Alexei A Buchachenko

List of Publications by Year
in descending order

148 papers	2,174 citations	236925 25 h-index	361022 35 g-index
149 all docs	149 docs citations	149 times ranked	954 citing authors

#	Article	IF	Citations
1	Arâ€“I2interactions: The models based on the diatomicsâ€inâ€molecule approach. Journal of Chemical Physics, 1996, 104, 9913-9925.	3.0	88
2	Ar Â·Â·Â· I 2 : A model system for complex dynamics. International Reviews in Physical Chemistry, 2003, 22, 153-202.	2.3	74
3	Complete basis set extrapolation limit for electronic structure calculations: Energetic and nonenergetic properties of HeBr and HeBr[sub 2] van der Waals dimers. Journal of Chemical Physics, 2001, 115, 10438.	3.0	54
4	Collision-induced non-adiabatic transitions between the ion-pair states of molecular iodine: A challenge for experiment and theory. Physical Chemistry Chemical Physics, 2004, 6, 3201.	2.8	53
5	Vibrational predissociation dynamics of the He79Br2van der Waals molecule: A quantum mechanical study. Journal of Chemical Physics, 1996, 105, 7454-7463.	3.0	46
6	Ab initio potential energy and dipole moment surfaces, infrared spectra, and vibrational predissociation dynamics of the 35Clâ¯â‹¯H2/D2 complexes. Journal of Chemical Physics, 2003, 119, 12931-12945.	3.0	46
7	Ultracold polarized mixtures of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msup><mml:mrow /><mml:mn>2</mml:mn></mml:msup><mml:mi>Î£</mml:mi></mml:mrow></mml:math>molecules with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>S</mml:mi></mml:math>-state atoms: Collisional stability and implications for sympathetic cooling. Physical Review A, 2011, 84, .	2.5	41
8	Modeling the H 5 + potential-energy surface: a first attempt. Theoretical Chemistry Accounts, 2001, 106, 426-433.	1.4	40
9	RG+Cl(2P) (RG=He, Ne, Ar) interactions: Ab initio potentials and collision properties. Journal of Chemical Physics, 1998, 109, 2144-2154.	3.0	38
10	Interaction potentials of the RGâ€“I anions, neutrals, and cations (RG=He, Ne, Ar). Journal of Chemical Physics, 2005, 122, 194311.	3.0	38
11	He79Br2 B,v=8â†X,vâ€³=0 excitation spectrum: Ab initio prediction and spectroscopic manifestation of a linear isomer. Journal of Chemical Physics, 2002, 117, 6117-6120.	3.0	37
12	Collision and transport properties of Rg+Cl(2P) and Rg+Clâ¯(1S) (Rg=Ar,â€ŠKr) fromab initiopotentials. Journal of Chemical Physics, 2001, 114, 9919-9928.	3.0	36
13	A combined experimental-theoretical study of the vibrational predissociation and product rotational distributions for high vibrational levels of He79Br2. Journal of Chemical Physics, 1999, 110, 256-266.	3.0	35
14	On the Role of Scattering Resonances in the F + HD Reaction Dynamicsâ€. Journal of Physical Chemistry A, 2007, 111, 12538-12549.	2.5	34
15	Diffuse basis functions for small-core relativistic pseudopotential basis sets and static dipole polarizabilities of selected lanthanides La, Sm, Eu, Tm and Yb. Structural Chemistry, 2007, 18, 769-772.	2.0	33
16	Interactions of lanthanide atoms: Comparative ab initio study of YbHe, Yb 2 and TmHe, TmYb potentials. European Physical Journal D, 2007, 45, 147-153.	1.3	32
17	Ab initio based study of the ArOâ¯ photoelectron spectra: Selectivity of spinâ€“orbit transitions. Journal of Chemical Physics, 2000, 112, 5852-5865.	3.0	31
18	The Al+â€“H2 cation complex: Rotationally resolved infrared spectrum, potential energy surface, and rovibrational calculations. Journal of Chemical Physics, 2007, 127, 164310.	3.0	31

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19	Charge transfer in cold Yb<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>+Rb collisions. Physical Review A, 2013, 87, .	2.5	30
20	Quantum-mechanical study of vibrational relaxation of HF in collisions with Ar atoms. Journal of Chemical Physics, 2001, 114, 1249-1258.	3.0	29
21	ArI2(X)â†'Ar+I2(B) photodissociation: Comparison between linear and T-shaped isomers dynamics. Journal of Chemical Physics, 2001, 115, 6961-6973.	3.0	28
22	The Na+â€“H2 cation complex: Rotationally resolved infrared spectrum, potential energy surface, and rovibrational calculations. Journal of Chemical Physics, 2008, 129, 184306.	3.0	28
23	Vibrational predissociation of NeBr2 (X,â€‰v=1) using anab initiopotential energy surface. Journal of Chemical Physics, 2002, 117, 10019-10025.	3.0	26
24	ArHF vibrational predissociation dynamics using the diatomics-in-molecule potential energy surface. Journal of Chemical Physics, 1999, 111, 2470-2477.	3.0	25
25	Theoretical simulations of the He79Br2â€ŠB, v=8â†Χ, vâ€³=0 excitation spectrum: Spectroscopic manifestation of a linear isomer?. Journal of Chemical Physics, 2000, 113, 4620-4628.	3.0	25
26	Communication: Electric properties of the ThO(Xâ€‰Î£1+) molecule. Journal of Chemical Physics, 2010, 133, 041102.	3.0	25
27	Weakly bound molecules as sensors of new gravitylike forces. Scientific Reports, 2019, 9, 14807.	3.3	25
28	Electronic structure and spin coupling of the manganese dimer: The state of the art of ab initio approach. Journal of Chemical Physics, 2010, 132, 024312.	3.0	24
29	Phase Locking between Different Partial Waves in Atom-Ion Spin-Exchange Collisions. Physical Review Letters, 2018, 121, 173402.	7.8	24
30	Diatomics-in-molecules description of the Rgâ€“Hal2 rare gasâ€“halogen van der Waals complexes with applications to Heâ€“Cl2. Journal of Chemical Physics, 1997, 106, 4575-4588.	3.0	23
31	Collision-induced nonadiabatic transitions in the second-tier ion-pair states of iodine molecule: Experimental and theoretical study of the I2(f0g+) collisions with rare gas atoms. Journal of Chemical Physics, 2005, 122, 204318.	3.0	23
32	van der Waals interactions and dipole polarizabilities of lanthanides: Tm(F2)â€“He and Yb(S1)â€“He potentials. Journal of Chemical Physics, 2006, 124, 114301.	3.0	23
33	Interaction potentials and fragmentation dynamics of the Neâ‹¯Br2complex in the ground and electronically excited states. Journal of the Chemical Society, Faraday Transactions, 1994, 90, 3229-3236.	1.7	21
34	Quantum and semiclassical study of the intramultiplet transitions in collisions of Cl(2P) and O(3P) with He, Ar and Xe. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 4551-4564.	1.5	21
35	Dynamics of O(3Pj)+Rg collisions on ab initio and scattering potentials. Journal of Chemical Physics, 2002, 116, 1457-1467.	3.0	21
36	Mobility of singly-charged lanthanide cations in rare gases: Theoretical assessment of the state specificity. Journal of Chemical Physics, 2014, 140, 114309.	3.0	21

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37	Ab initiozero electron kinetic energy spectroscopy of the ArClâ¯ and KrClâ¯ anions. Journal of Chemical Physics, 2001, 114, 9929-9937.	3.0	20
38	The open-shell interaction of He with the Bâ€Š3Îu(0+) state of Br2: Anab initiostudy and its comparison with a diatomics-in-molecule perturbation model. Journal of Chemical Physics, 2004, 120, 2182-2192.	3.0	20
39	Resonant optical excitation of the I2 ion-pair states through the RgI2 complexes in the valence states correlating to the 2P1/2+2P1/2 limit. Chemical Physics Letters, 2006, 427, 259-264.	2.6	20
40	AbÂinitio dipole polarizabilities and quadrupole moments of the lowest excited states of atomic Yb. European Physical Journal D, 2011, 61, 291-296.	1.3	20
41	Electronic and vibrational predissociation in ArI[sub 2] photodissociation dynamics. Journal of Chemical Physics, 2002, 116, 8367.	3.0	19
42	Beyond-Born-Oppenheimer effects in sub-kHz-precision photoassociation spectroscopy of ytterbium atoms. Physical Review A, 2017, 96, .	2.5	19
43	First-order intermolecular diatomics-in-molecule potentials. Potential energy surfaces, spectra, and fragmentation dynamics of the Neâ¯Cl2 complex. Journal of Chemical Physics, 1997, 106, 10134-10144.	3.0	18
44	Separation ofortho- andpara-Hydrogen in Van der Waals Complex Formation. ChemPhysChem, 2007, 8, 815-818.	2.1	18
45	Cold collisions of heavy <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi mathvariant="normal">Î£</mml:mi><mml:mprescripts /><mml:none /><mml:mn>2</mml:mn></mml:mmultiscripts></mml:math> molecules with alkali-metal atoms in a magnetic field: Ab initio analysis and prospects for sympathetic cooling of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">Cr</mml:mi>	2.5	18
46	Non-adiabatic E â†' D, Dâ€², Î², Î³, Î´ transitions in the first ion-pair tier of molecular iodine induced by collisions with I2, He, Ar, Kr, Xe. Chemical Physics Letters, 2007, 436, 1-6.	2.6	17
47	Spin-Orbit Interactions and Quantum Spin Dynamics in Cold Ion-Atom Collisions. Physical Review Letters, 2016, 117, 143201.	7.8	17
48	Ab initiopotentials for the S(3Pj)â€“rare gas dimers: Implementation for elastic and inelastic collisions and comparison with scattering potentials. Journal of Chemical Physics, 2002, 116, 9269-9280.	3.0	16
49	Ab initio simulations of the KrOâ¯ anion photoelectron spectra. Journal of Chemical Physics, 2002, 117, 2629-2634.	3.0	16
50	Competition between adiabatic and nonadiabatic fragmentation pathways in the unimolecular decay of the ArI2(B) van der Waals complex. Journal of Chemical Physics, 2005, 122, 034303.	3.0	16
51	Interaction potentials for Brâ¯â€“Rg (Rg=Heâ€“Rn): Spectroscopy and transport coefficients. Journal of Chemical Physics, 2006, 125, 064305.	3.0	16
52	Structure and interaction energies of the Arâ€¦Cl2 complex. Application of first-order intermolecular potentials. Chemical Physics Letters, 1996, 261, 591-596.	2.6	15
53	Resonance and reversibility of vibrational relaxation of HF in high temperature Ar bath gas. Journal of Chemical Physics, 2002, 117, 166-171.	3.0	15
54	Isomeric interconversion in the linear Clâ¯-HD anion complex. Journal of Chemical Physics, 2004, 121, 2085-2093.	3.0	15

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55	Ab initio long-range interaction and adiabatic channel capture model for ultracold reactions between the KRb molecules. Journal of Chemical Physics, 2012, 137, 114305.	3.0	15
56	Predissociation of the Rgâ‹¯I2(B)(Rg=Ne,â€ˆAr,â€ˆKr) complexes: simulations based on the first-order diatomics-in-molecule perturbation theory. Chemical Physics Letters, 1998, 292, 273-281.	2.6	14
57	Blueshifts of the Bâ†X excitation spectra of He79Br2 using a DIM-based potential. Chemical Physics Letters, 2000, 318, 578-584.	2.6	14
58	Vibrational predissociation of ArHF: a test of global semiempirical potential energy surfaces. Physical Chemistry Chemical Physics, 2002, 4, 4992-4998.	2.8	14
59	Modeling of the non-adiabatic E0+gâ†'D0+u transitions induced by Ar in molecular iodine: a first attempt. Chemical Physics Letters, 2003, 370, 563-571.	2.6	14
60	Electronic interaction anisotropy between open-shell lanthanide atoms and helium from cold collision experiment. Journal of Chemical Physics, 2005, 123, 101101.	3.0	14
61	Potential energy surface and rovibrational calculations for the ${m Mg}^+$ Mg +â€“${m H}_2$H2 and ${m Mg}^+$ Mg +â€“${m D}_2$D2 complexes. Journal of Chemical Physics, 2011, 134, 044310.	3.0	14
62	Anisotropy of the static dipole polarizability induced by the spinâ€“orbit interaction: the S-state atoms Nâ€“Bi, Cr, Mo and Re. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2011, 467, 1310-1328.	2.1	14
63	Adiabatic channel capture theory applied to cold atomâ€“molecule reactions: Li + CaH $o $ LiH + Ca at 1K. New Journal of Physics, 2015, 17, 035010.	2.9	14
64	Interaction potentials and transport properties of Ba, Ba+, and Ba2+ in rare gases from He to Xe. Journal of Chemical Physics, 2018, 148, 154304.	3.0	14
65	Laser Resonance Chromatography of Superheavy Elements. Physical Review Letters, 2020, 125, 023002.	7.8	14
66	Decoupling approximations for quantum vibrational predissociation dynamics: The tests on the low-level golden rule approaches for some rare gas-Cl2, ICl complexes. Journal of Computational Chemistry, 1996, 17, 919-930.	3.3	13
67	On the role of interaction anisotropy in vibrational relaxation of HF and HCl by Ar. Chemical Physics Letters, 2001, 335, 273-280.	2.6	13
68	Quantum scattering equations for non-adiabatic transitions in collisions between a Hund case (c) diatomic molecule and a structureless atom with application to I2(E0+g) + Ar. Journal of Physics B: Atomic, Molecular and Optical Physics, 2004, 37, 1605-1619.	1.5	13
69	Ab initiostudy of Tm-He interactions and dynamics in a magnetic trap. Physical Review A, 2006, 74, .	2.5	13
70	Heat- and light-induced transformations of Yb trapping sites in an Ar matrix. Journal of Chemical Physics, 2015, 143, 174306.	3.0	13
71	Computational study of the stable atomic trapping sites in Ar lattice. Low Temperature Physics, 2019, 45, 301-309.	0.6	13
72	Oriented dynamics in van der Waals complexes. Journal of Molecular Spectroscopy, 2003, 222, 31-45.	1.2	12

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73	Spin-orbit interaction and large inelastic rates in bismuth-helium collisions. Physical Review A, 2008, 78, .	2.5	12
74	Europium dimer: van der Waals molecule with extremely weak antiferromagnetic spin coupling. Journal of Chemical Physics, 2009, 131, 241102.	3.0	12
75	Ab initiopotential energy surface, infrared spectra, and dynamics of the ion-molecule complexes between Brâ˜ and H2, D2, and HD. Journal of Chemical Physics, 2006, 125, 114313.	3.0	11
76	Suppression of Zeeman relaxation in cold collisions of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mmultiscripts><mml:mi>P</mml:mi><mml:mprescripts /><mml:none /><mml:mn>2</mml:mn></mml:mmultiscripts></mml:mrow><mml:mrow><mml:mn>1</mml:mn><mml:mo>/</mml:mo><mml:mn>2</ Physical Review A, 2009, 80, .	2.5	11
77	Modeling of Manganese Atom and Dimer Isolated in Solid Rare Gases: Structure, Stability, and Effect on Spin Coupling. Journal of Physical Chemistry A, 2017, 121, 2429-2441.	2.5	11
78	The I₂(B) predissociation by solving an inverse atoms-in-molecule problem. Molecular Physics, 2001, 99, 91-101.	1.7	10
79	Ab initio interaction potential of the spin-polarized manganese dimer. Chemical Physics Letters, 2008, 459, 73-76.	2.6	9
80	Interactions between anionic and neutral bromine and rare gas atoms. Journal of Chemical Physics, 2008, 128, 064317.	3.0	9
81	Study of ArO^{â˜} and ArO via Slow Photoelectron Velocity-Map Imaging Spectroscopy and Ab Initio Calculations. Journal of Physical Chemistry A, 2009, 113, 4631-4638.	2.5	9
82	Study of KrO^{â˜} and KrO via Slow Photoelectron Velocity-Map Imaging Spectroscopy and ab Initio Calculations. Journal of Physical Chemistry A, 2009, 113, 14439-14446.	2.5	9
83	Dynamics and mechanism of the non-adiabatic transitions from the ungerade I2(D0+u) state induced by collisions with rare gas atoms. Journal of Chemical Physics, 2010, 133, 244304.	3.0	9
84	Approximate phaseâ€space transport theory for vibrational predissociation. Journal of Chemical Physics, 1993, 98, 5486-5498.	3.0	8
85	Half- and full-collision VT energy transfer in the Heî—¸Br2(B) system. Chemical Physics Letters, 1997, 269, 448-454.	2.6	8
86	Ultracold inelastic atomic collisions: Threshold relaxation of O(^{3}P_{0}) by He. Physical Review A, 2001, 64, .	2.5	8
87	Rotationally resolved infrared spectrum of the Na+-D2 complex: An experimental and theoretical study. Journal of Chemical Physics, 2011, 134, 214302.	3.0	8
88	Interaction of the Beryllium Cation with Molecular Hydrogen and Deuterium. Journal of Physical Chemistry A, 2014, 118, 6711-6720.	2.5	8
89	Stable axially symmetric atomic impurity in an fcc solidâ€”Ba in rare gases. Journal of Chemical Physics, 2019, 151, 121104.	3.0	8
90	Exploiting transport properties for the detection of optical pumping in heavy ions. Physical Review A, 2020, 102, .	2.5	8

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91	Classical vibrational predissociation dynamics: The effects of phase-space bifurcations. Journal of Chemical Physics, 1998, 108, 6282-6290.	3.0	7
92	Interactions in Open-Shell Clusters:Â Ab Initio Study of Pre-reactive Complex O(3P) + HClâ€. Journal of Physical Chemistry A, 2005, 109, 11484-11494.	2.5	7
93	Long-range interaction and the dynamics of nonadiabatic transitions in collisions of the I2(E) molecule with inert gas atoms. Russian Journal of Physical Chemistry A, 2006, 80, 1957-1967.	0.6	7
94	Electronic spectroscopy of ytterbium in a neon matrix. Journal of Chemical Physics, 2012, 137, 204315.	3.0	7
95	Properties of the B+-H2and B+-D2complexes: A theoretical and spectroscopic study. Journal of Chemical Physics, 2012, 137, 124312.	3.0	7
96	Ab Initio Characterization of the Electrostatic Complexes Formed by H₂ Molecule and Cr⁺, Mn⁺, Cu⁺, and Zn⁺ Cations. Journal of Physical Chemistry A, 2016, 120, 5006-5015.	2.5	7
97	Probing Non-Newtonian gravity by photoassociation spectroscopy. Journal of Physics: Conference Series, 2017, 810, 012014.	0.4	7
98	Empirically Modified Potentials of Interaction between Rare Gases for Matrix Isolation Problems. Russian Journal of Physical Chemistry A, 2019, 93, 1505-1512.	0.6	7
99	Mobility of the Singly-Charged Lanthanide and Actinide Cations: Trends and Perspectives. Frontiers in Chemistry, 2020, 8, 438.	3.6	7
100	High-resolution spectroscopy of neutral Yb atoms in a solid Ne matrix. Physical Review A, 2021, 104, .	2.5	7
101	Theoretical study of VRT energy transfer in Ne+I2(B) collisions using a spectroscopic interaction potential. Journal of the Chemical Society, Faraday Transactions, 1998, 94, 2307-2313.	1.7	6
102	Electronic to Vibrational Energy Transfer Assisted by Interacting Transition Dipole Moments:â€‰ A Quantum Model for the Nonadiabatic I₂(E) + CF₄ Collisions. Journal of Physical Chemistry A, 2007, 111, 8959-8967.	2.5	6
103	Dynamics and mechanism of the Eâ†'D, Dâ€², Î², Î³, and Î´ nonadiabatic transitions induced in molecular iodine by collisions with CF4 and SF6 molecules. Journal of Chemical Physics, 2008, 129, 114309.	3.0	6
104	Interaction Potentials, Spectroscopy, and Transport Properties of the Br⁺â^'RG Systems (RG) Tj ETQq0 0 0 rgBT /Overlock 1	2.5	6
105	Interactions and collisions of cold metal atoms in magnetic traps. Physica Scripta, 2009, 80, 048109.	2.5	6
106	Heâ€“ThO(1Î£+) interactions at low temperatures: Elastic and inelastic collisions, transport properties, and complex formation in cold4He gas. Journal of Chemical Physics, 2011, 134, 144301.	3.0	6
107	Ab initio spin-orbit calculations on the lowest states of the nickel dimer. Journal of Chemical Physics, 2012, 136, 214304.	3.0	6
108	Ab initio study of the mobility of Gd+ ions in He and Ar gases. International Journal of Mass Spectrometry, 2019, 443, 86-92.	1.5	6

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109	Trapping sites of Li atom in the rare gas crystals Ar, Kr, and Xe: Analysis of stability and manifestation in the EPR spectra. Low Temperature Physics, 2020, 46, 165-172.	0.6	6
110	Interactions of2P Atoms with Closed-Shell Diatomic Molecules:Â Alternative Diabatic Representations for the Electronic Anisotropyâ€. Journal of Physical Chemistry A, 2006, 110, 5458-5463.	2.5	5
111	Numerical method of quantum capture probability determination for molecular collisions at ultralow temperatures. Moscow University Chemistry Bulletin, 2012, 67, 159-167.	0.6	5
112	Interactions of ThO(X) with He, Ne and Ar from the ab initio coupled cluster and symmetry adapted perturbation theory calculations. Chemical Physics, 2012, 399, 50-58.	1.9	5
113	Polarizabilities, dispersion coefficients, and retardation functions at the complete basis set CCSD limit: From Be to Ba plus Yb. Journal of Chemical Physics, 2019, 151, 214302.	3.0	5
114	Modeling of the thermal migration mechanisms of atomic oxygen in Ar, Kr, and Xe crystals. Journal of Chemical Physics, 2021, 154, 044305.	3.0	5
115	The vibrational predissociation lifetime of the Heâ€¦N+2 (X, Î½ = 1) complex. Chemical Physics Letters, 1994, 220, 93-96.	2.6	4
116	Theoretical prediction of the ArOâ^' anion ZEKE photoelectron spectrum. Chemical Physics Letters, 2001, 347, 415-420.	2.6	4
117	The dynamics of nonadiabatic transitions in collisions between the I2(E) and I2(X) molecules. Russian Journal of Physical Chemistry A, 2007, 81, 58-68.	0.6	4
118	State-interacting spin-orbit configuration interaction method for J-resolved anisotropic static dipole polarizabilities: Application to Al, Ga, In, and Tl atoms. Russian Journal of Physical Chemistry A, 2010, 84, 2325-2333.	0.6	4
119	Closed model of oxygen recombination on an Al2O3 surface. Russian Journal of Physical Chemistry B, 2013, 7, 88-95.	1.3	4
120	Spin-Orbit Suppression of Cold Inelastic Collisions of Aluminum and Helium. Physical Review Letters, 2013, 110, 173202.	7.8	4
121	Ab initio interaction potentials of the Ba, Ba+ complexes with Ar, Kr, and Xe in the lowest excited states. Journal of Chemical Physics, 2019, 150, 064314.	3.0	4
122	Generic accommodations of an atom in the Lennard-Jones fcc and hcp rare-gas solids: A computational study. Physical Review B, 2021, 103, .	3.2	4
123	Theoretical and experimental studies of collision-induced electronic energy transfer from v=â€“3 of the E(g+) ion-pair state of Br2: Collisions with He and Ar. Journal of Chemical Physics, 2008, 128, 184311.	3.0	3
124	Test of the interaction potential energy for Na+â€“H2 by gaseous ion transport data. Journal of Chemical Physics, 2014, 141, 114305.	3.0	3
125	Rate coefficients of the elementary stages of heterogeneous catalytic recombination of dissociated air on thermal-protective coatings. Fluid Dynamics, 2015, 50, 453-462.	0.9	3
126	Triplet emission of atomic ytterbium isolated in a xenon matrix. Low Temperature Physics, 2019, 45, 707-714.	0.6	3

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127	Fragment-localized analysis of the multiconfigurational wavefunctions. Chemical Physics, 1990, 148, 309-314.	1.9	2
128	Modeling of catalytic activity of an Al2O3 surface on the basis of the first principles. Moscow University Mechanics Bulletin, 2013, 68, 8-14.	0.3	2
129	Zeeman relaxation induced by spin-orbit coupling in cold antimony-helium collisions. Physical Review A, 2013, 88, .	2.5	2
130	Accommodation of a dimer in an Ar-like lattice: exploring the generic structural motifs. Physical Chemistry Chemical Physics, 2019, 21, 16549-16563.	2.8	2
131	Approximate treatment of the phase-space bottlenecks for vibrational predissociation. Journal of Physics B: Atomic, Molecular and Optical Physics, 1991, 24, L545-L549.	1.5	1
132	Approximate Quantal Calculations on the Predissociative Lifetimes of the Neâ€¦Hal₂(X,v) (Hal = Cl,Br,I) Van Der Waals Complexes. Spectroscopy Letters, 1992, 25, 189-200.	1.0	1
133	Three-dimensional quantum calculations on the He...Br2 (B) predissociative linewidths. , 1994, 2205, 178.		1
134	Theoretical spectroscopy and dynamics of fragmentation of the He79Br2 complex. , 1997, , .		1
135	Calculations of spectra and dynamics of rare-gas halogen molecule complexes using the semi-empirical potential energy surfaces. , 1997, , .		1
136	Intensities of the photoelectron spectra of weakly bound anions: A complex of an atomic anion with a diatomic molecule. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2006, 100, 530-538.	0.6	1
137	Photoelectron spectroscopy of the Clâ¯â€¦H2âˆ•D2 anions: A model beyond the rotationless and Franckâ€“Condon approximations. Journal of Chemical Physics, 2008, 128, 154317.	3.0	1
138	Electric properties of the Cu+, Ag+ and Au+ cations in the ground 1S and excited 3D, 1D electronic states. European Physical Journal D, 2014, 68, 1.	1.3	1
139	Charge transfer in cold collisions of rubidium atoms with calcium and ytterbium ions. Journal of Physics: Conference Series, 2014, 572, 012009.	0.4	1
140	Trapping and migration of P-state atoms in rare gas solids: effect of angular momentum anisotropy for model O(³P) and C(³P) atoms. Molecular Physics, 2022, 120, .	1.7	1
141	Theoretical models of vibrational predissociation for van der Waals complexes. , 1994, , .		0
142	Application of the non-Hermitean effective Hamiltonian method to metastable van der Waals complexes. , 1997, , .		0
143	Ab-initio-based model for the charge transfer mechanisms in Ar+ + H2O collisions. International Journal of Mass Spectrometry, 2000, 203, 19-29.	1.5	0
144	Weak bonding of the hydrogen molecule by the S-state lanthanide ions Eu+, Yb+ and Lu+ from ab initio calculations. Chemical Physics Letters, 2020, 756, 137812.	2.6	0

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145	Extended combination rule for like-atom dipole dispersion coefficients. Journal of Chemical Physics, 2020, 153, 064110.	3.0	0
146	Molecular dynamics simulations of the Ba+ ion mobility in liquid xenon. Journal of Physics: Conference Series, 2021, 1740, 012033.	0.4	0
147	Calculations of predissociative lifetimes of RG...Hal 2 Van der Waals complexes. , 1992, , .		0
148	Reexamination of the ground-state Born-Oppenheimer Yb2 potential. Physical Review A, 2021, 104, .	2.5	0