

Nimrod Moiseyev

List of Publications by Year in descending order

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131
papers

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citations

117625

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69250

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133
all docs

133
docs citations

133
times ranked

3841
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum theory of resonances: calculating energies, widths and cross-sections by complex scaling. Physics Reports, 1998, 302, 212-293.	25.6	882
2	Visualization of Branch Points in $\langle P \rangle$ T-Symmetric Waveguides. Physical Review Letters, 2008, 101, 080402.	7.8	793
3	Dynamically encircling an exceptional point for asymmetric mode switching. Nature, 2016, 537, 76-79.	27.8	684
4	Selection Rules for the High Harmonic Generation Spectra. Physical Review Letters, 1998, 80, 3743-3746.	7.8	233
5	The solution of the time-dependent Schrödinger equation by the (t, t^*) method: Theory, computational algorithm and applications. Journal of Chemical Physics, 1993, 99, 4590-4596.	3.0	220
6	Autoionizing states of H_2 and H_2^+ using the complex-scaling method. Physical Review A, 1979, 20, 814-817.	2.5	174
7	On the observability and asymmetry of adiabatic state flips generated by exceptional points. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 435302.	2.1	170
8	Interatomic Coulombic Decay in van der Waals Clusters and Impact of Nuclear Motion. Physical Review Letters, 2000, 85, 4490-4493.	7.8	156
9	Light Stops at Exceptional Points. Physical Review Letters, 2018, 120, 013901.	7.8	138
10	Derivations of universal exact complex absorption potentials by the generalized complex coordinate method. Journal of Physics B: Atomic, Molecular and Optical Physics, 1998, 31, 1431-1441.	1.5	132
11	Entanglement and Spin Squeezing in Non-Hermitian Phase Transitions. Physical Review Letters, 2014, 113, 250401.	7.8	116
12	Association of resonance states with the incomplete spectrum of finite complex-scaled Hamiltonian matrices. Physical Review A, 1980, 22, 618-624.	2.5	101
13	Cusps, \hat{I} trajectories, and the complex virial theorem. Journal of Chemical Physics, 1981, 74, 4739-4740.	3.0	99
14	Directly probing anisotropy in atom-molecule collisions through quantum scattering resonances. Nature Physics, 2017, 13, 35-38.	16.7	99
15	Time-asymmetric quantum-state-exchange mechanism. Physical Review A, 2013, 88, .	2.5	93
16	High Harmonic Generation of Soft X-Rays by Carbon Nanotubes. Physical Review Letters, 2000, 85, 5218-5221.	7.8	75
17	Trapping of an Electron due to Molecular Vibrations. Physical Review Letters, 2000, 84, 1681-1684.	7.8	70
18	Ionization and high-order harmonic generation in aligned benzene by a short intense circularly polarized laser pulse. Physical Review A, 2003, 68, .	2.5	65

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19	High-order harmonic generation by molecules of discrete rotational symmetry interacting with circularly polarized laser field. <i>Physical Review A</i> , 2001, 64, .	2.5	64
20	Fingerprints of the nodal structure of autoionizing vibrational wave functions in clusters: Interatomic Coulombic decay in Ne dimer. <i>Journal of Chemical Physics</i> , 2001, 114, 7351-7360.	3.0	64
21	Adiabatic theorem for non-Hermitian time-dependent open systems. <i>Physical Review A</i> , 2005, 72, .	2.5	64
22	Suppression of Feshbach Resonance Widths in Two-Dimensional Waveguides and Quantum Dots: A Lower Bound for the Number of Bound States in the Continuum. <i>Physical Review Letters</i> , 2009, 102, 167404.	7.8	64
23	Tunneling rates in bound systems using smooth exterior complex scaling within the framework of the finite basis set approximation. <i>Journal of Chemical Physics</i> , 1990, 93, 3413-3419.	3.0	60
24	Breakdown of adiabatic transfer of light in waveguides in the presence of absorption. <i>Physical Review A</i> , 2013, 88, .	2.5	52
25	Resonance states by the generalized complex variational method. <i>Molecular Physics</i> , 1982, 47, 585-598.	1.7	50
26	Partial widths obtained by the complex resonance-scattering theory. <i>Physical Review A</i> , 1990, 42, 255-260.	2.5	45
27	Scattering from a waveguide by cycling a non-Hermitian degeneracy. <i>Physical Review A</i> , 2012, 85, .	2.5	41
28	Resonance solutions of the nonlinear Schrödinger equation: Tunneling lifetime and fragmentation of trapped condensates. <i>Physical Review A</i> , 2005, 72, .	2.5	40
29	Transition state resonances by complex scaling: A three-dimensional study of ClHCl. <i>Journal of Chemical Physics</i> , 1995, 103, 8468-8476.	3.0	39
30	Resonances, Cross Sections, and Partial Widths by the Complex Coordinate Method. <i>Israel Journal of Chemistry</i> , 1991, 31, 311-322.	2.3	38
31	Fingerprints of Broad Overlapping Resonances in the H_2 Cross Section. <i>Physical Review Letters</i> , 1998, 81, 2221-2224.	7.8	38
32	Motion of wave packets in regular and chaotic systems. <i>Journal of Chemical Physics</i> , 1983, 79, 5945-5950.	3.0	37
33	Atomic and Molecular Complex Resonances from Real Eigenvalues Using Standard (Hermitian) Electronic Structure Calculations. <i>Journal of Physical Chemistry A</i> , 2016, 120, 3098-3108.	2.5	37
34	The solution of the time-dependent Schrödinger equation by the (t, t^*) method: Multiphoton ionization/dissociation probabilities in different gauges of the electromagnetic potentials. <i>Journal of Chemical Physics</i> , 1994, 100, 7310-7318.	3.0	36
35	Reflection-free complex absorbing potential for electronic structure calculations: Feshbach-type autoionization resonances of molecules. <i>Journal of Chemical Physics</i> , 2007, 127, 034105.	3.0	36
36	Resonance positions and lifetimes for flexible complex absorbing potentials. <i>Physical Review A</i> , 2005, 72, .	2.5	35

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37	Electron relaxation in quantum dots by the interatomic Coulombic decay mechanism. <i>Physical Review B</i> , 2011, 83, .	3.2	35
38	Asymmetric effect of slowly varying chirped laser pulses on the adiabatic state exchange of a molecule. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2012, 45, 051002.	1.5	34
39	Attosecond laser pulse synthesis using bichromatic high-order harmonic generation. <i>Physical Review A</i> , 2006, 74, .	2.5	33
40	High harmonic generation spectra of aligned benzene in circular polarized laser field. <i>Journal of Chemical Physics</i> , 2003, 118, 8726-8738.	3.0	31
41	Fingerprints of exceptional points in the survival probability of resonances in atomic spectra. <i>Physical Review A</i> , 2011, 84, .	2.5	30
42	Criteria of accuracy of resonance eigenvalues. <i>International Journal of Quantum Chemistry</i> , 1980, 17, 1201-1211.	2.0	26
43	Cumulative reaction probability from Siegert eigenvalues: Model studies. <i>Journal of Chemical Physics</i> , 1993, 98, 9618-9623.	3.0	25
44	The absolute position of a resonance peak. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2010, 43, 185205.	1.5	25
45	Polyatomic $\langle i \hat{V} i \rangle$ Complex Potential Energy Surfaces: Illustration of Ultracold Collisions. <i>Journal of Chemical Theory and Computation</i> , 2017, 13, 1682-1690.	5.3	25
46	Spanning the Hilbert space with an even tempered Gaussian basis set. <i>International Journal of Quantum Chemistry</i> , 2009, 109, 2996-3002.	2.0	24
47	Application of the complex rotation method to the study of resonance states of atoms at a corrugated surface. <i>Journal of Chemical Physics</i> , 1987, 86, 1048-1054.	3.0	23
48	Non-Hermitian formulation of interference effect in scattering experiments. <i>Journal of Chemical Physics</i> , 2000, 113, 6088-6095.	3.0	23
49	Crossover phenomena and resonances in quantum systems. <i>Physical Review A</i> , 2001, 64, .	2.5	22
50	A theory of He diffraction and resonance scattering from Cu(115) by the complex coordinate method. <i>Journal of Chemical Physics</i> , 1991, 94, 1636-1642.	3.0	21
51	Diverging Rabi Oscillations in Subwavelength Photonic Lattices. <i>Physical Review Letters</i> , 2011, 106, 073901.	7.8	21
52	Gas/surface complex coordinate scattering theory: HD/Ag(111), HD/Pt(111) rotationally inelastic transition intensities. <i>Journal of Chemical Physics</i> , 1992, 96, 2347-2355.	3.0	20
53	Helium in chirped laser fields as a time-asymmetric atomic switch. <i>Journal of Chemical Physics</i> , 2014, 141, 014307.	3.0	19
54	Molecular resonances by removing complex absorbing potentials via Padé; Application to CO ⁺ and N ₂ ⁺ . <i>Journal of Chemical Physics</i> , 2016, 145, 164111.	3.0	19

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55	On the calculation of resonances by analytic continuation of eigenvalues from the stabilization graph. <i>Journal of Chemical Physics</i> , 2017, 147, 014101.	3.0	19
56	Studies of multi-channel resonances by the complex scaling method. <i>Molecular Physics</i> , 1981, 42, 129-139.	1.7	18
57	Study of predissociation resonances by the complex coordinate method. <i>International Journal of Quantum Chemistry</i> , 1981, 20, 835-842.	2.0	18
58	Gasâ€‘surface scattering cross section by the complex coordinate method. <i>Journal of Chemical Physics</i> , 1991, 94, 6330-6333.	3.0	18
59	The complex coordinate scattering theory and the Kohn variational method: A general formulation and application to long range potentials. <i>Journal of Chemical Physics</i> , 1992, 97, 6443-6450.	3.0	18
60	Crossed-beam experiment:â€‘High-order harmonic generation and dynamical symmetry. <i>Physical Review A</i> , 1999, 60, 2585-2586.	2.5	18
61	Fermi and Coulomb correlations in the 21 S state of the helium isoelectronic sequence. <i>Theoretica Chimica Acta</i> , 1977, 45, 61-67.	0.8	17
62	The solution of the timeâ€‘dependent SchrÃ‘dinger equation by the (t, t^M) method: Complex scaled multiphoton ionization/dissociation resonance wave functions are square integrable. <i>Journal of Chemical Physics</i> , 1994, 101, 9716-9718.	3.0	17
63	Adiabatic theory for anisotropic cold molecule collisions. <i>Journal of Chemical Physics</i> , 2015, 143, 074114.	3.0	17
64	Resonance transition probabilities by the complex Lanczos recursion method. <i>Journal of Chemical Physics</i> , 1988, 89, 6836-6840.	3.0	16
65	Ab initio calculation of harmonic generation spectra of helium using a time-dependent non-Hermitian formalism. <i>Physical Review A</i> , 2006, 74, .	2.5	15
66	Light-induced conical intersection effect enhancing the localization of molecules in optical lattices. <i>Physical Review A</i> , 2015, 92, .	2.5	15
67	Adiabatic Variational Theory for Cold Atomâ€‘Molecule Collisions: Application to a Metastable Helium Atom Colliding with <i>ortho</i> - and <i>para</i> -Hydrogen Molecules. <i>Journal of Physical Chemistry A</i> , 2017, 121, 2194-2198.	2.5	15
68	Highly excited vibrational states by adiabatic vs self-consistentâ€‘field methods. <i>Journal of Chemical Physics</i> , 1987, 86, 2146-2151.	3.0	14
69	Resonance Positions and Widths for Timeâ€‘Periodic Hamiltonians by the Complex Coordinate Method. <i>Israel Journal of Chemistry</i> , 1990, 30, 107-114.	2.3	14
70	Ab initio complex potential energy curves of the He*(1s2p 1P)â€‘Li dimer. <i>Journal of Chemical Physics</i> , 2020, 152, 184303.	3.0	14
71	Linking Scalar Elastodynamics and Non-Hermitian Quantum Mechanics. <i>Physical Review Applied</i> , 2020, 13, .	3.8	14
72	Resonances from the complex dilated Hamiltonians in a dilationâ€‘adapted basis set with a new stabilization parameter. <i>Journal of Chemical Physics</i> , 1986, 84, 3931-3936.	3.0	13

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73	Evaluation of partial widths and branching ratios from resonance wave functions. <i>Physical Review A</i> , 2010, 82, .	2.5	13
74	Conditions for the applicability of the Kramers-Henneberger approximation for atoms in high-frequency strong laser fields. <i>Physical Review A</i> , 2014, 90, .	2.5	13
75	Perturbation theory for quasienergy Floquet solutions in the low-frequency regime of the oscillating electric field. <i>Physical Review A</i> , 2015, 91, .	2.5	13
76	On the Equivalence of Different Methods for Calculating Resonances: From Complex Gaussian Basis Set to Reflection-Free Complex Absorbing Potentials via the Smooth Exterior Scaling Transformation. <i>Journal of Chemical Theory and Computation</i> , 2016, 12, 2542-2552.	5.3	13
77	Quantum Effects in Cold Molecular Collisions from Spatial Polarization of Electronic Wave Function. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 855-863.	4.6	13
78	Laser Control of Resonance Tunneling via an Exceptional Point. <i>Physical Review Letters</i> , 2020, 124, 253202.	7.8	13
79	Transition from Rydberg to giant-dipole-moment states of hydrogen atoms in crossed fields: A suggestion for an experiment. <i>Physical Review A</i> , 1999, 59, 3695-3700.	2.5	12
80	Ab-initio complex molecular potential energy surfaces by the back-rotation transformation method. <i>Chemical Physics Letters</i> , 2012, 524, 84-89.	2.6	12
81	The complex coordinate scattering theory: Broken inversion symmetry of corrugated surfaces in helium diffraction from Cu(115). <i>Journal of Chemical Physics</i> , 1992, 97, 2804-2808.	3.0	11
82	Stability and instability of dipole selection rules for atomic high-order-harmonic-generation spectra in two-beam setups. <i>Physical Review A</i> , 2002, 65, .	2.5	11
83	Dipole and quadrupole forces exerted on atoms in laser fields: The nonperturbative approach. <i>Physical Review A</i> , 2006, 74, .	2.5	11
84	Ab Initio Complex Potential Energy Surfaces From Standard Quantum Chemistry Packages. <i>Advances in Quantum Chemistry</i> , 2017, 74, 321-346.	0.8	11
85	<i>Ab-initio</i> theory of photoionization via resonances. <i>Journal of Chemical Physics</i> , 2019, 150, 204111.	3.0	11
86	Complex quasiprobability for atoms trapped on surfaces: A novel application of the complex coordinate method. <i>Journal of Chemical Physics</i> , 1988, 88, 5864-5870.	3.0	10
87	Quantum mechanical thermal rate constants using flux-flux correlation functions and Pad� analytical continuation procedures. <i>Journal of Chemical Physics</i> , 1993, 98, 8601-8605.	3.0	10
88	Advantages of complex scaling only the most diffuse basis functions in simultaneous description of both resonances and bound states. <i>Molecular Physics</i> , 2015, 113, 3141-3146.	1.7	10
89	Transfer of information through waveguides near an exceptional point. <i>Physical Review A</i> , 2021, 103, .	2.5	10
90	Absorbing boundary conditions by the partial integration exterior scaling method. <i>Journal of Chemical Physics</i> , 1993, 99, 7703-7708.	3.0	9

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91	Classical versus quantum harmonic-generation spectrum of a driven anharmonic oscillator in the high-frequency regime. <i>Physical Review A</i> , 1998, 57, 1345-1354.	2.5	9
92	Complex scaling of abinitiomolecular potential surfaces. <i>Journal of Chemical Physics</i> , 1996, 104, 6192-6195.	3.0	8
93	Simple Closed-Form Expression for Penning Reaction Rate Coefficients for Cold Molecular Collisions by Non-Hermitian Time-Independent Adiabatic Scattering Theory. <i>Journal of Chemical Theory and Computation</i> , 2018, 14, 236-241.	5.3	8
94	Cumulative reaction probability by the complex coordinate scattering theory. <i>Journal of Chemical Physics</i> , 1993, 98, 6327-6331.	3.0	7
95	Cumulative reaction probabilities using Pad \tilde{A} analytical continuation procedures. <i>Journal of Chemical Physics</i> , 1993, 99, 3509-3515.	3.0	7
96	Photoabsorption probability for a system governed by a time-dependent Hamiltonian through the $(t, t\tilde{A}^2)$ formalism. <i>Journal of Chemical Physics</i> , 1997, 106, 6839-6847.	3.0	7
97	Scattering matrix determination by asymptotic analysis of complex scaled resonance wave functions: Model Cl+H ₂ nonadiabatic dynamics. <i>Journal of Chemical Physics</i> , 1999, 111, 7187-7196.	3.0	7
98	Phases and amplitudes of recurrences in autocorrelation function by a simple classical trajectory method. <i>Journal of Chemical Physics</i> , 2001, 115, 10608-10620.	3.0	7
99	Polarization dependence of the propagation constant of leaky guided modes. <i>Physical Review A</i> , 2018, 97, .	2.5	7
100	Quantum Effects Dominating the Interatomic Coulombic Decay of an Extreme System. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 6600-6605.	4.6	7
101	$\langle i A b i \rangle$ Complex Transition Dipoles between Autoionizing Resonance States from Real Stabilization Graphs. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 5601-5609.	4.6	7
102	The Gaussian potential: Bound states in the continuum?. <i>Theoretica Chimica Acta</i> , 1976, 41, 321-328.	0.8	6
103	Selective quasienergies from short time cross-correlation probability amplitudes by the filter-diagonalization method. <i>Physical Review E</i> , 1998, 58, 376-381.	2.1	6
104	Non-Hermitian quantum mechanics versus the conventional quantum mechanics: Effect of the relative phasing of bichromatic fields on high-order harmonic generation. <i>Physical Review A</i> , 2004, 69, .	2.5	6
105	The boomerang effect in electron-hydrogen molecule scattering as determined by time-dependent calculations. <i>Journal of Chemical Physics</i> , 2017, 146, 204303.	3.0	6
106	Encircling exceptional points of Bloch waves: mode conversion and anomalous scattering. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 235301.	2.8	6
107	Perturbation analysis of gas-surface diffractive selective adsorption resonance states. <i>Molecular Physics</i> , 1989, 66, 465-478.	1.7	5
108	The complex coordinate scattering theory and its application to the study of the surface asymmetry effect in helium diffraction from copper. <i>International Journal of Quantum Chemistry</i> , 1993, 46, 343-363.	2.0	5

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109	Chemistry in high-frequency strong laser fields: the story of HeS molecule. <i>Molecular Physics</i> , 2013, 111, 1814-1822.	1.7	5
110	Characteristic footprints of an exceptional point in the dynamics of Li dimer under a laser field. <i>Journal of Chemical Physics</i> , 2015, 143, 154308.	3.0	5
111	Localization of multiphoton ionization/dissociation resonance wave functions in AC fields. <i>International Journal of Quantum Chemistry</i> , 1997, 63, 279-285.	2.0	4
112	Dynamical symmetry analysis of ionization and harmonic generation of atoms in bichromatic laser pulses. <i>International Journal of Quantum Chemistry</i> , 2005, 103, 824-840.	2.0	4
113	Feshbach Resonances: The Branching of Quantum Mechanics into Hermitian and Non-Hermitian Formalisms. <i>Journal of Physical Chemistry A</i> , 2009, 113, 7660-7666.	2.5	4
114	Resonance energies, lifetimes and complex energy potential curves from standard wave-packet calculations. <i>Molecular Physics</i> , 2012, 110, 537-546.	1.7	4
115	Forces on nuclei moving on autoionizing molecular potential energy surfaces. <i>Journal of Chemical Physics</i> , 2017, 146, 024101.	3.0	4
116	Adiabatic perturbation theory for atoms and molecules in the low-frequency regime. <i>Journal of Chemical Physics</i> , 2017, 147, 224101.	3.0	4
117	Evidence of Nonrigidity Effects in the Description of Low-Energy Anisotropic Molecular Collisions of Hydrogen Molecules with Excited Metastable Helium Atoms. <i>Journal of Chemical Theory and Computation</i> , 2020, 16, 2450-2459.	5.3	4
118	Uniform vs Partial Scaling within Resonances via Pad $\hat{\circ}$ Based on the Similarities to Other Non-Hermitian Methods: Illustration for the Beryllium $1s^2 2p^3$ State. <i>Journal of Chemical Theory and Computation</i> , 2021, 17, 3435-3444.	5.3	4
119	On the "New possibility of chemical bonding" Anti-resonance phenomena. <i>Chemical Physics Letters</i> , 1984, 106, 354-355.	2.6	3
120	Exceptional points in the Riesz-Feller Hamiltonian with an impenetrable rectangular potential. <i>Physical Review A</i> , 2018, 98, .	2.5	3
121	Enhanced Coupling of Electron and Nuclear Spins by Quantum Tunneling Resonances. <i>Physical Review Letters</i> , 2022, 128, 013401.	7.8	3
122	Distinguishing between aligned and randomly oriented polar molecules by using a combination of strong laser field with a weak static field. <i>Molecular Physics</i> , 2012, 110, 1721-1728.	1.7	2
123	Quantum uncertainties and Heisenberg-like uncertainty relations for a weak measurement scheme involving two arbitrary noncommuting observables. <i>Physical Review A</i> , 2018, 97, .	2.5	2
124	Complex absorbing potentials for stark resonances. <i>International Journal of Quantum Chemistry</i> , 2020, 120, e26067.	2.0	2
125	Complex energies and transition dipoles for shape-type resonances of uracil anion from stabilization curves via Pad $\hat{\circ}$. <i>Journal of Chemical Physics</i> , 2022, 156, .	3.0	2
126	The RVP Method "From Real Ab-Initio Calculations to Complex Energies and Transition Dipoles. <i>Frontiers in Physics</i> , 0, 10, .	2.1	2

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127	The effect of large autoionization decay rates (resonance widths) on cold molecular cross-sections and the reflection phenomenon. <i>Chemical Physics</i> , 2018, 515, 88-93.	1.9	1
128	Foreword by the Guest Editor of this Issue. <i>Israel Journal of Chemistry</i> , 1991, 31, 273-273.	2.3	0
129	The Resonance Phenomena Associated with the Time Asymmetry in Non-Hermitian Quantum Mechanics. <i>International Journal of Theoretical Physics</i> , 2003, 42, 2131-2143.	1.2	0
130	On the collapse and restoration of condensates in dimensions in the mean-field approximation. <i>Israel Journal of Chemistry</i> , 2003, 43, 267-277.	2.3	0
131	Variational Solutions for Resonances by a Finite-Difference Grid Method. <i>Molecules</i> , 2021, 26, 5248.	3.8	0