross sections. Physical Review C, 2010, 81, .	2.9	77
17	Collisions of Halo Nuclei within a Dynamical Eikonal Approximation. Physical Review Letters, 2005, 95, 082502.	7.8	75
18	Constant-step Lagrange meshes for central potentials. Journal of Physics B: Atomic, Molecular and Optical Physics, 1995, 28, 4399-4412.	1.5	69

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19	Coupled-channel R-matrix method on a Lagrange mesh. Nuclear Physics A, 1998, 640, 37-51.	1.5	64
20	Time-dependent analysis of the breakup of halo nuclei. Physical Review C, 2003, 68, .	2.9	63
21	Dynamical eikonal approximation in breakup reactions of Be11. Physical Review C, 2006, 73, .	2.9	62
22	Phase-equivalent potentials from supersymmetry. Journal of Physics A, 1987, 20, 5529-5540.	1.6	59
23	Lagrange-mesh calculations of three-body atoms and molecules. Journal of Physics B: Atomic, Molecular and Optical Physics, 1999, 32, 5605-5617.	1.5	58
24	Experimental determination of the Be+p scattering lengths. Nuclear Physics A, 2003, 716, 211-229.	1.5	56
25	Influence of low-energy scattering on loosely bound states. Physical Review C, 2010, 81, .	2.9	55
26	Solving the resonating-group equation on a Lagrange mesh. Nuclear Physics A, 2002, 709, 184-200.	1.5	53
27	Matter densities of ^8B and ^8Li in a microscopic cluster model and the proton-halo problem of ^8B . Nuclear Physics A, 1994, 577, 624-640.	1.5	52
28	Zero-energy determination of the astrophysical S factor and effective-range expansions. Physical Review C, 2000, 61, .	2.9	51
29	Semirelativistic Lagrange mesh calculations. Physical Review E, 2001, 64, 016703.	2.1	50
30	Four-body calculation of ^6He breakup with the Coulomb-corrected eikonal method. Physical Review C, 2009, 79, .	2.9	47
31	Analysis of the R-matrix method on Lagrange meshes. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 3439-3454.	1.5	46
32	Coulomb-corrected eikonal description of the breakup of halo nuclei. Physical Review C, 2008, 78, .	2.9	46
33	Confined hydrogen atom by the Lagrange-mesh method: Energies, mean radii, and dynamic polarizabilities. Physical Review E, 2008, 78, 026701.	2.1	46
34	Microscopic study of elastic $^{12}\text{C}+^{16}\text{O}$ scattering. Nuclear Physics A, 1977, 283, 176-188.	1.5	43
35	Lagrange-mesh calculations of excited states of three-body atoms and molecules. Journal of Physics B: Atomic, Molecular and Optical Physics, 2001, 34, 1425-1442.	1.5	43
36	Local versus nonlocal $\hat{V} \pm \hat{W}$ interactions in a $3\hat{V} \pm$ description of ^{12}C . Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2008, 659, 160-164.	4.1	43

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37	Force Manifestations in ^6Li Study of the $^6\text{Li} \rightarrow \alpha + d$ reaction. Nuclear Physics A, 1974, 233, 304-316.	7.8	43
38	Microscopic R-Matrix theory in a generator coordinate basis. Nuclear Physics A, 1974, 233, 304-316.	1.5	40
39	Lagrange meshes from nonclassical orthogonal polynomials. Physical Review E, 1999, 59, 7195-7199.	2.1	40
40	Lagrange-mesh calculations of halo nuclei. Nuclear Physics A, 1997, 627, 305-323.	1.5	39
41	Hydrogen molecular ion in an aligned strong magnetic field by the Lagrange-mesh method. Journal of Physics B: Atomic, Molecular and Optical Physics, 2006, 39, 2605-2618.	1.5	37
42	A theoretical study of fast proton-atomic hydrogen scattering. Journal of Physics B: Atomic and Molecular Physics, 1973, 6, 105-113.	1.6	36
43	Microscopic description of nucleus-nucleus bremsstrahlung. Nuclear Physics A, 1985, 443, 302-320.	1.5	35
44	^{15}C Charge Symmetry and the $^{14}\text{N}(\alpha, n)^{15}\text{C}$ Reaction Puzzle. Physical Review Letters, 2006, 96, 162501.	7.8	33
45	Three-body breakup of ^7Li with the eikonal method. Physical Review C, 2012, 85, .	2.9	33
46	Most General Form of Phase-Equivalent Radial Potentials for Arbitrary Modifications of the Bound Spectrum. Physical Review Letters, 1994, 73, 2789-2792.	7.8	32
47	Four-Nucleon Scattering with a Correlated Gaussian Basis Method. Few-Body Systems, 2012, 52, 97-123.	1.5	32
48	$^{16}\text{O}(\alpha, n)^{19}\text{F}$ reaction in a multiconfiguration microscopic model. Physical Review C, 1987, 36, 1249-1255.	2.9	31
49	Behavior of the $^7\text{Be}(p, n)^8\text{B}$ astrophysical S-factor near zero energy. Physical Review C, 2000, 62, .	2.9	31
50	CDCC calculations with the Lagrange-mesh technique. Nuclear Physics A, 2010, 845, 88-105.	1.5	31
51	Microscopic theory of ^2H -decay towards unbound states. Nuclear Physics A, 1988, 481, 445-457.	1.5	30
52	Iterative supersymmetric construction of phase-equivalent potentials. Physical Review A, 1992, 46, 206-216.	2.5	30
53	Analysis of the ^6He decay into the $^4\text{He} + d$ continuum within a three-body model. Physical Review C, 2006, 73, .	2.9	30
54	Analysis of Coulomb breakup experiments of ^8B with a dynamical eikonal approximation. Physical Review C, 2007, 76, .	2.9	30

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55	Lagrange-mesh calculation of a three-body model for 6He . Nuclear Physics A, 1994, 573, 431-447.	1.5	29
56	Lagrange-mesh calculations of the ground-state rotational bands of the H_2^+ and D_2^+ molecular ions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 139-154.	1.5	28
57	Three-body model of light nuclei with microscopic nonlocal interactions. Physical Review C, 2007, 76, .	2.9	28
58	Evidence for Halo in Quenching of 6He \rightarrow α and Deuteron. Progress of Theoretical Physics, 1994, 91, 271-286.	2.0	27
59	Comparative variational studies of 0^+ states in three- \hat{h} models. Nuclear Physics A, 2003, 723, 365-374.	1.5	27
60	Microscopic cluster model of ^6Li . Nuclear Physics A, 2003, 723, 365-374.	1.5	27
61	Isospin-forbidden electric dipole capture and the ^6Li reaction. Journal of Physics G: Nuclear and Particle Physics, 2018, 45, 085102.	3.6	27
62	Comparison of local, semi-microscopic, and microscopic three-cluster models. Physical Review C, 2006, 74, .	2.9	26
63	Probing scattering wave functions with nucleus-nucleus bremsstrahlung. Nuclear Physics A, 1992, 550, 250-262.	1.5	25
64	Double-folding interaction for $^6\text{He} + ^6\text{Li}$ scattering. Physical Review C, 1996, 54, 2563-2569.	2.9	25
65	Microscopic calculation of ^{17}Ne and ^{17}N properties in a three-cluster generator-coordinate method. Nuclear Physics A, 1996, 600, 1-19.	1.5	25
66	Scattering length and effective range for collisions between light ions within a microscopic model. Nuclear Physics A, 2007, 791, 68-83.	1.5	25
67	Microscopic shell-model and cluster-model calculations of the ^6Li and vertex constants. Nuclear Physics A, 1997, 620, 29-45.	1.5	24
68	Inverse scattering with supersymmetric quantum mechanics. Journal of Physics A, 2004, 37, 10223-10249.	1.6	24
69	Faddeev calculation of ^3H and ^3He systems using ^3H resonating-group method kernels. Physical Review C, 2004, 70, .	2.9	24
70	Coupling-in-the-continuum effects in Coulomb dissociation of halo nuclei. Physical Review C, 2005, 71, .	2.9	24
71	Simple and accurate calculations on a Lagrange mesh of the hydrogen atom in a magnetic field. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 055005.	1.5	24
72	Quadrupole transitions in the bound rotational-vibrational spectrum of the hydrogen molecular ion. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 065101.	1.5	24

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73	Time-dependent analysis of the Coulomb breakup method for determining the astrophysical S factor. <i>Physical Review C</i> , 2001, 64, .	2.9	23
74	\hat{I}^2 delayed emission of a proton by a one-neutron halo nucleus. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2011, 696, 464-467.	4.1	23
75	Accurate treatment of coulomb contribution in nucleus-nucleus bremsstrahlung. <i>Nuclear Physics A</i> , 1991, 529, 467-484.	1.5	21
76	Helium atoms in a strong magnetic field studied with the Lagrange-mesh method. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2004, 37, 3937-3946.	1.5	21
77	Breakup Reaction Models for Two- and Three-Cluster Projectiles. <i>Lecture Notes in Physics</i> , 2012, , 121-163.	0.7	20
78	Higher-order multipolarities in the $^{16}\text{O}(p, \hat{I}^3)^{17}\text{F}$ and $^7\text{Be}(p, \hat{I}^3)^8\text{B}$ reactions. <i>Physical Review C</i> , 1999, 60, .	2.9	19
79	Sixth-order factorization of the evolution operator for time-dependent potentials. <i>Physical Review E</i> , 2004, 70, 056703.	2.1	19
80	Non-aligned hydrogen molecular ion in strong magnetic fields. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2009, 42, 225102.	1.5	19
81	Fourth-order factorization of the evolution operator for time-dependent potentials. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2003, 317, 337-342.	2.1	18
82	Accurate solution of the Dirac equation on Lagrange meshes. <i>Physical Review E</i> , 2014, 89, 043305.	2.1	18
83	Exact nonrelativistic polarizabilities of the hydrogen atom with the Lagrange-mesh method. <i>Physical Review A</i> , 2012, 86, .	2.5	16
84	Dipole transitions in the bound rotational-vibrational spectrum of the heteronuclear molecular ion HD^+ . $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:msup} \langle \text{mml:mrow} / \rangle \langle \text{mml:mo} \rangle + \langle \text{mml:mo} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:math} \rangle$. <i>Physical Review A</i> , 2013, 88, .	2.5	16
85	Relativistic polarizabilities with the Lagrange-mesh method. <i>Physical Review A</i> , 2014, 90, .	2.5	16
86	A theoretical study of fast electron-atomic hydrogen scattering. <i>Journal of Physics B: Atomic and Molecular Physics</i> , 1974, 7, 928-937.	1.6	15
87	Microscopic investigation of electric dipole transitions in the $\hat{I}^\pm + ^{16}\text{O}$ system. <i>Nuclear Physics A</i> , 1986, 459, 374-386.	1.5	15
88	Equivalence of the Siegert-pseudostate and Lagrange-mesh R-matrix methods. <i>Physical Review A</i> , 2002, 65, .	2.5	15
89	Multichannel coupling with supersymmetric quantum mechanics and exactly-solvable model for the Feshbach resonance. <i>Journal of Physics A</i> , 2006, 39, L639-L645.	1.6	14
90	Resolution of the Gross-Pitaevskii equation with the imaginary-time method on a Lagrange mesh. <i>Physical Review E</i> , 2010, 82, 056701.	2.1	14

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91	Electromagnetic transitions between $^{12}\text{C} + ^{12}\text{C}$ molecular resonances. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1986, 169, 143-147.	4.1	13
92	Cross section expansion for direct neutron radiative capture. <i>Physical Review C</i> , 2004, 70, .	2.9	13
93	Confined helium on Lagrange meshes. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 31417-31426.	2.8	13
94	Lagrange mesh calculation of the effective range expansion. <i>Physical Review C</i> , 2000, 63, .	2.9	12
95	Siegert approach within a microscopic description of nucleus-nucleus bremsstrahlung. <i>Physical Review C</i> , 2013, 88, .	2.9	12
96	Supersymmetric elimination of forbidden states in the Coulomb breakup of the ^{11}Be halo nucleus. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2003, 552, 145-148.	4.1	11
97	Electromagnetic transitions of the hydrogen atom in a magnetic field by the Lagrange-mesh method. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2008, 41, 185002.	1.5	11
98	Tests of the discretized-continuum method in three-body dipole strengths. <i>Nuclear Physics A</i> , 2011, 865, 43-56.	1.5	11
99	Extension of the Siegert theorem for photon emission. <i>Physical Review C</i> , 2012, 86, .	2.9	11
100	Supersymmetry in a three-body model of halo nuclei. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1999, 455, 1-6.	4.1	10
101	Influence of the halo upon angular distributions for elastic scattering and breakup. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2010, 693, 448-451.	4.1	10
102	Structure changes along the lowest rotational band of the antiprotonic helium atom. <i>Physical Review A</i> , 2019, 99, .	2.5	10
103	Relativistic two-photon decay rates with the Lagrange-mesh method. <i>Physical Review A</i> , 2016, 93, .	2.5	9
104	Hyperspherical Harmonics Expansion on Lagrange Meshes for Bosonic Systems in One Dimension. <i>Few-Body Systems</i> , 2017, 58, 1.	1.5	9
105	Static and dynamic polarizabilities of the non-relativistic hydrogen molecular ion. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2012, 45, 235101.	1.5	8
106	Asymptotics of three-body bound state radial wave functions of halo nuclei. <i>Nuclear Physics A</i> , 2002, 705, 335-351.	1.5	7
107	Three-body models of the $^6\text{Li}^+\text{He}$ and $^9\text{Li}^+\text{Be}$ hypernuclei with non-local interactions. <i>Nuclear Physics A</i> , 2005, 753, 233-248.	1.5	7
108	Breakup reaction models for exotic nuclei. <i>European Physical Journal: Special Topics</i> , 2008, 156, 93-122.	2.6	7

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109	Solving a coupled-channels scattering problem by adding confining potentials. Nuclear Physics A, 2010, 838, 20-37.	1.5	7
110	Integrals of Lagrange functions and sum rules. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 395204.	2.1	7
111	Few-body models for nuclear astrophysics. AIP Advances, 2014, 4, .	1.3	7
112	Comparison of potential models of nucleus-nucleus bremsstrahlung. Physical Review C, 2014, 90, .	2.9	7
113	Relativistic semiempirical-core-potential calculations in Ca+,Sr+ , and Ba+ ions on Lagrange meshes. Physical Review A, 2018, 97, .	2.5	7
114	Three-body Coulomb description of pionic helium. Physical Review A, 2021, 103, .	2.5	7
115	Parametrization of low-energy cross sections for nonresonant neutron capture. Physical Review C, 2009, 80, .	2.9	6
116	Analyzing supersymmetric transformed \hat{H}_{\pm} -nucleus potentials with electric-multipole transitions. Nuclear Physics A, 2018, 977, 82-100.	1.5	6
117	Gamma-delayed deuteron emission of the halo state. Nuclear Physics A, 2007, 793, 52-66.	1.5	5
118	Microscopic description of $\hat{H}_{\pm} + \hat{H}_{\pm}$ bremsstrahlung from a realistic nucleon-nucleon interaction. Journal of Physics: Conference Series, 2013, 436, 012030.	0.4	5
119	Generator-coordinate study of $^3\text{He}+^3\text{He}$ elastic scattering with a spin-orbit interaction. Journal of Physics G: Nuclear Physics, 1981, 7, 1073-1084.	0.8	4
120	PROBING THE WEAKLY-BOUND NEUTRON ORBIT OF ^{31}Ne WITH ONE-NEUTRON REMOVAL REACTIONS. Modern Physics Letters A, 2010, 25, 1882-1885.	1.2	4
121	Jost function method on a Lagrange mesh. Progress of Theoretical and Experimental Physics, 2013, 2013, 123A02-123A02.	6.6	4
122	Unique decay process: \hat{H}^2 -delayed emission of a proton and a neutron by theLi11halo nucleus. Physical Review C, 2010, 82, .	2.9	3
123	Helium atom under pressure. EPJ Web of Conferences, 2016, 113, 08004.	0.3	3
124	Updated three-body model of ^6He decay into the ^2He continuum. Physical Review C, 2018, 97, .	2.9	3
125	Quasibound states of an antiproton and a hydrogen atom. Physical Review A, 2020, 101, .	2.5	3
126	APPLICATION OF THE R-MATRIX METHOD TO CDCC CALCULATIONS. Modern Physics Letters A, 2010, 25, 1745-1749.	1.2	2

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127	Calculable R -matrix method for the Dirac equation. Physical Review A, 2015, 92, .	2.5	2
128	Confinement of hydrogen atom with Dirac equation. International Journal of Quantum Chemistry, 2019, 119, e26034.	2.0	2
129	Time-dependent analysis of the Coulomb breakup of weakly-bound nuclei. Nuclear Physics A, 2003, 722, C328-C334.	1.5	1
130	BREAKUP OF HALO NUCLEI WITHIN A DYNAMICAL EIKONAL APPROXIMATION. International Journal of Modern Physics E, 2008, 17, 2315-2319.	1.0	1
131	THREE AND FOUR-BODY BREAKUP REACTIONS. International Journal of Modern Physics E, 2008, 17, 2301-2309.	1.0	1
132	POLALMM: A program to compute polarizabilities for nominal one-electron systems using the Lagrange-mesh method. Computer Physics Communications, 2020, 256, 107452.	7.5	1
133	Simplified dynamical eikonal approximation. Physical Review C, 2020, 101, .	2.9	1
134	Three-cluster models for light nuclei. Journal of Physics: Conference Series, 2008, 111, 012046.	0.4	0
135	^{17}F breakup reactions: A touchstone for indirect measurements. Journal of Physics: Conference Series, 2011, 312, 042022.	0.4	0
136	^{17}F BREAKUP REACTIONS: A TOUCHSTONE FOR INDIRECT MEASUREMENTS. International Journal of Modern Physics E, 2011, 20, 831-834.	1.0	0
137	ON THE CLUSTER-MODEL DESCRIPTION OF COLLISIONS. International Journal of Modern Physics E, 2011, 20, 769-774.	1.0	0
138	Quadrupole Transitions in the Bound Rotational-Vibrational Spectrum of the Hydrogen Molecular Ion. Few-Body Systems, 2013, 54, 1533-1536.	1.5	0
139	Near-Far Description of Elastic and Breakup Reactions of Halo Nuclei. Journal of Physics: Conference Series, 2013, 420, 012069.	0.4	0
140	Breakup of ^{11}Li in a three-cluster model. Journal of Physics: Conference Series, 2013, 436, 012045.	0.4	0
141	Microscopic cluster model of ^{11}Li bremsstrahlung following a Siegert approach. Journal of Physics: Conference Series, 2014, 569, 012074.	0.4	0
142	Astrophysical S-Factor of the Direct $^6\text{Li}(\alpha, n)^9\text{Be}$ Capture Reaction in a Three-Body Model. Springer Proceedings in Physics, 2020, , 119-123.	0.2	0
143	Electromagnetic Transitions in the Spectrum of a Confined Hydrogen Atom. Few-Body Systems, 2022, 63, 1.	1.5	0