Nimrod Moiseyev

List of Publications by Year
in descending order

131 papers	7,315 citations	117571 34 h-index	69214 77 g-index
133 all docs	133 docs citations	133 times ranked	3841 citing authors

#	Article	IF	Citations
1	Enhanced Coupling of Electron and Nuclear Spins by Quantum Tunneling Resonances. Physical Review Letters, 2022, 128, 013401.	2.9	3
2	Encircling exceptional points of Bloch waves: mode conversion and anomalous scattering. Journal Physics D: Applied Physics, 2022, 55, 235301.	1.3	6
3	Complex energies and transition dipoles for shape-type resonances of uracil anion from stabilization curves via PadÃ©. Journal of Chemical Physics, 2022, 156, .	1.2	2
4	Transfer of information through waveguides near an exceptional point. Physical Review A, 2021, 103, .	1.0	10
5	Uniform vs Partial Scaling within Resonances via PadÃ© Based on the Similarities to Other Non-Hermitian Methods: Illustration for the Beryllium 1s²2p3s State. Journal of Chemical Theory and Computation, 2021, 17, 3435-3444.	2.3	4
6	Variational Solutions for Resonances by a Finite-Difference Grid Method. Molecules, 2021, 26, 5248.	1.7	0
7	Complex absorbing potentials for stark resonances. International Journal of Quantum Chemistry, 2020, 120, e26067.	1.0	2
8	Quantum Effects Dominating the Interatomic Coulombic Decay of an Extreme System. Journal of Physical Chemistry Letters, 2020, 11, 6600-6605.	2.1	7
9	Ab initio complex potential energy curves of the He*(1s2p 1P)â€“Li dimer. Journal of Chemical Physics, 2020, 152, 184303.	1.2	14
10	Evidence of Nonrigidity Effects in the Description of Low-Energy Anisotropic Molecular Collisions of Hydrogen Molecules with Excited Metastable Helium Atoms. Journal of Chemical Theory and Computation, 2020, 16, 2450-2459.	2.3	4
11	Laser Control of Resonance Tunneling via an Exceptional Point. Physical Review Letters, 2020, 124, 253202.	2.9	13
12	Ab Initio Complex Transition Dipoles between Autoionizing Resonance States from Real Stabilization Graphs. Journal of Physical Chemistry Letters, 2020, 11, 5601-5609.	2.1	7
13	Linking Scalar Elastodynamics and Non-Hermitian Quantum Mechanics. Physical Review Applied, 2020, 13, .	1.5	14
14	Ab-initio theory of photoionization via resonances. Journal of Chemical Physics, 2019, 150, 204111.	1.2	11
15	Quantum Effects in Cold Molecular Collisions from Spatial Polarization of Electronic Wave Function. Journal of Physical Chemistry Letters, 2019, 10, 855-863.	2.1	13
16	Quantum uncertainties and Heisenberg-like uncertainty relations for a weak measurement scheme involving two arbitrary noncommuting observables. Physical Review A, 2018, 97, .	1.0	2
17	Light Stops at Exceptional Points. Physical Review Letters, 2018, 120, 013901.	2.9	138
18	Polarization dependence of the propagation constant of leaky guided modes. Physical Review A, 2018, 97, .	1.0	7

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19	Simple Closed-Form Expression for Penning Reaction Rate Coefficients for Cold Molecular Collisions by Non-Hermitian Time-Independent Adiabatic Scattering Theory. Journal of Chemical Theory and Computation, 2018, 14, 236-241.	2.3	8
20	Exceptional points in the Riesz-Feller Hamiltonian with an impenetrable rectangular potential. Physical Review A, 2018, 98, .	1.0	3
21	The effect of large autoionization decay rates (resonance widths) on cold molecular cross-sections and the reflection phenomenon. Chemical Physics, 2018, 515, 88-93.	0.9	1
22	Forces on nuclei moving on autoionizing molecular potential energy surfaces. Journal of Chemical Physics, 2017, 146, 024101.	1.2	4
23	Ab Initio Complex Potential Energy Surfaces From Standard Quantum Chemistry Packages. Advances in Quantum Chemistry, 2017, 74, 321-346.	0.4	11
24	Adiabatic Variational Theory for Cold Atomâ€“Molecule Collisions: Application to a Metastable Helium Atom Colliding with ortho- and para-Hydrogen Molecules. Journal of Physical Chemistry A, 2017, 121, 2194-2198.	1.1	15
25	Polyatomic ab Initio Complex Potential Energy Surfaces: Illustration of Ultracold Collisions. Journal of Chemical Theory and Computation, 2017, 13, 1682-1690.	2.3	25
26	The boomerang effect in electron-hydrogen molecule scattering as determined by time-dependent calculations. Journal of Chemical Physics, 2017, 146, 204303.	1.2	6
27	On the calculation of resonances by analytic continuation of eigenvalues from the stabilization graph. Journal of Chemical Physics, 2017, 147, 014101.	1.2	19
28	Adiabatic perturbation theory for atoms and molecules in the low-frequency regime. Journal of Chemical Physics, 2017, 147, 224101.	1.2	4
29	Directly probing anisotropy in atomâ€“molecule collisions through quantum scattering resonances. Nature Physics, 2017, 13, 35-38.	6.5	99
30	Molecular resonances by removing complex absorbing potentials via PadÃ©; Application to COâ^' and N2â^'. Journal of Chemical Physics, 2016, 145, 164111.	1.2	19
31	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. Journal of Chemical Theory and Computation, 2016, 12, 2542-2552.	2.3	13
32	Dynamically encircling an exceptional point for asymmetric mode switching. Nature, 2016, 537, 76-79.	13.7	684
33	Atomic and Molecular Complex Resonances from Real Eigenvalues Using Standard (Hermitian) Electronic Structure Calculations. Journal of Physical Chemistry A, 2016, 120, 3098-3108.	1.1	37
34	Light-induced conical intersection effect enhancing the localization of molecules in optical lattices. Physical Review A, 2015, 92, .	1.0	15
35	Characteristic footprints of an exceptional point in the dynamics of Li dimer under a laser field. Journal of Chemical Physics, 2015, 143, 154308.	1.2	5
36	Perturbation theory for quasienergy Floquet solutions in the low-frequency regime of the oscillating electric field. Physical Review A, 2015, 91, .	1.0	13

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37	Advantages of complex scaling only the most diffuse basis functions in simultaneous description of both resonances and bound states. Molecular Physics, 2015, 113, 3141-3146.	0.8	10
38	Adiabatic theory for anisotropic cold molecule collisions. Journal of Chemical Physics, 2015, 143, 074114.	1.2	17
39	Helium in chirped laser fields as a time-asymmetric atomic switch. Journal of Chemical Physics, 2014, 141, 014307.	1.2	19
40	Entanglement and Spin Squeezing in Non-Hermitian Phase Transitions. Physical Review Letters, 2014, 113, 250401.	2.9	116
41	Conditions for the applicability of the Kramers-Henneberger approximation for atoms in high-frequency strong laser fields. Physical Review A, 2014, 90, .	1.0	13
42	Time-asymmetric quantum-state-exchange mechanism. Physical Review A, 2013, 88, .	1.0	93
43	Chemistry in high-frequency strong laser fields: the story of HeS molecule. Molecular Physics, 2013, 111, 1814-1822.	0.8	5
44	Breakdown of adiabatic transfer of light in waveguides in the presence of absorption. Physical Review A, 2013, 88, .	1.0	52
45	Asymmetric effect of slowly varying chirped laser pulses on the adiabatic state exchange of a molecule. Journal of Physics B: Atomic, Molecular and Optical Physics, 2012, 45, 051002.	0.6	34
46	Scattering from a waveguide by cycling a non-Hermitian degeneracy. Physical Review A, 2012, 85, .	1.0	41
47	Distinguishing between aligned and randomly oriented polar molecules by using a combination of strong laser field with a weak static field. Molecular Physics, 2012, 110, 1721-1728.	0.8	2
48	Resonance energies, lifetimes and complex energy potential curves from standard wave-packet calculations. Molecular Physics, 2012, 110, 537-546.	0.8	4
49	Ab-initio complex molecular potential energy surfaces by the back-rotation transformation method. Chemical Physics Letters, 2012, 524, 84-89.	1.2	12
50	On the observability and asymmetry of adiabatic state flips generated by exceptional points. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 435302.	0.7	170
51	Fingerprints of exceptional points in the survival probability of resonances in atomic spectra. Physical Review A, 2011, 84, .	1.0	30
52	Diverging Rabi Oscillations in Subwavelength Photonic Lattices. Physical Review Letters, 2011, 106, 073901.	2.9	21
53	Electron relaxation in quantum dots by the interatomic Coulombic decay mechanism. Physical Review B, 2011, 83, .	1.1	35
54	Evaluation of partial widths and branching ratios from resonance wave functions. Physical Review A, 2010, 82, .	1.0	13

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55	The absolute position of a resonance peak. Journal of Physics B: Atomic, Molecular and Optical Physics, 2010, 43, 185205.	0.6	25
56	Spanning the Hilbert space with an even tempered Gaussian basis set. International Journal of Quantum Chemistry, 2009, 109, 2996-3002.	1.0	24
57	Feshbach Resonances: The Branching of Quantum Mechanics into Hermitian and Non-Hermitian Formalisms. Journal of Physical Chemistry A, 2009, 113, 7660-7666.	1.1	4
58	Suppression of Feshbach Resonance Widths in Two-Dimensional Waveguides and Quantum Dots: A Lower Bound for the Number of Bound States in the Continuum. Physical Review Letters, 2009, 102, 167404.	2.9	64
59	Visualization of Branch Points in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi mathvariant="script">P</mml:mi><mml:mi mathvariant="script">T</mml:mi></mml:math>-Symmetric Waveguides. Physical Review Letters, 2008, 101, 080402.	2.9	793
60	Reflection-free complex absorbing potential for electronic structure calculations: Feshbach-type autoionization resonances of molecules. Journal of Chemical Physics, 2007, 127, 034105.	1.2	36
61	Attosecond laser pulse synthesis using bichromatic high-order harmonic generation. Physical Review A, 2006, 74, .	1.0	33
62	Dipole and quadrupole forces exerted on atoms in laser fields: The nonperturbative approach. Physical Review A, 2006, 74, .	1.0	11
63	Ab initiocalculation of harmonic generation spectra of helium using a time-dependent non-Hermitian formalism. Physical Review A, 2006, 74, .	1.0	15
64	Resonance solutions of the nonlinear SchrÃ¶dinger equation: Tunneling lifetime and fragmentation of trapped condensates. Physical Review A, 2005, 72, .	1.0	40
65	Dynamical symmetry analysis of ionization and harmonic generation of atoms in bichromatic laser pulses. International Journal of Quantum Chemistry, 2005, 103, 824-840.	1.0	4
66	Adiabatic theorem for non-Hermitian time-dependent open systems. Physical Review A, 2005, 72, .	1.0	64
67	Resonance positions and lifetimes for flexible complex absorbing potentials. Physical Review A, 2005, 72, .	1.0	35
68	Non-Hermitian quantum mechanics versus the conventional quantum mechanics: Effect of the relative phasing of bichromatic fields on high-order harmonic generation. Physical Review A, 2004, 69, .	1.0	6
69	The Resonance Phenomena Associated with the Time Asymmetry in Non-Hermitian Quantum Mechanics. International Journal of Theoretical Physics, 2003, 42, 2131-2143.	0.5	0
70	On the collapse and restoration of condensates inndimensions in the mean-field approximation. Israel Journal of Chemistry, 2003, 43, 267-277.	1.0	0
71	High harmonic generation spectra of aligned benzene in circular polarized laser field. Journal of Chemical Physics, 2003, 118, 8726-8738.	1.2	31
72	Ionization and high-order harmonic generation in aligned benzene by a short intense circularly polarized laser pulse. Physical Review A, 2003, 68, .	1.0	65

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73	Stability and instability of dipole selection rules for atomic high-order-harmonic-generation spectra in two-beam setups. Physical Review A, 2002, 65, .	1.0	11
74	High-order harmonic generation by molecules of discrete rotational symmetry interacting with circularly polarized laser field. Physical Review A, 2001, 64, .	1.0	64
75	Phases and amplitudes of recurrences in autocorrelation function by a simple classical trajectory method. Journal of Chemical Physics, 2001, 115, 10608-10620.	1.2	7
76	Crossover phenomena and resonances in quantum systems. Physical Review A, 2001, 64, .	1.0	22
77	Fingerprints of the nodal structure of autoionizing vibrational wave functions in clusters: Interatomic Coulombic decay in Ne dimer. Journal of Chemical Physics, 2001, 114, 7351-7360.	1.2	64
78	Non-Hermitian formulation of interference effect in scattering experiments. Journal of Chemical Physics, 2000, 113, 6088-6095.	1.2	23
79	Interatomic Coulombic Decay in van der Waals Clusters and Impact of Nuclear Motion. Physical Review Letters, 2000, 85, 4490-4493.	2.9	156
80	Trapping of an Electron due to Molecular Vibrations. Physical Review Letters, 2000, 84, 1681-1684.	2.9	70
81	High Harmonic Generation of Soft X-Rays by Carbon Nanotubes. Physical Review Letters, 2000, 85, 5218-5221.	2.9	75
82	Transition from Rydberg to giant-dipole-moment states of hydrogen atoms in crossed fields: A suggestion for an experiment. Physical Review A, 1999, 59, 3695-3700.	1.0	12
83	Scattering matrix determination by asymptotic analysis of complex scaled resonance wave functions: Model Cl+H2 nonadiabatic dynamics. Journal of Chemical Physics, 1999, 111, 7187-7196.	1.2	7
84	Crossed-beam experiment:â€ƒHigh-order harmonic generation and dynamical symmetry. Physical Review A, 1999, 60, 2585-2586.	1.0	18
85	Quantum theory of resonances: calculating energies, widths and cross-sections by complex scaling. Physics Reports, 1998, 302, 212-293.	10.3	882
86	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.	0.6	132
87	Selection Rules for the High Harmonic Generation Spectra. Physical Review Letters, 1998, 80, 3743-3746.	2.9	233
88	Classical versus quantum harmonic-generation spectrum of a driven anharmonic oscillator in the high-frequency regime. Physical Review A, 1998, 57, 1345-1354.	1.0	9
89	Fingerprints of Broad Overlapping Resonances in thee+H2Cross Section. Physical Review Letters, 1998, 81, 2221-2224.	2.9	38
90	Selective quasienergies from short time cross-correlation probability amplitudes by the filter-diagonalization method. Physical Review E, 1998, 58, 376-381.	0.8	6

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91	Photoabsorption probability for a system governed by a time-dependent Hamiltonian through the (t,tâ€²) formalism. Journal of Chemical Physics, 1997, 106, 6839-6847.	1.2	7
92	Localization of multiphoton ionization/dissociation resonance wave functions in AC fields. International Journal of Quantum Chemistry, 1997, 63, 279-285.	1.0	4
93	Complex scaling ofabinitiomolecular potential surfaces. Journal of Chemical Physics, 1996, 104, 6192-6195.	1.2	8
94	Transition state resonances by complex scaling: A threeâ€dimensional study of ClHCl. Journal of Chemical Physics, 1995, 103, 8468-8476.	1.2	39
95	The solution of the timeâ€dependent SchrÃ¶dinger equation by the (t,tâ€™) method: Complex scaled multiphoton ionization/dissociation resonance wave functions are square integrable. Journal of Chemical Physics, 1994, 101, 9716-9718.	1.2	17
96	The solution of the timeâ€dependent SchrÃ¶dinger equation by the (t,tâ€™) method: Multiphoton ionization/dissociation probabilities in different gauges of the electromagnetic potentials. Journal of Chemical Physics, 1994, 100, 7310-7318.	1.2	36
97	The complex coordinate scattering theroy and its application to the study of the surface asymmetry effect in helium diffraction from copper. International Journal of Quantum Chemistry, 1993, 46, 343-363.	1.0	5
98	Cumulative reaction probability from Siegert eigenvalues: Model studies. Journal of Chemical Physics, 1993, 98, 9618-9623.	1.2	25
99	The solution of the timeâ€dependent SchrÃ¶dinger equation by the (t,tâ€™) method: Theory, computational algorithm and applications. Journal of Chemical Physics, 1993, 99, 4590-4596.	1.2	220
100	Absorbing boundary conditions by the partial integration exterior scaling method. Journal of Chemical Physics, 1993, 99, 7703-7708.	1.2	9
101	Cumulative reaction probability by the complex coordinate scattering theory. Journal of Chemical Physics, 1993, 98, 6327-6331.	1.2	7
102	Cumulative reaction probabilities using PadÃ© analytical continuation procedures. Journal of Chemical Physics, 1993, 99, 3509-3515.	1.2	7
103	Quantum mechanical thermal rate constants using fluxâ€“flux correlation functions and PadÃ© analytical continuation procedures. Journal of Chemical Physics, 1993, 98, 8601-8605.	1.2	10
104	Gas/surface complex coordinate scattering theory: HD/Ag(111), HD/Pt(111) rotationally inelastic transition intensities. Journal of Chemical Physics, 1992, 96, 2347-2355.	1.2	20
105	The complex coordinate scattering theory and the Kohn variational method: A general formulation and application to long range potentials. Journal of Chemical Physics, 1992, 97, 6443-6450.	1.2	18
106	The complex coordinate scattering theory: Broken inversion symmetry of corrugated surfaces in helium diffraction from Cu(115). Journal of Chemical Physics, 1992, 97, 2804-2808.	1.2	11
107	Foreword by the Guest Editor of this Issue. Israel Journal of Chemistry, 1991, 31, 273-273.	1.0	0
108	Resonances, Cross Sections, and Partial Widths by the Complex Coordinate Method. Israel Journal of Chemistry, 1991, 31, 311-322.	1.0	38

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109	A theory of He diffraction and resonance scattering from Cu(115) by the complex coordinate method. Journal of Chemical Physics, 1991, 94, 1636-1642.	1.2	21
110	Gasâ€“surface scattering cross section by the complex coordinate method. Journal of Chemical Physics, 1991, 94, 6330-6333.	1.2	18
111	Resonance Positions and Widths for Timeâ€Periodic Hamiltonians by the Complex Coordinate Method. Israel Journal of Chemistry, 1990, 30, 107-114.	1.0	14
112	Partial widths obtained by the complex resonance-scattering theory. Physical Review A, 1990, 42, 255-260.	1.0	45
113	Tunneling rates in bound systems using smooth exterior complex scaling within the framework of the finite basis set approximation. Journal of Chemical Physics, 1990, 93, 3413-3419.	1.2	60
114	Perturbation analysis of gas-surface diffractive selective adsorption resonance states. Molecular Physics, 1989, 66, 465-478.	0.8	5
115	Resonance transition probabilities by the complex Lanczos recursion method. Journal of Chemical Physics, 1988, 89, 6836-6840.	1.2	16
116	Complex quasiprobability for atoms trapped on surfaces: A novel application of the complex coordinate method. Journal of Chemical Physics, 1988, 88, 5864-5870.	1.2	10
117	Highly excited vibrational states by adiabatic vs selfâ€consistentâ€field methods. Journal of Chemical Physics, 1987, 86, 2146-2151.	1.2	14
118	Application of the complex rotation method to the study of resonance states of atoms at a corrugated surface. Journal of Chemical Physics, 1987, 86, 1048-1054.	1.2	23
119	Resonances from the complex dilated Hamiltonians in a dilationâ€adapted basis set with a new stabilization parameter. Journal of Chemical Physics, 1986, 84, 3931-3936.	1.2	13
120	On the â€œNew possibility of chemical bondingâ€• Anti-resonance phenomena. Chemical Physics Letters, 1984, 106, 354-355.	1.2	3
121	Motion of wave packets in regular and chaotic systems. Journal of Chemical Physics, 1983, 79, 5945-5950.	1.2	37
122	Resonance states by the generalized complex variational method. Molecular Physics, 1982, 47, 585-598.	0.8	50
123	Studies of multi-channel resonances by the complex scaling method. Molecular Physics, 1981, 42, 129-139.	0.8	18
124	Study of predissociation resonances by the complex coordinate method. International Journal of Quantum Chemistry, 1981, 20, 835-842.	1.0	18
125	Cusps, Î¸ trajectories, and the complex virial theorem. Journal of Chemical Physics, 1981, 74, 4739-4740.	1.2	99
126	Criteria of accuracy of resonance eigenvalues. International Journal of Quantum Chemistry, 1980, 17, 1201-1211.	1.0	26

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127	Association of resonance states with the incomplete spectrum of finite complex-scaled Hamiltonian matrices. Physical Review A, 1980, 22, 618-624.	1.0	101
128	Autoionizing states ofH2andH2â^'using the complex-scaling method. Physical Review A, 1979, 20, 814-817.	1.0	174
129	Fermi and Coulomb correlations in the 21 S state of the helium isoelectronic sequence. Theoretica Chimica Acta, 1977, 45, 61-67.	0.9	17
130	The Gaussian potential: Bound states in the continuum?. Theoretica Chimica Acta, 1976, 41, 321-328.	0.9	6
131	The RVP Methodâ€"From Real Ab-Initio Calculations to Complex Energies and Transition Dipoles. Frontiers in Physics, 0, 10, .	1.0	2