

Nikolai N Bezuglov

List of Publications by Year in descending order

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70
papers

666
citations

471509

17
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642732

23
g-index

71
all docs

71
docs citations

71
times ranked

308
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Ionization of Rydberg atoms by blackbody radiation. New Journal of Physics, 2009, 11, 013052.	2.9	42
3	Ionization of sodium and rubidium S, nP , and nD Rydberg atoms by blackbody radiation. Physical Review A, 2007, 75, .	2.5	34
4	Rydberg atoms in astrophysics. New Astronomy Reviews, 2009, 53, 259-265.	12.8	33
5	Autler-Townes effect in a sodium molecular-ladder scheme. Physical Review A, 2005, 71, .	2.5	32
6	Autoionization of an ultracold Rydberg gas through resonant dipole coupling. European Physical Journal D, 2009, 53, 329-335.	1.3	32
7	Collisional and thermal ionization of sodium Rydberg atoms: II. Theory for S, nP and nD states with $n=5$ –25. Journal of Physics B: Atomic, Molecular and Optical Physics, 2005, 38, 1811-1831.	1.5	28
8	Solution of the Holstein equation of radiation trapping in one-dimensional geometries by the geometric quantization technique. Physical Review A, 1998, 57, 2612-2624.	2.5	24
9	Analysis of Fokker-Planck type stochastic equations with variable boundary conditions in an elementary process of collisional ionization. Optics and Spectroscopy (English Translation of Optika i Spektroskopiya), 2007, 43, 147-151.	0.7	23
10	Collisional and thermal ionization of sodium Rydberg atoms III. Experiment and theory for S and nD states with $n=8$ –20 in crossed atomic beams. Journal of Physics B: Atomic, Molecular and Optical Physics, 2005, 38, 4349-4361.	1.5	21
11	A quasi-classical description of the stochastic dynamics of a Rydberg electron in a diatomic quasi-molecular complex. Optics and Spectroscopy (English Translation of Optika i Spektroskopiya), 2002, 93, 661-669.	0.6	20
12	Collisional and thermal ionization of sodium Rydberg atoms: I. Experiment for S and nD atoms with $n=8$ –20. Journal of Physics B: Atomic, Molecular and Optical Physics, 2005, 38, S17-S35.	1.5	20
13	Rate coefficients for the chemi-ionization processes in sodium- and other alkali-metal geocosmical plasmas. New Astronomy Reviews, 2007, 51, 547-562.	12.8	20
14	Broadening and intensity redistribution in the Na excitation spectra due to optical pumping in the weak excitation limit. Physical Review A, 2008, 77, .	2.5	19
15	Nonlinear radiation trapping in an atomic vapor excited by a strong laser pulse. Physical Review E, 1997, 55, 3333-3350.	2.1	18
16	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.	2.5	18
17	Photoelectron spectrometry of atomic scandium in the region of the $3d$ giant resonance. Physical Review A, 2001, 64, .	2.5	18
18	Direct numerical method to solve radiation trapping problems with a Doppler-broadening mechanism for partial frequency redistribution. Physical Review A, 2001, 64, .	2.5	17

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19	Effect of photoions on the line shape of the FÃrster resonance lines and microwave transitions in cold rubidium Rydberg atoms. <i>Journal of Experimental and Theoretical Physics</i> , 2012, 114, 14-24.	0.9	13
20	Nonlinear effects in optical pumping of a cold and slow atomic beam. <i>Physical Review A</i> , 2015, 92, .	2.5	12
21	Radiation trapping in an alkali-vapor-noble-gas mixture excited by a strong laser pulse. <i>Optics Communications</i> , 1995, 120, 249-256.	2.1	11
22	Solution of the Holstein equation of radiation trapping by the geometrical quantization technique.â€œIII. Partial frequency redistribution with Doppler broadening. <i>Physical Review A</i> , 2001, 63, .	2.5	10
23	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.	1.5	10
24	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.	0.9	9
25	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) Tj ETQq1 1 0.784314 9gBT /Over</i>	0.7	9
26	On the possibility of extraordinary low rate constants of some collision reactions in atomic beams. <i>Journal of Physics B: Atomic and Molecular Physics</i> , 1984, 17, L449-L452.	1.6	7
27	Distribution of the radiative lifetimes over the excited states of atoms and ions. <i>Uspekhi Fizicheskikh Nauk</i> , 1991, 34, 1-15.	0.3	7
28	Direct method for numerical study of radiation trapping. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2000, 33, 99-107.	1.5	7
29	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.	0.6	7
30	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.	3.0	7
31	Influence of inelastic Rydberg atomâ€œatom collisional process on kinetic and optical properties of low-temperature laboratory and astrophysical plasmas. <i>Journal of Physics: Conference Series</i> , 2010, 257, 012027.	0.4	7
32	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, .	2.5	7
33	Hyperfine interaction in the Autler-Townes effect: The formation of bright, dark, and chameleon states. <i>Physical Review A</i> , 2017, 96, .	2.5	7
34	Nonlinear Spectroscopy of Alkali Atoms in Cold Medium of Astrophysical Relevance. <i>Atoms</i> , 2017, 5, 50.	1.6	7
35	Velocity redistribution of excited atoms by radiative excitation transfer. I. Experimental demonstration by photodissociation of Na2 and field-free imaging. <i>Journal of Chemical Physics</i> , 2003, 119, 3174-3186.	3.0	5
36	Manipulation of dark states and control of coherent processes with spectrally broad light. <i>Physical Review A</i> , 2008, 78, .	2.5	5

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37	Superluminal two-color light in a multiple Raman gain medium. <i>Physical Review A</i> , 2014, 90, .	2.5	5
38	Rydberg Atoms: From Determinism to Chaos. <i>Russian Journal of Physical Chemistry B</i> , 2017, 11, 912-927.	1.3	5
39	Time-dependent radiative transfer in magneto-optical traps. <i>Physical Review A</i> , 2003, 68, .	2.5	4
40	Consequences of optical pumping and interference for excitation spectra in a coherently driven molecular ladder system. <i>Physical Review A</i> , 2008, 78, .	2.5	4
41	Specifics of the stochastic ionization of a Rydberg collision complex with F ₂ first resonance. <i>Russian Journal of Physical Chemistry B</i> , 2011, 5, 537-545.	1.3	4
42	Dynamics Resonances in Atomic States of Astrophysical Relevance. <i>Journal of Astrophysics and Astronomy</i> , 2015, 36, 613.	1.0	4
43	The Collisional Atomic Processes of Rydberg Hydrogen and Helium Atoms: Astrophysical Relevance. <i>Galaxies</i> , 2018, 6, 72.	3.0	4
44	Reduced Doppler absorption profile in atomic and molecular beams. <i>Optics and Spectroscopy (English)</i> Tj ETQq0 0 0 rgBT /Overlock 10 0.6	0.6	3
45	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)</i> Tj ETQq1 1 0.784314rgBT /O	0.7	3
46	Influence of features of the atomic velocity distribution function of the efficiency of collisional reaction in an atomic beam. <i>Journal of Applied Spectroscopy</i> , 1984, 40, 637-642.	0.7	2
47	The influence of reflection of light quanta from the boundary of an absorbing medium on the effectiveness of resonance-radiation capture. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1985, 34, 1-6.	2.3	2
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.	0.6	2
49	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.	2.6	2
50	Dynamic resonances in the autoionization Rydberg states of atomic systems. <i>Russian Journal of Physical Chemistry A</i> , 2014, 88, 1889-1903.	0.6	2
51	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.	0.6	2
52	Dynamic Instability of Rydberg Atomic Complexes. <i>Atoms</i> , 2019, 7, 22.	1.6	2
53	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.	1.5	2
54	Some possibilities of the optical excitation of molecular beams under radiation-transfer conditions. <i>Journal of Applied Spectroscopy</i> , 1979, 30, 387-389.	0.7	1

#	ARTICLE	IF	CITATIONS
55	Nonlinear radiation imprisonment in magneto-optical vapor traps. <i>Physical Review A</i> , 2008, 77, .	2.5	1
56	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.	0.6	1
57	Free-Free Absorption in Solar Atmosphere. <i>Geomagnetism and Aeronomy</i> , 2018, 58, 1067-1072.	0.8	1
58	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.	0.6	1
59	Expressions of "fast" and "slow" chameleon dressed states in Autler-Townes spectra of alkali metal atoms. <i>Astronomische Nachrichten</i> , 0, , .	1.2	1
60	Approximation of effective lifetimes for spatially nonuniform excitation of atoms. <i>Journal of Applied Spectroscopy</i> , 1986, 44, 127-130.	0.7	0
61	Determination of atom concentrations by resonant radiation capture. <i>Journal of Applied Spectroscopy</i> , 1986, 45, 671-675.	0.7	0
62	<title>Collisional and thermal ionization of sodium Rydberg atoms in single and crossed atomic beams</title>. , 2006, , .		0
63	<title>Comments on the metrology properties of FROG method</title>. , 2006, 6251, 106.		0
64	Chemi-ionization Processes. Alkali-metal Geocosmical Plasmas. <i>AIP Conference Proceedings</i> , 2007, , .	0.4	0
65	Ionization of Rb and Na Rydberg atoms by blackbody radiation. , 2007, , .		0
66	Dynamic Characteristics of Excited Atomic Systems. <i>Journal of Physics: Conference Series</i> , 2014, 565, 012021.	0.4	0
67	Atom-Rydberg Atom Collisions in Hydrogen Plasmas: Cross Sections and Rate Coefficients. <i>Journal of Physics: Conference Series</i> , 2019, 1289, 012022.	0.4	0
68	Special Issue on Atomic and Ionic Collisions with Formation of Quasimolecules. <i>Atoms</i> , 2019, 7, 3.	1.6	0
69	Penningionization processes involving cold Rydberg alkali metal atoms. <i>European Physical Journal D</i> , 2020, 74, 1.	1.3	0
70	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, , .	2.6	0