Boulet Christian

List of Publications by Year
in descending order

48 papers	1,322 citations	331670 21 h-index	345221 36 g-index
48 all docs	48 docs citations	48 times ranked	772 citing authors

#	Article	IF	Citations
1	Line coupling and line mixing effects on calculated widths of symmetric-top molecules with the k-degeneracy: A theoretical study of N2-, O2-, and air-broadened lines of CH3I. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 288, 108273.	2.3	3
2	Theoretical study of CH3Cl-N2 line shapes in the Î½1â€…band. Line mixing effects in QR doublets and QQk sub-branches. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 273, 107844.	2.3	4
3	Line shape parameters of PH3 transitions: Theoretical studies of self-broadened widths and line mixing effects. Journal of Chemical Physics, 2020, 152, 214305.	3.0	9
4	Ultrafast collisional dissipation of symmetric-top molecules probed by rotational alignment echoes. Physical Review A, 2020, 101, .	2.5	4
5	Molecular alignment echoes probing collision-induced rotational-speed changes. Physical Review Research, 2020, 2, .	3.6	8
6	Update of the HITRAN collision-induced absorption section. Icarus, 2019, 328, 160-175.	2.5	105
7	Far infrared measurements of absorptions by CH4â€¯+â€¯CO2 and H2â€¯+â€¯CO2 mixtures and implications for greenhouse warming on early Mars. Icarus, 2019, 321, 189-199.	2.5	31
8	Effect of humidity on the absorption continua of CO2 and N2 near 4 Î¼m: Calculations, comparisons with measurements, and consequences for atmospheric spectra. Journal of Chemical Physics, 2018, 148, 054304.	3.0	16
9	Recent advances in collisional effects on spectra of molecular gases and their practical consequences. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 213, 178-227.	2.3	85
10	Collisional dissipation of the laser-induced alignment of ethane gas: A requantized classical model. Journal of Chemical Physics, 2018, 149, 154301.	3.0	5
11	Collisional dissipation of the laser-induced alignment of ethane gas: Energy corrected sudden quantum model. Journal of Chemical Physics, 2018, 149, 214305.	3.0	3
12	Collisionâ€induced absorption by N₂ near 2.16â€‰Âμm: Calculations, model, and consequences for atmospheric remote sensing. Journal of Geophysical Research D: Atmospheres, 2017, 122, 2419-2428.	3.3	19
13	Vibrational dependence of line coupling and line mixing in self-broadened parallel bands of NH3. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 203, 425-433.	2.3	12
14	Relaxation matrix for symmetric tops with inversion symmetry: Line coupling and line mixing effects on NH3 lines in the ?4 band. Journal of Chemical Physics, 2017, 146, 134312.	3.0	13
15	The relaxation matrix for symmetric tops with inversion symmetry. I. Effects of line coupling on self-broadened Î½1 and pure rotational bands of NH3. Journal of Chemical Physics, 2016, 144, 224303.	3.0	13
16	The relaxation matrix for symmetric tops with inversion symmetry. II. Line mixing effects in the Î½1 band of NH3. Journal of Chemical Physics, 2016, 144, 224304.	3.0	11
17	Line mixing in parallel and perpendicular bands of CO2: A further test of the refined Robert-Bonamy formalism. Journal of Chemical Physics, 2015, 143, 124313.	3.0	4
18	Dissipation of postâ€pulse laserâ€induced alignment of CO₂ through collisions with Ar. Journal of Raman Spectroscopy, 2015, 46, 691-694.	2.5	9

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19	Line interference effects using a refined Robert-Bonamy formalism: The test case of the isotropic Raman spectra of autoperturbed N2. Journal of Chemical Physics, 2014, 140, 084310.	3.0	14
20	Effects on calculated half-widths and shifts from the line coupling for asymmetric-top molecules. Journal of Chemical Physics, 2014, 140, 244301.	3.0	10
21	Two dimensional symmetric correlation functions of the ${m hat S}$SÌ, operator and two dimensional Fourier transforms: Considering the line coupling for P and R lines of linear molecules. Journal of Chemical Physics, 2014, 140, 104304.	3.0	10
22	Line mixing effects in isotropic Raman spectra of pure N2: A classical trajectory study. Journal of Chemical Physics, 2014, 141, 184306.	3.0	5
23	Refinement of the Robert-Bonamy formalism: Considering effects from the line coupling. Journal of Chemical Physics, 2013, 139, 034305.	3.0	18
24	Field-free molecular alignment for probing collisional relaxation dynamics. Physical Review A, 2013, 87, .	2.5	44
25	Dissipation of alignment in CO2 gas: A comparison between ab initio predictions and experiments. Journal of Chemical Physics, 2013, 139, 024306.	3.0	19
26	Quantum and classical approaches for rotational relaxation and nonresonant laser alignment of linear molecules: A comparison for CO2 gas in the nonadiabatic regime. Journal of Chemical Physics, 2012, 136, 184302.	3.0	51
27	Probing ultrafast thermalization with field-free molecular alignment. Physical Review A, 2012, 86, .	2.5	11
28	Semiclassical calculations of half-widths and line shifts for transitions in the 30012â†00001 and 30013â†00001 bands of CO2, I: Collisions with N2. Journal of Quantitative Spectroscopy and Radiative Transfer, 2012, 113, 976-990.	2.3	43
29	Comparison of quantum, semi-classical and classical methods in the calculation of nitrogen self-broadened linewidths. Journal of Quantitative Spectroscopy and Radiative Transfer, 2012, 113, 1887-1897.	2.3	27
30	Molecular dynamics simulations for CO2 spectra. III. Permanent and collision-induced tensors contributions to light absorption and scattering. Journal of Chemical Physics, 2011, 134, 184312.	3.0	23
31	Molecular dynamics simulations for CO2 spectra. II. The far infrared collision-induced absorption band. Journal of Chemical Physics, 2011, 134, 094316.	3.0	34
32	Line-mixing between rotational Stark components of CH3F self-perturbed and perturbed by helium: Experimental results and IOS analysis. Journal of Molecular Spectroscopy, 2011, 266, 12-20.	1.2	5
33	Measurements and modelling of high pressure pure CO2 spectra from 750 to 8500cmâ^'1. Iâ€"central and wing regions of the allowed vibrational bands. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 925-936.	2.3	51
34	Molecular dynamics simulations for CO2 absorption spectra. I. Line broadening and the far wing of the Î½3 infrared band. Journal of Chemical Physics, 2010, 133, 144313.	3.0	22
35	Modification of the Robertâ€"Bonamy formalism in calculating Lorentzian half-widths and shifts. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 103, 588-596.	2.3	59
36	Vibration-dependent trajectories and their effects on vibrational dephasing. Journal of Molecular Spectroscopy, 2007, 243, 105-112.	1.2	9

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37	Irreducible correlation functions of the SÌ, matrix in the coordinate representation: Application in calculating Lorentzian half-widths and shifts. Journal of Chemical Physics, 2006, 124, 014109.	3.0	16
38	Spectra calculations in central and wing regions of CO2 IR bands between 10 and . I: model and laboratory measurements. Journal of Quantitative Spectroscopy and Radiative Transfer, 2004, 88, 483-498.	2.3	65
39	Ab initio line shape cross sections: On the need of off-the-energy shell calculation. Journal of Chemical Physics, 2002, 116, 7537-7543.	3.0	38
40	Experimental and theoretical study of the collision-induced fundamental absorption spectra of N2â€“O2 and O2â€“N2 pairs. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 69, 245-256.	2.3	19
41	Sum rules and the symmetry of the memory function in spectral line shape theories. Journal of Quantitative Spectroscopy and Radiative Transfer, 1998, 59, 259-271.	2.3	44
42	Line mixing and nonlinear density effects in the Î½3 and 3Î½3 infrared bands of CO2 perturbed by He up to 1000 bar. Journal of Chemical Physics, 1995, 102, 7306-7316.	3.0	30
43	Theoretical study of the collision-induced fundamental absorption spectra of N2-N2 pairs for temperatures between 77 and 297 K. Journal of Quantitative Spectroscopy and Radiative Transfer, 1994, 51, 615-627.	2.3	33
44	Stateâ€toâ€state rotational phase coherence effect on the vibrationâ€“rotation band shape: An accurate quantum calculation for COâ€“He. Journal of Chemical Physics, 1989, 90, 5392-5398.	3.0	77
45	IOS and ECS line coupling calculation for the COâ€“He system: Influence on the vibrationâ€“rotation band shapes. Journal of Chemical Physics, 1987, 87, 3436-3446.	3.0	51
46	Air broadened linewidths, intensities, and spectral line shapes for CO_2 at 43 Î¼m in the region of the AMTS instrument. Applied Optics, 1986, 25, 2434.	2.1	43
47	Line coupling in the temperature and frequency dependences of absorption in the microwindows of the 4.3 Î¼m CO2 band. Journal of Quantitative Spectroscopy and Radiative Transfer, 1986, 36, 521-538.	2.3	83
48	Pressure induced shifts in HCl/HF and HF/HCI systems. Journal De Physique, 1981, 42, 203-208.	1.8	14