

# Alexei A Buchachenko

## List of Publications by Citations

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138  
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24  
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g-index

149  
ext. papers

2,038  
ext. citations

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4.74  
L-index

#	Paper	IF	Citations
138	Ar $\pi$ interactions: The models based on the diatomics-in-molecule approach. <i>Journal of Chemical Physics</i> , <b>1996</b> , 104, 9913-9925	3.9	80
137	Ar $\pi$ 2 : A model system for complex dynamics. <i>International Reviews in Physical Chemistry</i> , <b>2003</b> , 22, 153-202	7	65
136	Collision-induced non-adiabatic transitions between the ion-pair states of molecular iodine: A challenge for experiment and theory. <i>Physical Chemistry Chemical Physics</i> , <b>2004</b> , 6, 3201	3.6	50
135	Complete basis set extrapolation limit for electronic structure calculations: Energetic and nonenergetic properties of HeBr and HeBr <sub>2</sub> van der Waals dimers. <i>Journal of Chemical Physics</i> , <b>2001</b> , 115, 10438	3.9	48
134	Vibrational predissociation dynamics of the He <sup>79</sup> Br <sub>2</sub> van der Waals molecule: A quantum mechanical study. <i>Journal of Chemical Physics</i> , <b>1996</b> , 105, 7454-7463	3.9	44
133	Ab initio potential energy and dipole moment surfaces, infrared spectra, and vibrational predissociation dynamics of the <sup>35</sup> Cl <sup>17</sup> O <sub>2</sub> /D <sub>2</sub> complexes. <i>Journal of Chemical Physics</i> , <b>2003</b> , 119, 12931-12945	3.9	43
132	Modeling the H <sub>5</sub> <sup>+</sup> potential-energy surface: a first attempt. <i>Theoretical Chemistry Accounts</i> , <b>2001</b> , 106, 426-433	1.9	38
131	RG+Cl(2P) (RG=He, Ne, Ar) interactions: Ab initio potentials and collision properties. <i>Journal of Chemical Physics</i> , <b>1998</b> , 109, 2144-2154	3.9	36
130	Ultracold spin-polarized mixtures of $\Sigma$ molecules with S-state atoms: Collisional stability and implications for sympathetic cooling. <i>Physical Review A</i> , <b>2011</b> , 84,	2.6	35
129	Interaction potentials of the RG-I anions, neutrals, and cations (RG = He, Ne, Ar). <i>Journal of Chemical Physics</i> , <b>2005</b> , 122, 194311	3.9	35
128	He <sup>79</sup> Br <sub>2</sub> B <sub>v</sub> =8 $\leftarrow$ X <sub>v</sub> '=0 excitation spectrum: Ab initio prediction and spectroscopic manifestation of a linear isomer. <i>Journal of Chemical Physics</i> , <b>2002</b> , 117, 6117-6120	3.9	35
127	Collision and transport properties of Rg+Cl(2P) and Rg+Cl(1S) (Rg=Ar, Kr) from ab initio potentials. <i>Journal of Chemical Physics</i> , <b>2001</b> , 114, 9919-9928	3.9	35
126	A combined experimental-theoretical study of the vibrational predissociation and product rotational distributions for high vibrational levels of He <sup>79</sup> Br <sub>2</sub> . <i>Journal of Chemical Physics</i> , <b>1999</b> , 110, 256-266	3.9	34
125	On the role of scattering resonances in the F+HD reaction dynamics. <i>Journal of Physical Chemistry A</i> , <b>2007</b> , 111, 12538-49	2.8	33
124	Diffuse basis functions for small-core relativistic pseudopotential basis sets and static dipole polarizabilities of selected lanthanides La, Sm, Eu, Tm and Yb. <i>Structural Chemistry</i> , <b>2007</b> , 18, 769-772	1.8	32
123	The Al <sup>+</sup> -H(2) cation complex: rotationally resolved infrared spectrum, potential energy surface, and rovibrational calculations. <i>Journal of Chemical Physics</i> , <b>2007</b> , 127, 164310	3.9	31
122	Ab initio based study of the ArO $\pi$ photoelectron spectra: Selectivity of spin-orbit transitions. <i>Journal of Chemical Physics</i> , <b>2000</b> , 112, 5852-5865	3.9	31

121	Charge transfer in cold Yb <sup>++</sup> Rb collisions. <i>Physical Review A</i> , <b>2013</b> , 87,	2.6	28
120	The Na <sup>(+)</sup> -H <sub>2</sub> cation complex: Rotationally resolved infrared spectrum, potential energy surface, and rovibrational calculations. <i>Journal of Chemical Physics</i> , <b>2008</b> , 129, 184306	3.9	28
119	Interactions of lanthanide atoms: Comparative ab initio study of YbHe, Yb <sub>2</sub> and TmHe, TmYb potentials. <i>European Physical Journal D</i> , <b>2007</b> , 45, 147-153	1.3	28
118	Quantum-mechanical study of vibrational relaxation of HF in collisions with Ar atoms. <i>Journal of Chemical Physics</i> , <b>2001</b> , 114, 1249-1258	3.9	26
117	ArI <sub>2</sub> (X)→Ar+I <sub>2</sub> (B) photodissociation: Comparison between linear and T-shaped isomers dynamics. <i>Journal of Chemical Physics</i> , <b>2001</b> , 115, 6961-6973	3.9	25
116	Vibrational predissociation of NeBr <sub>2</sub> (X, v=1) using an ab initio potential energy surface. <i>Journal of Chemical Physics</i> , <b>2002</b> , 117, 10019-10025	3.9	25
115	Theoretical simulations of the He <sup>79</sup> Br <sub>2</sub> B, v=8←X, v <sub>2</sub> =0 excitation spectrum: Spectroscopic manifestation of a linear isomer?. <i>Journal of Chemical Physics</i> , <b>2000</b> , 113, 4620-4628	3.9	24
114	van der Waals interactions and dipole polarizabilities of lanthanides: Tm(2F)-He and Yb(1S)-He potentials. <i>Journal of Chemical Physics</i> , <b>2006</b> , 124, 114301	3.9	23
113	Electronic structure and spin coupling of the manganese dimer: The state of the art of ab initio approach. <i>Journal of Chemical Physics</i> , <b>2010</b> , 132, 024312	3.9	22
112	Communication: Electric properties of the ThO(X (1)Sigma(+)) molecule. <i>Journal of Chemical Physics</i> , <b>2010</b> , 133, 041102	3.9	22
111	ArHF vibrational predissociation dynamics using the diatomics-in-molecule potential energy surface. <i>Journal of Chemical Physics</i> , <b>1999</b> , 111, 2470-2477	3.9	22
110	Diatomics-in-molecules description of the RgHal <sub>2</sub> rare gas halogen van der Waals complexes with applications to HeCl <sub>2</sub> . <i>Journal of Chemical Physics</i> , <b>1997</b> , 106, 4575-4588	3.9	21
109	Resonant optical excitation of the I <sub>2</sub> ion-pair states through the RgI <sub>2</sub> complexes in the valence states correlating to the 2P <sub>1/2</sub> +2P <sub>1/2</sub> limit. <i>Chemical Physics Letters</i> , <b>2006</b> , 427, 259-264	2.5	20
108	Collision-induced nonadiabatic transitions in the second-tier ion-pair states of iodine molecule: experimental and theoretical study of the I <sub>2</sub> (f <sub>0</sub> g <sup>+</sup> ) collisions with rare gas atoms. <i>Journal of Chemical Physics</i> , <b>2005</b> , 122, 204318	3.9	20
107	Ab initio zero electron kinetic energy spectroscopy of the ArCl <sub>2</sub> <sup>+</sup> and KrCl <sub>2</sub> <sup>+</sup> anions. <i>Journal of Chemical Physics</i> , <b>2001</b> , 114, 9929-9937	3.9	20
106	Dynamics of O(3P <sub>j</sub> )+Rg collisions on ab initio and scattering potentials. <i>Journal of Chemical Physics</i> , <b>2002</b> , 116, 1457-1467	3.9	20
105	Quantum and semiclassical study of the intramultiplet transitions in collisions of Cl(2P) and O(3P) with He, Ar and Xe. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>2000</b> , 33, 4551-4564	1.3	20
104	Interaction potentials and fragmentation dynamics of the Ne <sup>+</sup> Br <sub>2</sub> complex in the ground and electronically excited states. <i>Journal of the Chemical Society, Faraday Transactions</i> , <b>1994</b> , 90, 3229-3236		20

103	Mobility of singly-charged lanthanide cations in rare gases: theoretical assessment of the state specificity. <i>Journal of Chemical Physics</i> , <b>2014</b> , 140, 114309	3.9	19
102	Ab initio dipole polarizabilities and quadrupole moments of the lowest excited states of atomic Yb. <i>European Physical Journal D</i> , <b>2011</b> , 61, 291-296	1.3	19
101	The open-shell interaction of He with the B 3Piu(0+) state of Br2: an ab initio study and its comparison with a diatomics-in-molecule perturbation model. <i>Journal of Chemical Physics</i> , <b>2004</b> , 120, 2182-92	3.9	19
100	Electronic and vibrational predissociation in ArI2 photodissociation dynamics. <i>Journal of Chemical Physics</i> , <b>2002</b> , 116, 8367	3.9	18
99	Cold collisions of heavy $\Sigma$ molecules with alkali-metal atoms in a magnetic field: Ab initio analysis and prospects for sympathetic cooling of SrOH( $\Sigma$ 2) by Li(S2). <i>Physical Review A</i> , <b>2017</b> , 95,	2.6	16
98	Separation of ortho- and para-hydrogen in van der Waals complex formation. <i>ChemPhysChem</i> , <b>2007</b> , 8, 815-8	3.2	16
97	Non-adiabatic E $\rightarrow$ D, D $\rightarrow$ , $\Sigma \rightarrow \Sigma$ transitions in the first ion-pair tier of molecular iodine induced by collisions with I2, He, Ar, Kr, Xe. <i>Chemical Physics Letters</i> , <b>2007</b> , 436, 1-6	2.5	16
96	Interaction potentials for Br(-)-Rg (Rg=He-Rn): spectroscopy and transport coefficients. <i>Journal of Chemical Physics</i> , <b>2006</b> , 125, 64305	3.9	16
95	Ab initio potentials for the S(3Pj) rare gas dimers: Implementation for elastic and inelastic collisions and comparison with scattering potentials. <i>Journal of Chemical Physics</i> , <b>2002</b> , 116, 9269-9280	3.9	16
94	First-order intermolecular diatomics-in-molecule potentials. Potential energy surfaces, spectra, and fragmentation dynamics of the Ne?Cl2 complex. <i>Journal of Chemical Physics</i> , <b>1997</b> , 106, 10134-10144	3.9	15
93	Isomeric interconversion in the linear Cl(-)-HD anion complex. <i>Journal of Chemical Physics</i> , <b>2004</b> , 121, 2085-93	3.9	15
92	Competition between adiabatic and nonadiabatic fragmentation pathways in the unimolecular decay of the ArI2(B) van der Waals complex. <i>Journal of Chemical Physics</i> , <b>2005</b> , 122, 34303	3.9	15
91	Ab initio simulations of the KrO $\Sigma$ anion photoelectron spectra. <i>Journal of Chemical Physics</i> , <b>2002</b> , 117, 2629-2634	3.9	15
90	Ab initio long-range interaction and adiabatic channel capture model for ultracold reactions between the KRb molecules. <i>Journal of Chemical Physics</i> , <b>2012</b> , 137, 114305	3.9	14
89	Predissociation of the Rg?I2(B)(Rg=Ne, Ar, Kr) complexes: simulations based on the first-order diatomics-in-molecule perturbation theory. <i>Chemical Physics Letters</i> , <b>1998</b> , 292, 273-281	2.5	14
88	Resonance and reversibility of vibrational relaxation of HF in high temperature Ar bath gas. <i>Journal of Chemical Physics</i> , <b>2002</b> , 117, 166-171	3.9	14
87	Structure and interaction energies of the Ar?I2 complex. Application of first-order intermolecular potentials. <i>Chemical Physics Letters</i> , <b>1996</b> , 261, 591-596	2.5	14
86	Spin-Orbit Interactions and Quantum Spin Dynamics in Cold Ion-Atom Collisions. <i>Physical Review Letters</i> , <b>2016</b> , 117, 143201	7.4	14

85	Phase Locking between Different Partial Waves in Atom-Ion Spin-Exchange Collisions. <i>Physical Review Letters</i> , <b>2018</b> , 121, 173402	7.4	14
84	Adiabatic channel capture theory applied to cold atom-molecule reactions: Li + CaH to LiH + Ca at 1K. <i>New Journal of Physics</i> , <b>2015</b> , 17, 035010	2.9	13
83	Ab initio study of Tm-He interactions and dynamics in a magnetic trap. <i>Physical Review A</i> , <b>2006</b> , 74,	2.6	13
82	Modeling of the non-adiabatic E0+g->D0+u transitions induced by Ar in molecular iodine: a first attempt. <i>Chemical Physics Letters</i> , <b>2003</b> , 370, 563-571	2.5	13
81	Electronic interaction anisotropy between open-shell lanthanide atoms and helium from cold collision experiment. <i>Journal of Chemical Physics</i> , <b>2005</b> , 123, 101101	3.9	13
80	On the role of interaction anisotropy in vibrational relaxation of HF and HCl by Ar. <i>Chemical Physics Letters</i> , <b>2001</b> , 335, 273-280	2.5	13
79	Vibrational predissociation of ArHF: a test of global semiempirical potential energy surfaces. <i>Physical Chemistry Chemical Physics</i> , <b>2002</b> , 4, 4992-4998	3.6	13
78	Blueshifts of the B<-X excitation spectra of He79Br2 using a DIM-based potential. <i>Chemical Physics Letters</i> , <b>2000</b> , 318, 578-584	2.5	13
77	Weakly bound molecules as sensors of new gravitylike forces. <i>Scientific Reports</i> , <b>2019</b> , 9, 14807	4.9	12
76	Potential energy surface and rovibrational calculations for the Mg+-H2 and Mg+-D2 complexes. <i>Journal of Chemical Physics</i> , <b>2011</b> , 134, 044310	3.9	12
75	Decoupling approximations for quantum vibrational predissociation dynamics: The tests on the low-level golden rule approaches for some rare gasCl2, ICl complexes. <i>Journal of Computational Chemistry</i> , <b>1996</b> , 17, 919-930	3.5	12
74	Beyond-Born-Oppenheimer effects in sub-kHz-precision photoassociation spectroscopy of ytterbium atoms. <i>Physical Review A</i> , <b>2017</b> , 96,	2.6	12
73	Suppression of Zeeman relaxation in cold collisions of P21/2 atoms. <i>Physical Review A</i> , <b>2009</b> , 80,	2.6	11
72	Ab initio potential energy surface, infrared spectra, and dynamics of the ion-molecule complexes between Br- and H2, D2, and HD. <i>Journal of Chemical Physics</i> , <b>2006</b> , 125, 114313	3.9	11
71	Oriented dynamics in van der Waals complexes. <i>Journal of Molecular Spectroscopy</i> , <b>2003</b> , 222, 31-45	1.3	11
70	Interaction potentials and transport properties of Ba, Ba, and Ba in rare gases from He to Xe. <i>Journal of Chemical Physics</i> , <b>2018</b> , 148, 154304	3.9	10
69	Anisotropy of the static dipole polarizability induced by the spin-orbit interaction: the S-state atoms NBi, Cr, Mo and Re. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2011</b> , 467, 1310-1328	2.4	10
68	Europium dimer: van der Waals molecule with extremely weak antiferromagnetic spin coupling. <i>Journal of Chemical Physics</i> , <b>2009</b> , 131, 241102	3.9	10

67	Spin-orbit interaction and large inelastic rates in bismuth-helium collisions. <i>Physical Review A</i> , <b>2008</b> , 78,	2.6	10
66	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. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>2004</b> , 37, 1605-1619	1.3	10
65	The I2(B) predissociation by solving an inverse atoms-in-molecule problem. <i>Molecular Physics</i> , <b>2001</b> , 99, 91-101	1.7	10
64	Interactions between anionic and neutral bromine and rare gas atoms. <i>Journal of Chemical Physics</i> , <b>2008</b> , 128, 064317	3.9	9
63	Modeling of Manganese Atom and Dimer Isolated in Solid Rare Gases: Structure, Stability, and Effect on Spin Coupling. <i>Journal of Physical Chemistry A</i> , <b>2017</b> , 121, 2429-2441	2.8	8
62	Rotationally resolved infrared spectrum of the Na(+)-D2 complex: an experimental and theoretical study. <i>Journal of Chemical Physics</i> , <b>2011</b> , 134, 214302	3.9	8
61	Dynamics and mechanism of the non-adiabatic transitions from the ungerade I2(D0+u) state induced by collisions with rare gas atoms. <i>Journal of Chemical Physics</i> , <b>2010</b> , 133, 244304	3.9	8
60	Ab initio interaction potential of the spin-polarized manganese dimer. <i>Chemical Physics Letters</i> , <b>2008</b> , 459, 73-76	2.5	8
59	Interaction of the beryllium cation with molecular hydrogen and deuterium. <i>Journal of Physical Chemistry A</i> , <b>2014</b> , 118, 6711-20	2.8	7
58	Heat- and light-induced transformations of Yb trapping sites in an Ar matrix. <i>Journal of Chemical Physics</i> , <b>2015</b> , 143, 174306	3.9	7
57	Study of ArO- and ArO via slow photoelectron velocity-map imaging spectroscopy and Ab initio calculations. <i>Journal of Physical Chemistry A</i> , <b>2009</b> , 113, 4631-8	2.8	7
56	Study of KrO- and KrO via slow photoelectron velocity-map imaging spectroscopy and ab initio calculations. <i>Journal of Physical Chemistry A</i> , <b>2009</b> , 113, 14439-46	2.8	7
55	Half- and full-collision VT energy transfer in the He?Br2(B) system. <i>Chemical Physics Letters</i> , <b>1997</b> , 269, 448-454	2.5	7
54	Interactions in open-shell clusters: ab initio study of pre-reactive complex O(3P) + HCl. <i>Journal of Physical Chemistry A</i> , <b>2005</b> , 109, 11484-94	2.8	7
53	Ultracold inelastic atomic collisions: Threshold relaxation of O(3P0) by He. <i>Physical Review A</i> , <b>2001</b> , 64,	2.6	7
52	Classical vibrational predissociation dynamics: The effects of phase-space bifurcations. <i>Journal of Chemical Physics</i> , <b>1998</b> , 108, 6282-6290	3.9	7
51	Approximate phase-space transport theory for vibrational predissociation. <i>Journal of Chemical Physics</i> , <b>1993</b> , 98, 5486-5498	3.9	7
50	Ab initio spin-orbit calculations on the lowest states of the nickel dimer. <i>Journal of Chemical Physics</i> , <b>2012</b> , 136, 214304	3.9	6

49	Properties of the B <sup>+</sup> -H <sub>2</sub> and B <sup>+</sup> -D <sub>2</sub> complexes: A theoretical and spectroscopic study. <i>Journal of Chemical Physics</i> , <b>2012</b> , 137, 124312	3.9	6
48	Interaction potentials, spectroscopy, and transport properties of the Br <sup>+</sup> -RG systems (RG = He-Ar). <i>Journal of Physical Chemistry A</i> , <b>2009</b> , 113, 14431-8	2.8	6
47	Electronic to vibrational energy transfer assisted by interacting transition dipole moments: a quantum model for the nonadiabatic I <sub>2</sub> (E) + CF <sub>4</sub> collisions. <i>Journal of Physical Chemistry A</i> , <b>2007</b> , 111, 8959-67	2.8	6
46	Computational study of the stable atomic trapping sites in Ar lattice. <i>Low Temperature Physics</i> , <b>2019</b> , 45, 301-309	0.7	6
45	Exploiting transport properties for the detection of optical pumping in heavy ions. <i>Physical Review A</i> , <b>2020</b> , 102,	2.6	5
44	Ab Initio Characterization of the Electrostatic Complexes Formed by H <sub>2</sub> Molecule and Cr(+), Mn(+), Cu(+), and Zn(+) Cations. <i>Journal of Physical Chemistry A</i> , <b>2016</b> , 120, 5006-15	2.8	5
43	Ab initio study of the mobility of Gd <sup>+</sup> ions in He and Ar gases. <i>International Journal of Mass Spectrometry</i> , <b>2019</b> , 443, 86-92	1.9	5
42	Probing Non-Newtonian gravity by photoassociation spectroscopy. <i>Journal of Physics: Conference Series</i> , <b>2017</b> , 810, 012014	0.3	5
41	Numerical method of quantum capture probability determination for molecular collisions at ultralow temperatures. <i>Moscow University Chemistry Bulletin</i> , <b>2012</b> , 67, 159-167	0.5	5
40	Interactions and collisions of cold metal atoms in magnetic traps. <i>Physica Scripta</i> , <b>2009</b> , 80, 048109	2.6	5
39	Dynamics and mechanism of the E <sup>-</sup> →D, D <sub>N</sub> β, gamma, and delta nonadiabatic transitions induced in molecular iodine by collisions with CF <sub>4</sub> and SF <sub>6</sub> molecules. <i>Journal of Chemical Physics</i> , <b>2008</b> , 129, 114309	3.0	5
38	Interactions of 2P atoms with closed-shell diatomic molecules: alternative diabatic representations for the electronic anisotropy. <i>Journal of Physical Chemistry A</i> , <b>2006</b> , 110, 5458-63	2.8	5
37	Long-range interaction and the dynamics of nonadiabatic transitions in collisions of the I <sub>2</sub> (E) molecule with inert gas atoms. <i>Russian Journal of Physical Chemistry A</i> , <b>2006</b> , 80, 1957-1967	0.7	5
36	Mobility of the Singly-Charged Lanthanide and Actinide Cations: Trends and Perspectives. <i>Frontiers in Chemistry</i> , <b>2020</b> , 8, 438	5	4
35	Laser Resonance Chromatography of Superheavy Elements. <i>Physical Review Letters</i> , <b>2020</b> , 125, 023002	7.4	4
34	Closed model of oxygen recombination on an Al <sub>2</sub> O <sub>3</sub> surface. <i>Russian Journal of Physical Chemistry B</i> , <b>2013</b> , 7, 88-95	1.2	4
33	He-ThO(1 $\Sigma$ ) interactions at low temperatures: elastic and inelastic collisions, transport properties, and complex formation in cold 4He gas. <i>Journal of Chemical Physics</i> , <b>2011</b> , 134, 144301	3.9	4
32	Theoretical study of VRT energy transfer in Ne + I <sub>2</sub> (B) collisions using a spectroscopic interaction potential. <i>Journal of the Chemical Society, Faraday Transactions</i> , <b>1998</b> , 94, 2307-2313		4

31	The dynamics of nonadiabatic transitions in collisions between the I2(E) and I2(X) molecules. <i>Russian Journal of Physical Chemistry A</i> , <b>2007</b> , 81, 58-68	0.7	4
30	Theoretical prediction of the ArO <sup>-</sup> anion ZEKE photoelectron spectrum. <i>Chemical Physics Letters</i> , <b>2001</b> , 347, 415-420	2.5	4
29	Rate coefficients of the elementary stages of heterogeneous catalytic recombination of dissociated air on thermal-protective coatings. <i>Fluid Dynamics</i> , <b>2015</b> , 50, 453-462	0.7	3
28	Test of the interaction potential energy for Na <sup>+</sup> -H <sub>2</sub> by gaseous ion transport data. <i>Journal of Chemical Physics</i> , <b>2014</b> , 141, 114305	3.9	3
27	Electronic spectroscopy of ytterbium in a neon matrix. <i>Journal of Chemical Physics</i> , <b>2012</b> , 137, 204315	3.9	3
26	Interactions of ThO(X) with He, Ne and Ar from the ab initio coupled cluster and symmetry adapted perturbation theory calculations. <i>Chemical Physics</i> , <b>2012</b> , 399, 50-58	2.3	3
25	Spin-orbit suppression of cold inelastic collisions of aluminum and helium. <i>Physical Review Letters</i> , <b>2013</b> , 110, 173202	7.4	3
24	State-interacting spin-orbit configuration interaction method for J-resolved anisotropic static dipole polarizabilities: Application to Al, Ga, In, and Tl atoms. <i>Russian Journal of Physical Chemistry A</i> , <b>2010</b> , 84, 2325-2333	0.7	3
23	Theoretical and experimental studies of collision-induced electronic energy transfer from v=0-3 of the E(0g +) ion-pair state of Br <sub>2</sub> : collisions with He and Ar. <i>Journal of Chemical Physics</i> , <b>2008</b> , 128, 18431	3.9	3
22	The vibrational predissociation lifetime of the HeH <sub>2</sub> <sup>+</sup> (X, v=1) complex. <i>Chemical Physics Letters</i> , <b>1994</b> , 220, 93-96	2.5	3
21	Ab initio interaction potentials of the Ba, Ba complexes with Ar, Kr, and Xe in the lowest excited states. <i>Journal of Chemical Physics</i> , <b>2019</b> , 150, 064314	3.9	3
20	Polarizabilities, dispersion coefficients, and retardation functions at the complete basis set CCSD limit: From Be to Ba plus Yb. <i>Journal of Chemical Physics</i> , <b>2019</b> , 151, 214302	3.9	3
19	Triplet emission of atomic ytterbium isolated in a xenon matrix. <i>Low Temperature Physics</i> , <b>2019</b> , 45, 707-714	0.7	2
18	Trapping sites of Li atom in the rare gas crystals Ar, Kr, and Xe: Analysis of stability and manifestation in the EPR spectra. <i>Low Temperature Physics</i> , <b>2020</b> , 46, 165-172	0.7	2
17	Modeling of catalytic activity of an Al <sub>2</sub> O <sub>3</sub> surface on the basis of the first principles. <i>Moscow University Mechanics Bulletin</i> , <b>2013</b> , 68, 8-14	0.4	2
16	Fragment-localized analysis of the multiconfigurational wavefunctions. <i>Chemical Physics</i> , <b>1990</b> , 148, 309-314	3.9	2
15	Stable axially symmetric atomic impurity in an fcc solid-Ba in rare gases. <i>Journal of Chemical Physics</i> , <b>2019</b> , 151, 121104	3.9	2
14	Empirically Modified Potentials of Interaction between Rare Gases for Matrix Isolation Problems. <i>Russian Journal of Physical Chemistry A</i> , <b>2019</b> , 93, 1505-1512	0.7	1



13	Accommodation of a dimer in an Ar-like lattice: exploring the generic structural motifs. <i>Physical Chemistry Chemical Physics</i> , <b>2019</b> , 21, 16549-16563	3.6	1
12	Charge transfer in cold collisions of rubidium atoms with calcium and ytterbium ions. <i>Journal of Physics: Conference Series</i> , <b>2014</b> , 572, 012009	0.3	1
11	Zeeman relaxation induced by spin-orbit coupling in cold antimony-helium collisions. <i>Physical Review A</i> , <b>2013</b> , 88,	2.6	1
10	Photoelectron spectroscopy of the Cl(-)...H(2)D(2) anions: a model beyond the rotationless and Franck-Condon approximations. <i>Journal of Chemical Physics</i> , <b>2008</b> , 128, 154317	3.9	1
9	Intensities of the photoelectron spectra of weakly bound anions: A complex of an atomic anion with a diatomic molecule. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , <b>2006</b> , 100, 530-538	0.7	1
8	Approximate treatment of the phase-space bottlenecks for vibrational predissociation. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , <b>1991</b> , 24, L545-L549	1.3	1
7	Approximate Quantal Calculations on the Predissociative Lifetimes of the NeHal <sub>2</sub> (X,v) (Hal = Cl,Br,I) Van Der Waals Complexes. <i>Spectroscopy Letters</i> , <b>1992</b> , 25, 189-200	1.1	1
6	Modeling of the thermal migration mechanisms of atomic oxygen in Ar, Kr, and Xe crystals. <i>Journal of Chemical Physics</i> , <b>2021</b> , 154, 044305	3.9	1
5	Electric properties of the Cu <sup>+</sup> , Ag <sup>+</sup> and Au <sup>+</sup> cations in the ground 1S and excited 3D, 1D electronic states. <i>European Physical Journal D</i> , <b>2014</b> , 68, 1	1.3	
4	Ab-initio-based model for the charge transfer mechanisms in Ar <sup>+</sup> + H <sub>2</sub> O collisions. <i>International Journal of Mass Spectrometry</i> , <b>2000</b> , 203, 19-29	1.9	
3	Weak bonding of the hydrogen molecule by the S-state lanthanide ions Eu <sup>+</sup> , Yb <sup>+</sup> and Lu <sup>+</sup> from ab initio calculations. <i>Chemical Physics Letters</i> , <b>2020</b> , 756, 137812	2.5	
2	Extended combination rule for like-atom dipole dispersion coefficients.. <i>Journal of Chemical Physics</i> , <b>2020</b> , 153, 064110	3.9	
1	Molecular dynamics simulations of the Ba <sup>+</sup> ion mobility in liquid xenon. <i>Journal of Physics: Conference Series</i> , <b>2021</b> , 1740, 012033	0.3	