

Boulet Christian

List of Publications by Year in descending order

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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	Update of the HITRAN collision-induced absorption section. <i>Icarus</i> , 2019, 328, 160-175.	2.5	105
2	Recent advances in collisional effects on spectra of molecular gases and their practical consequences. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2018, 213, 178-227.	2.3	85
3	Line coupling in the temperature and frequency dependences of absorption in the microwindows of the 4.3 μm CO ₂ band. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1986, 36, 521-538.	2.3	83
4	State-to-state rotational phase coherence effect on the vibration-rotation band shape: An accurate quantum calculation for CO-He. <i>Journal of Chemical Physics</i> , 1989, 90, 5392-5398.	3.0	77
5	Spectra calculations in central and wing regions of CO ₂ IR bands between 10 and μm : I: model and laboratory measurements. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2004, 88, 483-498.	2.3	65
6	Modification of the Robert-Bonamy formalism in calculating Lorentzian half-widths and shifts. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2007, 103, 588-596.	2.3	59
7	IOS and ECS line coupling calculation for the CO-He system: Influence on the vibration-rotation band shapes. <i>Journal of Chemical Physics</i> , 1987, 87, 3436-3446.	3.0	51
8	Measurements and modelling of high pressure pure CO ₂ spectra from 750 to 8500 cm^{-1} . I: central and wing regions of the allowed vibrational bands. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 925-936.	2.3	51
9	Quantum and classical approaches for rotational relaxation and nonresonant laser alignment of linear molecules: A comparison for CO ₂ gas in the nonadiabatic regime. <i>Journal of Chemical Physics</i> , 2012, 136, 184302.	3.0	51
10	Sum rules and the symmetry of the memory function in spectral line shape theories. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1998, 59, 259-271.	2.3	44
11	Field-free molecular alignment for probing collisional relaxation dynamics. <i>Physical Review A</i> , 2013, 87, .	2.5	44
12	Air broadened linewidths, intensities, and spectral line shapes for CO ₂ at 4.3 μm in the region of the AMTS instrument. <i>Applied Optics</i> , 1986, 25, 2434.	2.1	43
13	Semiclassical calculations of half-widths and line shifts for transitions in the 30012 $\nu_1 + \nu_2$ and 30013 $\nu_1 + \nu_2$ bands of CO ₂ , I: Collisions with N ₂ . <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2012, 113, 976-990.	2.3	43
14	Ab initio line shape cross sections: On the need of off-the-energy shell calculation. <i>Journal of Chemical Physics</i> , 2002, 116, 7537-7543.	3.0	38
15	Molecular dynamics simulations for CO ₂ spectra. II. The far infrared collision-induced absorption band. <i>Journal of Chemical Physics</i> , 2011, 134, 094316.	3.0	34
16	Theoretical study of the collision-induced fundamental absorption spectra of N ₂ -N ₂ pairs for temperatures between 77 and 297 K. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1994, 51, 615-627.	2.3	33
17	Far infrared measurements of absorptions by CH ₄ -CO ₂ and H ₂ -CO ₂ mixtures and implications for greenhouse warming on early Mars. <i>Icarus</i> , 2019, 321, 189-199.	2.5	31
18	Line mixing and nonlinear density effects in the ν_2 and $3\nu_2$ infrared bands of CO ₂ perturbed by He up to 1000 bar. <i>Journal of Chemical Physics</i> , 1995, 102, 7306-7316.	3.0	30

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19	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
20	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
21	Molecular dynamics simulations for CO2 absorption spectra. I. Line broadening and the far wing of the $\hat{1}/23$ infrared band. Journal of Chemical Physics, 2010, 133, 144313.	3.0	22
22	Experimental and theoretical study of the collision-induced fundamental absorption spectra of N2 $\hat{2}$ O2 and O2 $\hat{2}$ N2 pairs. Journal of Quantitative Spectroscopy and Radiative Transfer, 2001, 69, 245-256.	2.3	19
23	Dissipation of alignment in CO2 gas: A comparison between <i>ab initio</i> predictions and experiments. Journal of Chemical Physics, 2013, 139, 024306.	3.0	19
24	Collision-induced absorption by N ₂ near 2.16 $\hat{2}$ μ m: Calculations, model, and consequences for atmospheric remote sensing. Journal of Geophysical Research D: Atmospheres, 2017, 122, 2419-2428.	3.3	19
25	Refinement of the Robert-Bonamy formalism: Considering effects from the line coupling. Journal of Chemical Physics, 2013, 139, 034305.	3.0	18
26	Irreducible correlation functions of the \hat{S} , matrix in the coordinate representation: Application in calculating Lorentzian half-widths and shifts. Journal of Chemical Physics, 2006, 124, 014109.	3.0	16
27	Effect of humidity on the absorption continua of CO2 and N2 near 4 $\hat{1}/4$ μ m: Calculations, comparisons with measurements, and consequences for atmospheric spectra. Journal of Chemical Physics, 2018, 148, 054304.	3.0	16
28	Pressure induced shifts in HCl/HF and HF/HCl systems. Journal De Physique, 1981, 42, 203-208.	1.8	14
29	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
30	The relaxation matrix for symmetric tops with inversion symmetry. I. Effects of line coupling on self-broadened $\hat{1}/21$ and pure rotational bands of NH3. Journal of Chemical Physics, 2016, 144, 224303.	3.0	13
31	Relaxation matrix for symmetric tops with inversion symmetry: Line coupling and line mixing effects on NH3 lines in the $\hat{2}$ 4 band. Journal of Chemical Physics, 2017, 146, 134312.	3.0	13
32	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
33	Probing ultrafast thermalization with field-free molecular alignment. Physical Review A, 2012, 86, .	2.5	11
34	The relaxation matrix for symmetric tops with inversion symmetry. II. Line mixing effects in the $\hat{1}/21$ band of NH3. Journal of Chemical Physics, 2016, 144, 224304.	3.0	11
35	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
36	Two dimensional symmetric correlation functions of the \hat{S} , 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

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37	Vibration-dependent trajectories and their effects on vibrational dephasing. Journal of Molecular Spectroscopy, 2007, 243, 105-112.	1.2	9
38	Dissipation of post-pulse laser-induced alignment of CO ₂ through collisions with Ar. Journal of Raman Spectroscopy, 2015, 46, 691-694.	2.5	9
39	Line shape parameters of PH ₃ transitions: Theoretical studies of self-broadened widths and line mixing effects. Journal of Chemical Physics, 2020, 152, 214305.	3.0	9
40	Molecular alignment echoes probing collision-induced rotational-speed changes. Physical Review Research, 2020, 2, .	3.6	8
41	Line-mixing between rotational Stark components of CH ₃ F self-perturbed and perturbed by helium: Experimental results and IOS analysis. Journal of Molecular Spectroscopy, 2011, 266, 12-20.	1.2	5
42	Line mixing effects in isotropic Raman spectra of pure N ₂ : A classical trajectory study. Journal of Chemical Physics, 2014, 141, 184306.	3.0	5
43	Collisional dissipation of the laser-induced alignment of ethane gas: A requantized classical model. Journal of Chemical Physics, 2018, 149, 154301.	3.0	5
44	Line mixing in parallel and perpendicular bands of CO ₂ : A further test of the refined Robert-Bonamy formalism. Journal of Chemical Physics, 2015, 143, 124313.	3.0	4
45	Ultrafast collisional dissipation of symmetric-top molecules probed by rotational alignment echoes. Physical Review A, 2020, 101, .	2.5	4
46	Theoretical study of CH ₃ Cl-N ₂ line shapes in the $\hat{1}\frac{1}{2}1\hat{1}\dots$ band. Line mixing effects in QR doublets and QQk sub-branches. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 273, 107844.	2.3	4
47	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
48	Line coupling and line mixing effects on calculated widths of symmetric-top molecules with the k-degeneracy: A theoretical study of N ₂ -, O ₂ -, and air-broadened lines of CH ₃ I. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 288, 108273.	2.3	3