Daniel Baye

List of Publications by Year
in descending order

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143 papers	6,729 citations	81900 39 h-index	64796 79 g-index
145 all docs	145 docs citations	145 times ranked	2296 citing authors

#	Article	IF	Citations
1	Electromagnetic Transitions in the Spectrum of a Confined Hydrogen Atom. Few-Body Systems, 2022, 63, 1.	1.5	0
2	Three-body Coulomb description of pionic helium. Physical Review A, 2021, 103, .	2.5	7
3	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
4	Simplified dynamical eikonal approximation. Physical Review C, 2020, 101, .	2.9	1
5	Quasibound states of an antiproton and a hydrogen atom. Physical Review A, 2020, 101, .	2.5	3
6	Astrophysical S-Factor of the Direct $$alpha (d,gamma)^6$$Li Capture Reaction in a Three-Body Model. Springer Proceedings in Physics, 2020, , 119-123.	0.2	0
7	Confinement of hydrogen atom with Dirac equation. International Journal of Quantum Chemistry, 2019, 119, e26034.	2.0	2
8	Structure changes along the lowest rotational band of the antiprotonic helium atom. Physical Review A, 2019, 99, .	2.5	10
9	Relativistic semiempirical-core-potential calculations in Ca+,Sr+ , and Ba+ ions on Lagrange meshes. Physical Review A, 2018, 97, .	2.5	7
10	Updated three-body model of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>He</mml:mi><mml:mprescripts /><mml:none /><mml:mn>6</mml:mn></mml:mmultiscripts><mml:mspace width="4.pt" /><mml:mi>Î²</mml:mi></mml:math> decay into the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î±</mml:mi><mml:mo>+</mml:mo><mml:mi>d</mml:mi> continuum. Physical Review C, 2018, 97, .	2.9	3
11	Isospin-forbidden electric dipole capture and the Î±(d, Î³)⁶Li reaction. Journal of Physics G: Nuclear and Particle Physics, 2018, 45, 085102.	3.6	27
12	Analyzing supersymmetric transformed Î±-nucleus potentials with electric-multipole transitions. Nuclear Physics A, 2018, 977, 82-100.	1.5	6
13	Hyperspherical Harmonics Expansion on Lagrange Meshes for Bosonic Systems in One Dimension. Few-Body Systems, 2017, 58, 1.	1.5	9
14	Helium atom under pressure. EPJ Web of Conferences, 2016, 113, 08004.	0.3	3
15	Relativistic two-photon decay rates with the Lagrange-mesh method. Physical Review A, 2016, 93, .	2.5	9
16	Calculable<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>R</mml:mi></mml:math>-matrix method for the Dirac equation. Physical Review A, 2015, 92, .	2.5	2
17	Confined helium on Lagrange meshes. Physical Chemistry Chemical Physics, 2015, 17, 31417-31426.	2.8	13
18	The Lagrange-mesh method. Physics Reports, 2015, 565, 1-107.	25.6	166

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19	Microscopic cluster model ofÎ±+Î±bremsstrahlung following a Siegert approach. Journal of Physics: Conference Series, 2014, 569, 012074.	0.4	0
20	Few-body models for nuclear astrophysics. AIP Advances, 2014, 4, .	1.3	7
21	Relativistic polarizabilities with the Lagrange-mesh method. Physical Review A, 2014, 90, .	2.5	16
22	Comparison of potential models of nucleus-nucleus bremsstrahlung. Physical Review C, 2014, 90, .	2.9	7
23	Accurate solution of the Dirac equation on Lagrange meshes. Physical Review E, 2014, 89, 043305.	2.1	18
24	Quadrupole Transitions in the Bound Rotational-Vibrational Spectrum of the Hydrogen Molecular Ion. Few-Body Systems, 2013, 54, 1533-1536.	1.5	0
25	Near-Far Description of Elastic and Breakup Reactions of Halo Nuclei. Journal of Physics: Conference Series, 2013, 420, 012069.	0.4	0
26	Siegert approach within a microscopic description of nucleus-nucleus bremsstrahlung. Physical Review C, 2013, 88, .	2.9	12
27	Jost function method on a Lagrange mesh. Progress of Theoretical and Experimental Physics, 2013, 2013, 123A02-123A02.	6.6	4
28	Dipole transitions in the bound rotational-vibrational spectrum of the heteronuclear molecular ion HD<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mo>+</mml:mo></mml:msup></mml:math>. Physical Review A, 2013, 88, .	2.5	16
29	Breakup of 11Li in a three-cluster model. Journal of Physics: Conference Series, 2013, 436, 012045.	0.4	0
30	Microscopic description of Î± + Î± bremsstrahlung from a realistic nucleon-nucleon interaction. Journal of Physics: Conference Series, 2013, 436, 012030.	0.4	5
31	Quadrupole transitions in the bound rotationalâ€“vibrational spectrum of the hydrogen molecular ion. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 065101.	1.5	24
32	Three-body breakup of11Li with the eikonal method. Physical Review C, 2012, 85, .	2.9	33
33	Extension of the Siegert theorem for photon emission. Physical Review C, 2012, 86, .	2.9	11
34	Exact nonrelativistic polarizabilities of the hydrogen atom with the Lagrange-mesh method. Physical Review A, 2012, 86, .	2.5	16
35	Static and dynamic polarizabilities of the non-relativistic hydrogen molecular ion. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 235101.	1.5	8
36	Four-Nucleon Scattering with a Correlated Gaussian Basis Method. Few-Body Systems, 2012, 52, 97-123.	1.5	32

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37	Breakup Reaction Models for Two- and Three-Cluster Projectiles. Lecture Notes in Physics, 2012, , 121-163.	0.7	20
38	Tensor Force Manifestations inAbÂInitioStudy of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">H</mml:mi><mml:mprescripts /><mml:none /><mml:mn>2</mml:mn></mml:mmultiscripts><mml:mo stretchy="false">(</mml:mo><mml:mi>d</mml:mi><mml:mo>,</mml:mo><mml:mi>Î³</mml:mi><mml:mo) Tj ETQq0 0 0 rgBT /Overlock /><mml:non	7.8	43
39	17F breakup reactions: A touchstone for indirect measurements. Journal of Physics: Conference Series, 2011, 312, 042022.	0.4	0
40	Tests of the discretized-continuum method in three-body dipole strengths. Nuclear Physics A, 2011, 865, 43-56.	1.5	11
41	Î² delayed emission of a proton by a one-neutron halo nucleus. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2011, 696, 464-467.	4.1	23
42	Microscopic cluster model of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î±</mml:mi><mml:mo>+</mml:mo><mml:mi>n</mml:mi></mml:mrow></mml:math>,<mml:ma xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î±</mml:mi><mml:mo>+</mml:mo><mml:mi>p</mml:mi></mml:mrow></mml:math>,<mml:ma xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î±</mml:mi></mml:mrow></mml:math><mml:math xmlns:mml="ht	2.9	27
43	Integrals of Lagrange functions and sum rules. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 395204.	2.1	7
44	¹⁷F BREAKUP REACTIONS: A TOUCHSTONE FOR INDIRECT MEASUREMENTS. International Journal of Modern Physics E, 2011, 20, 831-834.	1.0	0
45	ON THE CLUSTER-MODEL DESCRIPTION OF COLLISIONS. International Journal of Modern Physics E, 2011, 20, 769-774.	1.0	0
46	TheR-matrix theory. Reports on Progress in Physics, 2010, 73, 036301.	20.1	315
47	Influence of the halo upon angular distributions for elastic scattering and breakup. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2010, 693, 448-451.	4.1	10
48	Solving a coupled-channels scattering problem by adding confining potentials. Nuclear Physics A, 2010, 838, 20-37.	1.5	7
49	CDCC calculations with the Lagrange-mesh technique. Nuclear Physics A, 2010, 845, 88-105.	1.5	31
50	Unique decay process:Î²-delayed emission of a proton and a neutron by theLi11halo nucleus. Physical Review C, 2010, 82, .	2.9	3
51	Probing the weakly-bound neutron orbit of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">Ne</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>31</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>with total reaction and one-neutron removal cross sections. Physical Review C, 2010, 81, .	2.9	77
52	Influence of low-energy scattering on loosely bound states. Physical Review C, 2010, 81, .	2.9	55
53	PROBING THE WEAKLY-BOUND NEUTRON ORBIT OF ³¹Ne WITH ONE-NEUTRON REMOVAL REACTIONS. Modern Physics Letters A, 2010, 25, 1882-1885.	1.2	4
54	APPLICATION OF THE R-MATRIX METHOD TO CDCC CALCULATIONS. Modern Physics Letters A, 2010, 25, 1745-1749.	1.2	2

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55	Resolution of the Gross-Pitaevskii equation with the imaginary-time method on a Lagrange mesh. Physical Review E, 2010, 82, 056701.	2.1	14
56	Parametrization of low-energy cross sections for nonresonant neutron capture. Physical Review C, 2009, 80, .	2.9	6
57	Non-aligned hydrogen molecular ion in strong magnetic fields. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 225102.	1.5	19
58	Four-body calculation ofHe6breakup with the Coulomb-corrected eikonal method. Physical Review C, 2009, 79, .	2.9	47
59	Local versus nonlocal Î±Î± interactions in a 3Î± description of 12C. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2008, 659, 160-164.	4.1	43
60	Breakup reaction models for exotic nuclei. European Physical Journal: Special Topics, 2008, 156, 93-122.	2.6	7
61	BREAKUP OF HALO NUCLEI WITHIN A DYNAMICAL EIKONAL APPROXIMATION. International Journal of Modern Physics E, 2008, 17, 2315-2319.	1.0	1
62	THREE AND FOUR-BODY BREAKUP REACTIONS. International Journal of Modern Physics E, 2008, 17, 2301-2309.	1.0	1
63	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
64	Electromagnetic transitions of the hydrogen atom in a magnetic field by the Lagrange-mesh method. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 185002.	1.5	11
65	Coulomb-corrected eikonal description of the breakup of halo nuclei. Physical Review C, 2008, 78, .	2.9	46
66	Confined hydrogen atom by the Lagrange-mesh method: Energies, mean radii, and dynamic polarizabilities. Physical Review E, 2008, 78, 026701.	2.1	46
67	Three-cluster models for light nuclei. Journal of Physics: Conference Series, 2008, 111, 012046.	0.4	0
68	Three-body model of light nuclei with microscopic nonlocal interactions. Physical Review C, 2007, 76, .	2.9	28
69	Analysis of Coulomb breakup experiments ofB8with a dynamical eikonal approximation. Physical Review C, 2007, 76, .	2.9	30
70	Scattering length and effective range for collisions between light ions within a microscopic model. Nuclear Physics A, 2007, 791, 68-83.	1.5	25
71	Gamma-delayed deuteron emission of the halo state. Nuclear Physics A, 2007, 793, 52-66.	1.5	5
72	Dynamical eikonal approximation in breakup reactions ofBe11. Physical Review C, 2006, 73, .	2.9	62

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73	Multichannel coupling with supersymmetric quantum mechanics and exactly-solvable model for the Feshbach resonance. Journal of Physics A, 2006, 39, L639-L645.	1.6	14
74	Lagrange-mesh method for quantum-mechanical problems. Physica Status Solidi (B): Basic Research, 2006, 243, 1095-1109.	1.5	97
75	Three-body continuum states on a Lagrange mesh. Nuclear Physics A, 2006, 765, 370-389.	1.5	79
76	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
77	Analysis of theHe6Î² decay into theÎ±+dcontinuum within a three-body model. Physical Review C, 2006, 73, .	2.9	30
78	C15â^'F15Charge Symmetry and theC14(n,Î³)C15Reaction Puzzle. Physical Review Letters, 2006, 96, 162501.	7.8	33
79	Comparison of local, semi-microscopic, and microscopic three-cluster models. Physical Review C, 2006, 74, .	2.9	26
80	Three-body models of the 6Î›Î›He and 9Î›Be hypernuclei with non-local interactions. Nuclear Physics A, 2005, 753, 233-248.	1.5	7
81	Coupling-in-the-continuum effects in Coulomb dissociation of halo nuclei. Physical Review C, 2005, 71, .	2.9	24
82	Collisions of Halo Nuclei within a Dynamical Eikonal Approximation. Physical Review Letters, 2005, 95, 082502.	7.8	75
83	Inverse scattering with supersymmetric quantum mechanics. Journal of Physics A, 2004, 37, 10223-10249.	1.6	24
84	Sixth-order factorization of the evolution operator for time-dependent potentials. Physical Review E, 2004, 70, 056703.	2.1	19
85	Faddeev calculation of3Î±andÎ±Î±Î›systems usingÎ±Î±resonating-group method kernels. Physical Review C, 2004, 70, .	2.9	24
86	Cross section expansion for direct neutron radiative capture. Physical Review C, 2004, 70, .	2.9	13
87	Helium atoms in a strong magnetic field studied with the Lagrange-mesh method. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, 3937-3946.	1.5	21
88	Time-dependent analysis of the breakup ofBe11onC12at67MeVâ^•nucleon. Physical Review C, 2004, 70, .	2.9	85
89	Fourth-order factorization of the evolution operator for time-dependent potentials. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 317, 337-342.	2.1	18
90	Experimental determination of the Be+p scattering lengths. Nuclear Physics A, 2003, 716, 211-229.	1.5	56

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91	Comparative variational studies of 0+ states in three-Î± models. Nuclear Physics A, 2003, 723, 365-374.	1.5	27
92	Time-dependent analysis of the Coulomb breakup of weakly-bound nuclei. Nuclear Physics A, 2003, 722, C328-C334.	1.5	1
93	Supersymmetric elimination of forbidden states in the Coulomb breakup of the 11Be halo nucleus. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2003, 552, 145-148.	4.1	11
94	Time-dependent analysis of the breakup of halo nuclei. Physical Review C, 2003, 68, .	2.9	63
95	Three-body systems with Lagrange-mesh techniques in hyperspherical coordinates. Physical Review C, 2003, 67, .	2.9	95
96	Lagrange-mesh calculations of the ground-state rotational bands of the H2Âand D2Âmolecular ions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 139-154.	1.5	28
97	The unexplained accuracy of the Lagrange-mesh method. Physical Review E, 2002, 65, 026701.	2.1	96
98	Equivalence of the Siegert-pseudostate and Lagrange-meshR-matrix methods. Physical Review A, 2002, 65, .	2.5	15
99	Asymptotics of three-body bound state radial wave functions of halo nuclei. Nuclear Physics A, 2002, 705, 335-351.	1.5	7
100	Solving the resonating-group equation on a Lagrange mesh. Nuclear Physics A, 2002, 709, 184-200.	1.5	53
101	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
102	Time-dependent analysis of the Coulomb breakup method for determining the astrophysicalSfactor. Physical Review C, 2001, 64, .	2.9	23
103	Semirelativistic Lagrange mesh calculations. Physical Review E, 2001, 64, 016703.	2.1	50
104	Zero-energy determination of the astrophysicalSfactor and effective-range expansions. Physical Review C, 2000, 61, .	2.9	51
105	Behavior of the7Be(p,Î³)8BastrophysicalSfactor near zero energy. Physical Review C, 2000, 62, .	2.9	31
106	Lagrange mesh calculation of the effective range expansion. Physical Review C, 2000, 63, .	2.9	12
107	Lagrange meshes from nonclassical orthogonal polynomials. Physical Review E, 1999, 59, 7195-7199.	2.1	40
108	Nonperturbative time-dependent approach to breakup of halo nuclei. Physical Review C, 1999, 59, 3232-3239.	2.9	86

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109	Higher-order multipolarities in the16O(p,Î³)17Fand7Be(p,Î³)8Breactions. Physical Review C, 1999, 60, .	2.9	19
110	Supersymmetry in a three-body model of halo nuclei. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1999, 455, 1-6.	4.1	10
111	A compilation of charged-particle induced thermonuclear reaction rates. Nuclear Physics A, 1999, 656, 3-183.	1.5	1,887
112	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
113	Coupled-channel R-matrix method on a Lagrange mesh. Nuclear Physics A, 1998, 640, 37-51.	1.5	64
114	Analysis of theR-matrix method on Lagrange meshes. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 3439-3454.	1.5	46
115	Lagrange-mesh calculations of halo nuclei. Nuclear Physics A, 1997, 627, 305-323.	1.5	39
116	Microscopic shell-model and cluster-model calculations of the and vertex constants. Nuclear Physics A, 1997, 620, 29-45.	1.5	24
117	Double-folding interaction forHe6+ Î± scattering. Physical Review C, 1996, 54, 2563-2569.	2.9	25
118	Microscopic calculation of 17Ne and 17N properties in a three-cluster generator-coordinate method. Nuclear Physics A, 1996, 600, 1-19.	1.5	25
119	Constant-step Lagrange meshes for central potentials. Journal of Physics B: Atomic, Molecular and Optical Physics, 1995, 28, 4399-4412.	1.5	69
120	Evidence for Halo in Quenching of 6He Â Decay into Â and Deuteron. Progress of Theoretical Physics, 1994, 91, 271-286.	2.0	27
121	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
122	Lagrange-mesh calculation of a three-body model for 6He. Nuclear Physics A, 1994, 573, 431-447.	1.5	29
123	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
124	Regularization of singularities in Lagrange-mesh calculations. Journal of Physics B: Atomic, Molecular and Optical Physics, 1993, 26, 811-826.	1.5	102
125	Iterative supersymmetric construction of phase-equivalent potentials. Physical Review A, 1992, 46, 206-216.	2.5	30
126	Probing scattering wave functions with nucleus-nucleus bremsstrahlung. Nuclear Physics A, 1992, 550, 250-262.	1.5	25

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127	Accurate treatment of coulomb contribution in nucleus-nuclues bremsstrahlung. Nuclear Physics A, 1991, 529, 467-484.	1.5	21
128	Microscopic theory of Î²-decay towards unbound states. Nuclear Physics A, 1988, 481, 445-457.	1.5	30
129	Phase-equivalent potentials from supersymmetry. Journal of Physics A, 1987, 20, 5529-5540.	1.6	59
130	C(Î±12,Î³)16O reaction in a multiconfiguration microscopic model. Physical Review C, 1987, 36, 1249-1255.	2.9	31
131	Supersymmetry between deep and shallow nucleus-nucleus potentials. Physical Review Letters, 1987, 58, 2738-2741.	7.8	217
132	Microscopic theory of theBe8(Î±,Î³)12C reaction in a three-cluster model. Physical Review C, 1987, 36, 54-59.	2.9	109
133	Generalised meshes for quantum mechanical problems. Journal of Physics A, 1986, 19, 2041-2059.	1.6	338
134	Microscopic investigation of electric dipole transitions in the Î± + 16O system. Nuclear Physics A, 1986, 459, 374-386.	1.5	15
135	Electromagnetic transitions between 12C + 12C molecular resonances. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1986, 169, 143-147.	4.1	13
136	Microscopic description of nucleus-nucleus bremsstrahlung. Nuclear Physics A, 1985, 443, 302-320.	1.5	35
137	Electromagnetic transitions and radiative capture in the generator-coordinate method. Nuclear Physics A, 1983, 407, 77-97.	1.5	79
138	Generator-coordinate study of3He+3He elastic scattering with a spin-orbit interaction. Journal of Physics G: Nuclear Physics, 1981, 7, 1073-1084.	0.8	4
139	Microscopic R-matrix theory in a generator coordinate basis. Nuclear Physics A, 1977, 291, 230-240.	1.5	126
140	Microscopic study of elastic 12C+16O scattering. Nuclear Physics A, 1977, 283, 176-188.	1.5	43
141	Microscopic R-Matrix theory in a generator coordinate basis. Nuclear Physics A, 1974, 233, 304-316.	1.5	40
142	A theoretical study of fast electron-atomic hydrogen scattering. Journal of Physics B: Atomic and Molecular Physics, 1974, 7, 928-937.	1.6	15
143	A theoretical study of fast proton-atomic hydrogen scattering. Journal of Physics B: Atomic and Molecular Physics, 1973, 6, 105-113.	1.6	36