

# Nikolai N Bezuglov

## List of Publications by Year in descending order

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70  
papers

666  
citations

535685

17  
h-index

721071

23  
g-index

71  
all docs

71  
docs citations

71  
times ranked

328  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Rydberg atom-atom collisions: chemi-ionization cross-sections and rate coefficients in alkali-metal astrophysical and low-temperature laboratory plasmas. <i>Advances in Space Research</i> , 2022, , .	1.2	0
2	Strong enhancement of Penning ionisation in cold Rydberg gases II: Tom and Jerry pairs for alkali-metal atoms. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2021, 54, 065201.	0.6	2
3	Penningionization processes involving cold Rydberg alkali metal atoms. <i>European Physical Journal D</i> , 2020, 74, 1.	0.6	0
4	The Optimal Pair of Rydberg Alkali-Metal Atoms in the Nonsymmetric Penning Ionization Processes. <i>Optics and Spectroscopy (English Translation of Optika i Spektroskopiya)</i> , 2019, 127, 375-384.	0.2	1
5	Atom-Rydberg Atom Collisions in Hydrogen Plasmas: Cross Sections and Rate Coefficients. <i>Journal of Physics: Conference Series</i> , 2019, 1289, 012022.	0.3	0
6	Dynamic Instability of Rydberg Atomic Complexes. <i>Atoms</i> , 2019, 7, 22.	0.7	2
7	Special Issue on Atomic and Ionic Collisions with Formation of Quasimolecules. <i>Atoms</i> , 2019, 7, 3.	0.7	0
8	Free-Free Absorption in Solar Atmosphere. <i>Geomagnetism and Aeronomy</i> , 2018, 58, 1067-1072.	0.2	1
9	The Collisional Atomic Processes of Rydberg Hydrogen and Helium Atoms: Astrophysical Relevance. <i>Galaxies</i> , 2018, 6, 72.	1.1	4
10	Hyperfine interaction in the Autler-Townes effect: The formation of bright, dark, and chameleon states. <i>Physical Review A</i> , 2017, 96, .	1.0	7
11	Rydberg Atoms: From Determinism to Chaos. <i>Russian Journal of Physical Chemistry B</i> , 2017, 11, 912-927.	0.2	5
12	Nonlinear Spectroscopy of Alkali Atoms in Cold Medium of Astrophysical Relevance. <i>Atoms</i> , 2017, 5, 50.	0.7	7
13	Strong enhancement of Penning ionization for asymmetric atom pairs in cold Rydberg gases: the Tom and Jerry effect. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 125302.	0.6	10
14	Nonlinear effects in optical pumping of a cold and slow atomic beam. <i>Physical Review A</i> , 2015, 92, .	1.0	12
15	Particularities of optical pumping effects in cold and ultra-slow beams of Na and Cs in the case of cyclic transitions. <i>Optics and Spectroscopy (English Translation of Optika i Spektroskopiya)</i> , 2015, 119, 1038-1048.	0.2	2
16	Dynamics Resonances in Atomic States of Astrophysical Relevance. <i>Journal of Astrophysics and Astronomy</i> , 2015, 36, 613.	0.4	4
17	On the applicability of the one-dimensional model of diffusion ionization to the three-dimensional Rydberg hydrogen atom in a microwave field. <i>Optics and Spectroscopy (English Translation of Optika i Spektroskopiya)</i> , 2014, 117, 1038-1048.	0.2	4
18	Superluminal two-color light in a multiple Raman gain medium. <i>Physical Review A</i> , 2014, 90, .	1.0	5

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19	Anomalies in radiation-collisional kinetics of Rydberg atoms induced by the effects of dynamical chaos and the double Stark resonance. <i>Advances in Space Research</i> , 2014, 54, 1159-1163.	1.2	2
20	Dynamic resonances in the autoionization Rydberg states of atomic systems. <i>Russian Journal of Physical Chemistry A</i> , 2014, 88, 1889-1903.	0.1	2
21	Analysis of light-induced diffusion ionization of a three-dimensional hydrogen atom based on the Floquet technique and split-operator method. <i>Optics and Spectroscopy (English Translation of Optika)</i> Tj ETQq1 1 0.2843149gBT /Ov	0.2	1
22	Dynamic Characteristics of Excited Atomic Systems. <i>Journal of Physics: Conference Series</i> , 2014, 565, 012021.	0.3	0
23	Analytical model of transit time broadening for two-photon excitation in a three-level ladder and its experimental validation. <i>Physical Review A</i> , 2012, 86, .	1.0	7
24	Effect of photoions on the line shape of the FÃ†rster resonance lines and microwave transitions in cold rubidium Rydberg atoms. <i>Journal of Experimental and Theoretical Physics</i> , 2012, 114, 14-24.	0.2	13
25	Specifics of the stochastic ionization of a Rydberg collision complex with FÃ†rster resonance. <i>Russian Journal of Physical Chemistry B</i> , 2011, 5, 537-545.	0.2	4
26	Influence of inelastic Rydberg atomâ€“atom collisional process on kinetic and optical properties of low-temperature laboratory and astrophysical plasmas. <i>Journal of Physics: Conference Series</i> , 2010, 257, 012027.	0.3	7
27	Optimization of sub-Doppler absorption contour in gas-dynamic beams. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2010, 108, 877-882.	0.2	1
28	Rydberg atoms in astrophysics. <i>New Astronomy Reviews</i> , 2009, 53, 259-265.	5.2	33
29	Autoionization of an ultracold Rydberg gas through resonant dipole coupling. <i>European Physical Journal D</i> , 2009, 53, 329-335.	0.6	32
30	Ionization of Rydberg atoms by blackbody radiation. <i>New Journal of Physics</i> , 2009, 11, 013052.	1.2	42
31	Ionization of nS, nP, and nD lithium, potassium, and cesium Rydberg atoms by blackbody radiation. <i>Journal of Experimental and Theoretical Physics</i> , 2008, 107, 20-27.	0.2	9
32	Manipulation of dark states and control of coherent processes with spectrally broad light. <i>Physical Review A</i> , 2008, 78, .	1.0	5
33	Broadening and intensity redistribution in the $Na \rightarrow 3s \rightarrow 3p$ excitation spectra due to optical pumping in the weak excitation limit. <i>Physical Review A</i> , 2008, 77, .	1.0	19
34	Nonlinear radiation imprisonment in magneto-optical vapor traps. <i>Physical Review A</i> , 2008, 77, .	1.0	1
35	Consequences of optical pumping and interference for excitation spectra in a coherently driven molecular ladder system. <i>Physical Review A</i> , 2008, 78, .	1.0	4
36	Chemi-ionization Processes. <i>Alkali-metal Geocosmical Plasmas. AIP Conference Proceedings</i> , 2007, , .	0.3	0

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37	Ionization of sodium and rubidium $S_{nP}$ and $D_{nD}$ Rydberg atoms by blackbody radiation. <i>Physical Review A</i> , 2007, 75, .	1.0	34
38	Ionization of Rb and Na Rydberg atoms by blackbody radiation. , 2007, , .		0
39	Rate coefficients for the chemi-ionization processes in sodium- and other alkali-metal geocosmical plasmas. <i>New Astronomy Reviews</i> , 2007, 51, 547-562.	5.2	20
40	Reduced Doppler absorption profile in atomic and molecular beams. <i>Optics and Spectroscopy (English)</i> Tj ETQq0 0 0 rgBT /Overlock 10	0.2	3
41	<title>Collisional and thermal ionization of sodium Rydberg atoms in single and crossed atomic beams</title>. , 2006, , .		0
42	<title>Comments on the metrology properties of FROG method</title>. , 2006, 6251, 106.		0
43	Collisional and thermal ionization of sodium Rydberg atoms: I. Experiment for $S_{nP}$ and $D_{nD}$ atoms with $n=8$ –20. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2005, 38, S17-S35.	0.6	20
44	Collisional and thermal ionization of sodium Rydberg atoms III. Experiment and theory for $S_{nP}$ and $D_{nD}$ states with $n=8$ –20 in crossed atomic beams. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2005, 38, 4349-4361.	0.6	21
45	Autler-Townes effect in a sodium molecular-ladder scheme. <i>Physical Review A</i> , 2005, 71, .	1.0	32
46	Collisional and thermal ionization of sodium Rydberg atoms: II. Theory for $S_{nP}$ and $D_{nD}$ states with $n=5$ –25. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2005, 38, 1811-1831.	0.6	28
47	Diffusion ionization of the Rydberg diatomic quasi-molecular complex formed upon collisions of rubidium atoms. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2003, 95, 515-524.	0.2	7
48	On accounting for the effect of particles of a condensed dispersed phase on radiant energy transfer in gaseous media. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2003, 95, 631-637.	0.2	2
49	Time-dependent radiative transfer in magneto-optical traps. <i>Physical Review A</i> , 2003, 68, .	1.0	4
50	Velocity redistribution of excited atoms by radiative excitation transfer. II. Theory of radiation trapping in collimated beams. <i>Journal of Chemical Physics</i> , 2003, 119, 7094-7110.	1.2	7
51	Velocity redistribution of excited atoms by radiative excitation transfer. I. Experimental demonstration by photodissociation of $Na_2$ and field-free imaging. <i>Journal of Chemical Physics</i> , 2003, 119, 3174-3186.	1.2	5
52	A quasi-classical description of the stochastic dynamics of a Rydberg electron in a diatomic quasi-molecular complex. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2002, 93, 661-669.	0.2	20
53	Direct numerical method to solve radiation trapping problems with a Doppler-broadening mechanism for partial frequency redistribution. <i>Physical Review A</i> , 2001, 64, .	1.0	17
54	Analysis of Fokker-Planck type stochastic equations with variable boundary conditions in an elementary process of collisional ionization. <i>Optics and Spectroscopy (English Translation of Optika I) Tj ETQq0 0 0 rgBT /Overlock 10 T</i>		1

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55	Photoelectron spectrometry of atomic scandium in the region of the $3p \rightarrow 3d$ giant resonance. Physical Review A, 2001, 64, .	1.0	18
56	Solution of the Holstein equation of radiation trapping by the geometrical quantization technique. II. Partial frequency redistribution with Doppler broadening. Physical Review A, 2001, 63, .	1.0	10
57	Direct method for numerical study of radiation trapping. Journal of Physics B: Atomic, Molecular and Optical Physics, 2000, 33, 99-107.	0.6	7
58	Solution of the Holstein equation of radiation trapping by the geometric quantization technique. II. Two- and three-dimensional geometries. Physical Review A, 1999, 59, 4340-4357.	1.0	18
59	Solution of the Holstein equation of radiation trapping in one-dimensional geometries by the geometric quantization technique. Physical Review A, 1998, 57, 2612-2624.	1.0	24
60	Nonlinear radiation trapping in an atomic vapor excited by a strong laser pulse. Physical Review E, 1997, 55, 3333-3350.	0.8	18
61	Radiation trapping in an alkali-vapor-noble-gas mixture excited by a strong laser pulse. Optics Communications, 1995, 120, 249-256.	1.0	11
62	Distribution of the radiative lifetimes over the excited states of atoms and ions. Uspekhi Fizicheskikh Nauk, 1991, 34, 1-15.	0.3	7
63	Associative ionisation rate constants measured in cell and beam experiments. Journal of Physics B: Atomic and Molecular Physics, 1987, 20, 2497-2513.	1.6	44
64	Approximation of effective lifetimes for spatially nonuniform excitation of atoms. Journal of Applied Spectroscopy, 1986, 44, 127-130.	0.3	0
65	Determination of atom concentrations by resonant radiation capture. Journal of Applied Spectroscopy, 1986, 45, 671-675.	0.3	0
66	The influence of reflection of light quanta from the boundary of an absorbing medium on the effectiveness of resonance-radiation capture. Journal of Quantitative Spectroscopy and Radiative Transfer, 1985, 34, 1-6.	1.1	2
67	On the possibility of extraordinary low rate constants of some collision reactions in atomic beams. Journal of Physics B: Atomic and Molecular Physics, 1984, 17, L449-L452.	1.6	7
68	Influence of features of the atomic velocity distribution function of the efficiency of collisional reaction in an atomic beam. Journal of Applied Spectroscopy, 1984, 40, 637-642.	0.3	2
69	Some possibilities of the optical excitation of molecular beams under radiation-transfer conditions. Journal of Applied Spectroscopy, 1979, 30, 387-389.	0.3	1
70	Expressions of "fast" and "slow" chameleon dressed states in Autler-Townes spectra of alkali metal atoms. Astronomische Nachrichten, 0, , .	0.6	1