Nikolai Filippov

List of Publications by Year
in descending order

64	786	567281 15	526287 27
papers	citations	h-index	g-index

64	64	64	423
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Influence of line interference on the vibration-rotation band shapes. Journal of Quantitative Spectroscopy and Radiative Transfer, 1984, 31, 521-543.	2.3	152
2	GOSAT-2009 methane spectral line list in the 5550â€“6236cmâ¯1 range. Journal of Quantitative Spectroscopy and Radiative Transfer, 2010, 111, 2211-2224.	2.3	79
3	Measurements and empirical modeling of pure CO_2 absorption in the 23-Î¼m region at room temperature: far wings, allowed and collision-induced bands. Applied Optics, 1996, 35, 4863.	2.1	59
4	GOSAT-2014 methane spectral line list. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 154, 63-71.	2.3	48
5	Semiclassical analysis of line mixing in the infrared bands of CO and CO2. Journal of Quantitative Spectroscopy and Radiative Transfer, 1993, 50, 111-125.	2.3	35
6	A simple model of the line mixing effect for atmospheric applications: Theoretical background and comparison with experimental profiles. Journal of Quantitative Spectroscopy and Radiative Transfer, 1996, 56, 783-795.	2.3	34
7	Kinetic theory of band shapes in molecular spectra of gases: Application to band wings. Journal of Chemical Physics, 1998, 108, 3608-3619.	3.0	31
8	Estimation of line parameters under line mixing effects: the Î½3 band of CH4 in helium. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 69, 189-204.	2.3	27
9	Line mixing and collision induced absorption in the oxygen A-band using cavity ring-down spectroscopy. Journal of Chemical Physics, 2010, 133, 114305.	3.0	22
10	Line parameters and shapes of high clusters: R branch of the Î½3 band of CH4 in He mixtures. Journal of Quantitative Spectroscopy and Radiative Transfer, 2002, 74, 431-443.	2.3	21
11	Study of collision-induced rotational perturbations in gases via the wing shape of infrared bands. Canadian Journal of Physics, 1984, 62, 1306-1314.	1.1	19
12	Line-mixing effects in the 3v3 band of CO2 perturbed by Ar. Journal of Quantitative Spectroscopy and Radiative Transfer, 1996, 55, 307-320.	2.3	18
13	Line-mixing effects in the Î½3 parallel absorption band of CH3F perturbed by rare gases. Journal of Quantitative Spectroscopy and Radiative Transfer, 1997, 58, 287-299.	2.3	18
14	Line mixing in the infrared spectra of simple gases at moderate and high densities. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 1996, 52, 901-918.	3.9	17
15	Collision-induced absorption in the O2 B-band region near 670 nm. Physical Chemistry Chemical Physics, 2011, 13, 9616.	2.8	16
16	Effect of stable and metastable dimers on collision-induced rototranslational spectra: Carbon dioxide â€“ rare gas mixtures. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 196, 87-93.	2.3	15
17	Air pressure broadening and shifting of high-J lines of (00011) â†•(00001) band of 12C16O2. Journal of Quantitative Spectroscopy and Radiative Transfer, 2010, 111, 2315-2320.	2.3	14
18	Experimental and theoretical studies of CO2 spectra for planetary atmosphere modelling: region 600â€“9650 cmâ¯1 and pressures up to 60 atm. Physical Chemistry Chemical Physics, 2013, 15, 13826.	2.8	14

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19	Double scattering on the nucleus in the perturbative QCD. European Physical Journal C, 1999, 6, 343-348.	3.9	13
20	The effect of collisions with nitrogen on absorption by oxygen in the A-band using cavity ring-down spectroscopy.. Molecular Physics, 2011, 109, 535-542.	1.7	12
21	Spatialâ€“Temporal CO2 Variations near St. Petersburg Based on Satellite and Ground-Based Measurements. Izvestiya - Atmospheric and Oceanic Physics, 2019, 55, 59-64.	0.9	11
22	Semiclassical line mixing analysis in the first overtone band of CO compressed by N2. Infrared Physics and Technology, 1994, 35, 897-903.	2.9	8
23	Line mixing effect on the pure CO2 absorption in the region. Journal of Quantitative Spectroscopy and Radiative Transfer, 2002, 72, 315-325.	2.3	8
24	Communication: Evidence of stable van der Waals CO2 clusters relevant to Venus atmosphere conditions. Journal of Chemical Physics, 2015, 142, 051101.	3.0	8
25	Line Interference in Î½3 Rotational-Vibrational Band of N2O in the Strong Interaction Approximation. Physica Scripta, 1982, 25, 378-380.	2.5	7
26	Temperature dependence of CH3I self-broadening coefficients in the Î½6 fundamental. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 242, 106797.	2.3	7
27	CO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>â€“CO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>Âand CO<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:msub><mml:mrow />	2.3	7
28	Room-temperature CH3I-N2 broadening coefficients for the Î½6 fundamental. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 266, 107566.	2.3	7
29	Line shapes in the rotational spectra of HF in AR gas: New experimental data and calculations of line interference. Journal of Quantitative Spectroscopy and Radiative Transfer, 1996, 55, 61-70.	2.3	6
30	Modelling of the rotational relaxation matrix in line-mixing effect calculations. Molecular Physics, 2004, 102, 1843-1850.	1.7	5
31	Oxygen- and air-broadening coefficients for the CH3I Î½6 fundamental at room temperature. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 273, 107839.	2.3	5
32	Collision-induced double transition effects in the 3Î½3CO2band wing region. Journal of Chemical Physics, 1997, 106, 2067-2072.	3.0	4
33	Spectroscopic manifestation of molecular rotation dynamics in dense media: CO fundamental band in liquid and solid CO-Kr and CO-Xe solutions. Journal of Molecular Liquids, 2001, 92, 251-261.	4.9	4
34	Non-Markovian approach to pressure broadening of isolated lines in spectra of light rotators. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 278, 108043.	2.3	4
35	Asymptotic behavior of line shifts in the 0-0 and 0-1 bands of HF in a bath of argon: Influence of vibration-rotation coupling. Journal of Chemical Physics, 2000, 113, 2504-2505.	3.0	3
36	Line mixing in theÎ½3and forbiddenÎ½2bands of CH4in gaseous helium. Molecular Physics, 2006, 104, 2711-2718.	1.7	3

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37	Modeling of the absorption profile of the 60 GHz band of atmospheric oxygen using the memory function formalism. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2008, 105, 7-13.	0.6	3
38	Line-mixing in absorption bands of linear molecules diluted in high-density rare gases: Measurements and modeling for OCS-He. Journal of Chemical Physics, 2013, 138, 164117.	3.0	3
39	Determining Both Tropospheric and Stratospheric Ð¡Ðž2 Contents Using a Ground-Based IR Spectroscopic Method. Izvestiya - Atmospheric and Oceanic Physics, 2021, 57, 286-296.	0.9	3
40	νHF band shape in Xe...HF, OC...HF complexes in transition from dilute gas to condensed systems. , 1997, , .		2
41	Asymptotic behavior of collision-induced line shifts in HF rotational band. , 2000, 4063, 208.		2
42	Infrared studies of CO2 doped Xe solutions in gas, liquid and solid phases. The fundamental Î½3 band and the Coriolis perturbed Fermi doublet (Î½21+Î½221, Î½21+Î½211). Journal of Molecular Structure, 2001, 596, 179-183.	3.6	2
43	Origin of abnormally sharp features in collision-induced spectra of cryosolutions. Journal of Chemical Physics, 2015, 143, 044508.	3.0	2
44	Systematization of Sources of Data on Spectral Line Parameters for the CO2 Molecule and Its Isotopologues in the W@DIS Information System. Atmospheric and Oceanic Optics, 2018, 31, 201-215.	1.3	2
45	Non-empirical calculations of rotovibrational band wings: Carbon dioxideâ€“rare gas mixtures. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 247, 106950.	2.3	2
46	Analysis of the Information Content and Vertical Resolution of Ground-Based IR Spectroscopy for Determining the Vertical Structure of CO2. Atmospheric and Oceanic Optics, 2021, 34, 87-92.	1.3	2
47	Line-broadening and line-mixing effect in Î½ 3 band of CH 4 perturbed by He gas. , 2000, 4063, 212.		1
48	Collision Induced Far Wings of CO2 and H2O Bands in Ir Spectra. , 2003, , 125-136.		1
49	Computation and analysis of line-mixing effects in CO 2 and CO IR bands using quasi-classical theory. , 1992, 1811, 282.		0
50	Quasiclassical impact theory of IR band shapes of linear molecules. , 1992, , .		0
51	Evolution of the vibration-rotation νHF band of weak complexes with the gas density increase. , 1994, , .		0
52	Rotational line asymmetry as an evidence of line mixing: HF-He. , 1994, , .		0
53	Influence of interbranch line coupling on the infrared band shapes. , 1994, 2205, 2.		0
54	Analysis of line mixing in CD 2-0 band in high pressure nitrogen. , 1994, 2205, 328.		0

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55	Semiclassical analysis of the interbranch line coupling in the infrared band shapes of linear molecules. AIP Conference Proceedings, 1995, , .	0.4	0
56	Experimental HF-Ar lineshape parameters in far infrared: Broadening, shifts, and line mixing. AIP Conference Proceedings, 1995, , .	0.4	0
57	Line mixing effect on IR line clusters and line wings: relaxation matrix and applications. , 1999, , .		0
58	Shape of the IR bands of CH4: The CH4-Kr system in different phase states. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2000, 88, 169-175.	0.6	0
59	Experimental bandshapes of the Î½ 3 band of CH 3 F in helium: the role of interbranch and intrabranch line mixing. , 2000, 4063, 239.		0
60	<title>The role of the imaginary part of the relaxation matrix in vibration-rotation bandshape calculations</title>. , 2004, , .		0
61	<title>Distributed information system on molecular spectroscopy</title>. , 2006, 6580, 228.		0
62	<title>Line mixing effects on the shapes of fluoroform IR absorption bands perturbed by foreign gases</title>. , 2006, , .		0
63	Helicity-induced shapes of resonant four-wave mixing responses from photofragments. Journal of Physics: Conference Series, 2017, 810, 012019.	0.4	0
64	Vibrational shifts of absorption bands of linear molecules diluted in high-density rare gases: Measurements and modeling for CO2-Rg and OCS-Rg. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 246, 106935.	2.3	0