

Andrey Stolyarov

List of Publications by Year in descending order

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125
papers

1,899
citations

218677

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126
docs citations

126
times ranked

807
citing authors

#	ARTICLE	IF	CITATIONS
1	ExoMol molecular line lists of $\text{X}^1\Sigma^+$ and $\text{A}^2\Sigma^+$ states of NaO. Monthly Notices of the Royal Astronomical Society, 2022, 511, 2349-2355.	4.4	4
2	Semi-empirical dipole moment of carbon monoxide and line lists for all its isotopologues revisited. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 280, 108090.	2.3	9
3	Observation and modeling of bound-free transitions to the $\text{X}^1\Sigma^+$ and $\text{a}^3\Sigma^+$ states of KCs. Journal of Chemical Physics, 2022, 156, 114305.	3.0	3
4	Theoretical study of the Coriolis effect in LiNa, LiK, and LiRb molecules. Physical Chemistry Chemical Physics, 2021, 23, 5187-5198.	2.8	1
5	Cosmological Constraints on a Temporal Variation of the Proton-to-electron Mass Ratio based on the Red-shifted Lines of Extragalactic Argonium. Astronomy Reports, 2021, 65, 1211-1214.	0.9	0
6	A first principles study of the spin-orbit coupling effect in LiM (M = Na, K, Rb, Cs) molecules. Physical Chemistry Chemical Physics, 2020, 22, 2295-2306.	2.8	9
7	Tackling the FeO orange band puzzle in meteor and airglow spectra through combined astronomical and laboratory studies. Monthly Notices of the Royal Astronomical Society, 2020, 500, 4296-4306.	4.4	6
8	Long-range potentials and dipole moments of the CO electronic states converging to the ground dissociation limit. Physical Chemistry Chemical Physics, 2020, 22, 12058-12067.	2.8	5
9	Experimental and theoretical studies of photoinduced reactions in the solid phase of the interstellar medium. Russian Chemical Reviews, 2020, 89, 430-448.	6.5	7
10	The collision cross-sections for proton-argon interaction based on ab initio potential. Journal of Plasma Physics, 2020, 86, .	2.1	0
11	The Photolysis of Aromatic Hydrocarbons Adsorbed on the Surfaces of Cosmic Dust Grains. Astronomy Reports, 2019, 63, 633-641.	0.9	4
12	Fourier-transform spectroscopy, relativistic electronic structure calculation, and coupled-channel perturbation analysis of the fully mixed $\text{X}^1\Sigma^+$ and $\text{A}^2\Sigma^+$ states in NaO. Monthly Notices of the Royal Astronomical Society, 2019, 491, 1-10.	2.5	9
13	The spin-orbit coupling of the $\text{X}^1\Sigma^+$ and $\text{a}^3\Sigma^+$ states in KCs: Observation and perturbation. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 234, 139-146.	2.3	3
14	ab initio and analytical studies of the spin-orbit coupling in heteronuclear alkali-metal dimers AB . Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 20, 1889-1896.	2.8	7
15	Spectroscopy of Diatomic Molecules in an Adiabatic Approximation. Russian Journal of Physical Chemistry A, 2019, 93, 1865-1872.	0.6	6
16	An accurate ab initio electronic structure calculation for interstellar argonium. Journal of Quantitative Spectroscopy and Radiative Transfer, 2019, 234, 139-146.	2.3	3
17	Long-range behavior of the transition dipole moments of heteronuclear dimers XY (X, Y = Li, Na, K, Rb) based on ab initio calculations. Physical Chemistry Chemical Physics, 2018, 20, 1889-1896.	2.8	7
18	The CaO orange system in meteor spectra. Planetary and Space Science, 2018, 151, 27-32.	1.7	14

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37	Peculiarities of high-overtone transition probabilities in carbon monoxide revealed by high-precision calculation. <i>Journal of Chemical Physics</i> , 2015, 143, 154301.	3.0	29
38	Direct coupled-channels deperturbation analysis of the $A1\hat{\Sigma} + \hat{a}^{1/4} b3\hat{\Sigma}$ complex in LiCs with experimental accuracy. <i>Journal of Chemical Physics</i> , 2015, 142, 234308.	3.0	18
39	Laser-induced processes in chemistry and material sciences. <i>Russian Chemical Reviews</i> , 2015, 84, E01-E01.	6.5	2
40	Theoretical study of spin-orbit and Coriolis coupling among the low-lying states of Rb ₂ and Cs ₂ . <i>Chemical Physics</i> , 2015, 462, 51-56.	1.9	11
41	Laser synthesis of ultracold alkali metal dimers: optimization and control. <i>Russian Chemical Reviews</i> , 2015, 84, 1001-1020.	6.5	42
42	Direct-potential-fit analyses yield improved empirical potentials for the ground $X^1\Sigma_g^+ X^1\Sigma_g^+ 1$ state of Be ₂ . <i>Journal of Chemical Physics</i> , 2014, 140, 064315.	3.0	44
43	Extended Fourier-transform spectroscopy studies and deperturbation analysis of the spin-orbit coupled $A1\hat{\Sigma} + \text{and } b3\hat{\Sigma}$ states in RbCs. <i>Journal of Chemical Physics</i> , 2014, 141, 184309.	3.0	16
44	Fourier transform spectroscopy and extended deperturbation treatment of the spin-orbit-coupled $A1\hat{\Sigma} + \text{and } b3\hat{\Sigma}$ states in RbCs. <i>Journal of Chemical Physics</i> , 2014, 141, 184309.	3.0	16
45	Fourier-transform spectroscopy of $(4)1\hat{\Sigma} + \hat{a}^{1/4}$ $A1\hat{\Sigma} + \hat{a}^{1/4}$ $b3\hat{\Sigma}$ transitions in KCs and deperturbation treatment of $(4)1\hat{\Sigma} + \text{and } b3\hat{\Sigma}$ states. <i>Journal of Chemical Physics</i> , 2013, 139, 244301.	3.0	22
46	Spectroscopic studies of the $(4)1\hat{\Sigma} + \text{and } b3\hat{\Sigma}$ states. <i>Journal of Chemical Physics</i> , 2013, 139, 244301.	2.5	9
47	Modeling of the $(4)1\hat{\Sigma} + \text{and } b3\hat{\Sigma}$ states of RbCs and modeling of the optical cycle for ultracold $(4)1\hat{\Sigma} + \text{and } b3\hat{\Sigma}$ states. <i>Physical Review A</i> , 2013, 87, .	3.0	15
48	$(4)1\hat{\Sigma} + \text{and } b3\hat{\Sigma}$ long-range interaction and adiabatic channel capture model for ultracold reactions between the KRb molecules. <i>Journal of Chemical Physics</i> , 2012, 137, 114305.	2.5	22
49	The $X2\hat{\Sigma}^+$ state of LiCa studied by Fourier-transform spectroscopy. <i>Journal of Chemical Physics</i> , 2011, 135, 174303.	3.0	26
50	Fourier transform spectroscopy and direct potential fit of a shelflike state: Application to $(4)1\hat{\Sigma} +$ KCs. <i>Journal of Chemical Physics</i> , 2011, 134, 104307.	3.0	29
51	Rapid, accurate calculation of the s-wave scattering length. <i>Journal of Chemical Physics</i> , 2011, 135, 154108.	3.0	15
52	Global analysis of data on the spin-orbit-coupled $(4)1\hat{\Sigma} + \text{and } b3\hat{\Sigma}$ states in RbCs. <i>Journal of Chemical Physics</i> , 2011, 135, 154108.	2.5	41
53	Theoretical Investigations of Alkali Metal-Rare Gas Photodissociation Lasers. , 2010, , .		0
54	Near-dissociation photoassociative production of deeply bound NaCs molecules. <i>Physical Review A</i> , 2010, 82, .	2.5	26

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55	Excitation of the $3s^2 3p^2$ states of NaRb. Physical Review A, 2010, 81, . Spectroscopic data, spin-orbit functions, and revised analysis of strong perturbative interactions for the $3s^2 3p^2$ states of NaRb. Physical Review A, 2010, 81, .	2.5	16
56	Fourier-transform spectroscopy and coupled-channels deperturbation treatment of the $3s^2 3p^2$ states of KCs. Physical Review A, 2010, 81, .	2.5	33
57	Fourier-transform spectroscopy and coupled-channels deperturbation treatment of the $3s^2 3p^2$ states of KCs. Physical Review A, 2010, 81, .	2.5	33
58	Potential Energy Curves for Alkali Metal-Rare Gas Exciplex Lasers. , 2010, , .		7
59	Analogue of oscillation theorem for nonadiabatic diatomic states: application to the $3s^2 3p^2$ states of KCs. Physical Chemistry Chemical Physics, 2010, 12, 4809.	2.8	13
60	Quasi-relativistic treatment of the low-lying KCs states. Journal of Molecular Spectroscopy, 2009, 256, 57-67.	1.2	40
61	Spectroscopic observations, spin-orbit functions, and coupled-channel deperturbation analysis of data on the $3s^2 3p^2$ states of NaRb. Physical Review A, 2009, 80, .	2.5	44
62	Nonempirical studies of the molecular properties and thermodynamic functions of urea in the ideal gas state. Russian Journal of Physical Chemistry A, 2009, 83, 270-275.	0.6	2
63	Solution of the fully-mixed-state problem: Direct deperturbation analysis of the $3s^2 3p^2$ states of NaRb. Physical Review A, 2009, 80, .	2.5	47
64	Spin-orbit, radial, and angular coupling effects in the NaRb excited states. , 2009, , .		0
65	Investigation of the $3s^2 3p^2$ state of NaK by polarisation labelling spectroscopy. Journal of Molecular Spectroscopy, 2008, 250, 27-32.	1.2	14
66	Adaptive analytical mapping procedure for efficiently solving the radial Schrödinger equation. Physical Review A, 2008, 78, .	2.5	35
67	Radiative lifetimes of the $3s^2 3p^2$ states of NaRb. Physical Review A, 2007, 76, .	2.5	6
68	Publisher's Note: Deperturbation treatment of the $3s^2 3p^2$ complex of NaRb and prospects for ultracold molecule formation in $3s^2 3p^2$ ($v=0; j=0$) [Phys. Rev. A 75, 042503 (2007)]. Physical Review A, 2007, 75, .	2.5	2
69	Deperturbation treatment of the $3s^2 3p^2$ complex of NaRb and prospects for ultracold molecule formation in $3s^2 3p^2$ ($v=0; j=0$). Physical Review A, 2007, 75, .	2.5	45
70	Ab initio and quantum-defect calculations for the Rydberg states of ArH. Physical Chemistry Chemical Physics, 2006, 8, 247-255.	2.8	8
71	Ab initio nonadiabatic calculation of the sensitivity coefficients for the $X^1\Sigma^+g + \hat{a}^1\Sigma^+u + ; C^1\Pi_u$ lines of H ₂ to the proton-to-electron mass ratio. JETP Letters, 2006, 83, 303-307.	1.4	28
72	Radiative lifetimes of the NaRb $C(3)1\Sigma^+g$ state: experiment and theory. European Physical Journal D, 2006, 39, 373-378.	1.3	6

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73	Experimental and theoretical studies of \hat{l} doublings and permanent electric dipoles in the low-lying $\hat{1}$ states of NaCs. <i>Journal of Chemical Physics</i> , 2006, 124, 184318.	3.0	9
74	Dissociative recombination of rare gas hydride ions: II. ArH ⁺ . <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2005, 38, L175-L181.	1.5	33
75	LIF intensity distribution as a deperturbation tool: application to the fully-mixed \hat{a}^{∞} complex of NaRb. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2005, 95, 165-174.	2.3	10
76	Permanent electric dipoles and \hat{l} -doubling constants in the lowest $\hat{1}$ states of RbCs. <i>Physical Review A</i> , 2005, 71, .	2.5	29
77	Theoretical study of the ArH ⁺ electronic states. <i>Physical Chemistry Chemical Physics</i> , 2005, 7, 2259.	2.8	18
78	Direct deperturbation analysis of the $A\hat{2}\hat{a}^{-1/4}B\hat{1}\hat{x}+2$ complex of LiAr _{7,6} isotopomers. <i>Journal of Chemical Physics</i> , 2005, 123, 204307.	3.0	14
79	Lifetimes of the $k\hat{3}\hat{u}$ state in the H ₂ and D ₂ \hat{a}^{∞} experiment and theory. <i>Radiation Physics and Chemistry</i> , 2003, 68, 165-167.	2.8	0
80	Lifetime measurements and quantum-defect theory treatment of the $k\hat{a}^{\infty}3\hat{u}\hat{a}^{\infty}$ state of hydrogen molecule. <i>Journal of Chemical Physics</i> , 2003, 118, 121-129.	3.0	17
81	Molecular hydrogen $3s, \hat{d}\hat{a}^{\infty}3\hat{g}+$ complex revisited. <i>Journal of Chemical Physics</i> , 2002, 116, 6618-6627.	3.0	11
82	High resolution spectroscopy and channel-coupling treatment of the $A\hat{a}^{\infty}1\hat{x}+\hat{a}^{\infty}b\hat{a}^{\infty}3\hat{1}$ complex of NaRb. <i>Journal of Chemical Physics</i> , 2002, 117, 7980-7988.	3.0	45
83	Experimental studies of the NaRb ground-state potential up to the $v\hat{a}^{\infty}=76$ level. <i>Physical Review A</i> , 2002, 66, .	2.5	17
84	Energy and radiative properties of the low-lying NaRb states. <i>Physical Review A</i> , 2001, 63, .	2.5	31
85	The $I_{₂}</sub>(B)$ predissociation by solving an inverse atoms-in-molecule problem. <i>Molecular Physics</i> , 2001, 99, 91-101.	1.7	10
86	Analog of the Hellmann-Feynman theorem in multichannel quantum-defect theory. <i>Physical Review A</i> , 2001, 63, .	2.5	13
87	The $\hat{c}\hat{a}^{\infty}3\hat{1}+$, $\hat{b}\hat{a}^{\infty}3\hat{1}$, and $\hat{a}\hat{a}^{\infty}3\hat{1}+$ states of NaK revisited. <i>Journal of Chemical Physics</i> , 2000, 112, 5740-5750.	3.0	52
88	The origin of \hat{l} -doubling effect for the $B\hat{a}^{\infty}1\hat{a}^{\infty}$ and $D\hat{a}^{\infty}1\hat{a}^{\infty}$ states of NaK. <i>Journal of Chemical Physics</i> , 2000, 113, 8589-8593.	3.0	14
89	Permanent electric dipoles in $B\hat{a}^{\infty}[sup\ 1]\hat{1}$ and $D\hat{a}^{\infty}[sup\ 1]\hat{1}$ states of NaRb: Experiment and theory. <i>Journal of Chemical Physics</i> , 2000, 113, 4896.	3.0	19
90	Nonadiabatic representation for the $i\hat{3}\hat{g}\hat{a}^{\infty}j\hat{3}\hat{1}$ $\hat{g}\hat{a}^{\infty}$ complex of H ₂ and D ₂ . <i>Physical Review A</i> , 2000, 61, .	2.5	12

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91	Theoretical spectroscopy of molecular iodine. 1. <i>Ab initio</i> study on the $B^0_{u^+}$ $X^0_{u^+}$ $A^1_{u^+}$ $X^0_{u^+}$ $A^1_{u^+}$ $X^0_{u^+}$ $A^1_{u^+}$ $X^0_{u^+}$ $A^1_{u^+}$ $X^0_{u^+}$ radiative transition intensities. <i>Molecular Physics</i> , 2000, 98, 1973-1979.	1.7	9
92	Radiative properties of diatomic Rydberg states in quantum defect theory. Application to the hydrogen molecule. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1999, 32, 527-535.	1.5	14
93	Competition between predissociative and radiative decays in the $3^1\Sigma_u^+$ and $3^1\Pi_u^+$ states of H_2 and D_2 . <i>Physical Review A</i> , 1999, 60, 4494-4503.	2.5	16
94	Spin-orbit coupling in the $D^1_{u^+}$ $d^3_{u^+}$ complex of $^{23}Na^{39}K$. <i>Molecular Physics</i> , 1999, 96, 955-961.	1.7	12
95	NaK \hat{b} doubling and permanent electric dipoles in low-lying 1^1 states: Experiment and theory. <i>Physical Review A</i> , 1998, 58, 1932-1943.	2.5	23
96	Lifetimes and transition dipole moment functions of NaK low lying singlet states: Empirical and <i>ab initio</i> approach. <i>Journal of Chemical Physics</i> , 1998, 109, 6725-6735.	3.0	28
97	NaK $D^1_{u^+}$ electric dipole moment measurement by Stark level crossing and \hat{b} mixing spectroscopy. <i>Journal of Chemical Physics</i> , 1997, 106, 2195-2204.	3.0	17
98	Stark level crossing and optical-rf double resonance in NaK $D^1_{u^+}$. , , .		0
99	Magnetic predissociation in Te 2^1B_{1u} . , 1997, 3090, 189.		0
100	Analytical approximations for adiabatic and non-adiabatic matrix elements of homonuclear diatomic Rydberg states. Application to the singlet p -complex of the hydrogen molecule. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1997, 30, 3077-3093.	1.5	15
101	Studies of rotational level \hat{b} -doubling by rf-optical double resonance spectroscopy: application to NaK $D^1_{u^+}$. <i>Journal of Molecular Structure</i> , 1997, 410-411, 55-58.	3.6	0
102	Improvement on Van Vleck's formula for diatomic nonadiabatic energy shifts. <i>Chemical Physics Letters</i> , 1997, 267, 207-214.	2.6	5
103	Magnetic field induced alignment \hat{b} orientation conversion: Nonlinear energy shift and predissociation in Te 2^1B_{1u} state. <i>Journal of Chemical Physics</i> , 1996, 105, 37-49.	3.0	8
104	Separation of quadratic and linear external field effects in high quantum beats. <i>Journal of Chemical Physics</i> , 1994, 101, 5559-5565.	3.0	6
105	Approximate sum rule for diatomic vibronic states as a tool for the evaluation of molecular properties. <i>Chemical Physics Letters</i> , 1994, 228, 219-224.	2.6	28
106	Approximate sum rule for diatomic vibronic states. <i>Physical Review A</i> , 1994, 49, 1693-1697.	2.5	31
107	$A^1E_{u^+}$ $b^3\Pi_{u^+}$ interaction studies from Na 2^1g -factor measurements. , 1994, 2205, 253.		0
108	Occurrence of circular polarization in Te 2^1 fluorescence due to quadratic Zeeman effect. , 1994, , .		0

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109	Molecular constant error propagations into Franck-Condon integrals. , 1994, , .		0
110	Deperturbation analysis of Te ₂ molecule. , 1994, , .		0
111	Data bank RADEN. , 1994, , .		1
112	Global deperturbation analysis from energetic, magnetic, and radiative measurements: Application to Te ₂ . Journal of Chemical Physics, 1993, 99, 7873-7887.	3.0	9
113	Alignment-orientation conversion by quadratic Zeeman effect: Analysis and observation for Te ₂ . Journal of Chemical Physics, 1993, 99, 5748-5753.	3.0	13
114	Observation of Λ - Σ interaction in factors of weakly coupled Na ₂ Σ state levels. Journal of Chemical Physics, 1993, 98, 826-835.	3.0	8
115	Rotational magnetic moment of the Na ₂ molecule in Σ state: Perturbation effects. Journal of Chemical Physics, 1992, 96, 3510-3522.	3.0	8
116	The Quantum and Semiclassical Phase Formalism for Obtaining the 1D Eigenfunctions. Spectroscopy Letters, 1992, 25, 271-277.	1.0	3
117	Intensities and electronic transition strengths of seven Te ₂ visible and i.r. band systems. Journal of Quantitative Spectroscopy and Radiative Transfer, 1992, 47, 143-158.	2.3	8
118	Effects of perturbations on the term values, Landé factors of B Σ and A Σ states and on intensities of B Σ -X Σ transitions of ¹³⁰ Te ₂ . Chemical Physics Letters, 1990, 166, 290-294.	2.6	11
119	The phase formalism for the one-dimensional eigenvalue problem and its relation with the quantum Bohr-Sommerfeld rule. Journal of Physics B: Atomic, Molecular and Optical Physics, 1990, 23, 2419-2426.	1.5	24
120	Determination of electronic transition strengths in diatomic molecules using laser-induced fluorescence: Application to ⁸⁰ Se ₂ B Σ and B Σ -X Σ . Journal of Molecular Spectroscopy, 1989, 137, 251-267.	1.2	13
121	Solution of the radial Schrödinger equation by a modified shooting method. European Physical Journal D, 1987, 37, 529-536.	0.4	5
122	Intensities of the laser-induced fluorescence of ¹³⁰ Te ₂ and electronic transition strengths for the A Σ -X Σ and B Σ -X Σ systems. Journal of Molecular Spectroscopy, 1987, 125, 1-13.	1.2	12
123	The Influence of the Rotation-Vibrational Interaction on the Franck-Condon Factors for Diatomic Molecules. Spectroscopy Letters, 1986, 19, 1113-1124.	1.0	4
124	Mathematical justification of the r-centroid approximation. Journal of Quantitative Spectroscopy and Radiative Transfer, 1986, 35, 415-418.	2.3	6
125	A New Approach to the Estimation of Accuracy of Calculations of Vibrational Wavefunctions and Radiative Parameters. Spectroscopy Letters, 1985, 18, 671-678.	1.0	3