Daniel Lisak

List of Publications by Year
in descending order

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134 papers	2,972 citations	147801 31 h-index	182427 51 g-index
136 all docs	136 docs citations	136 times ranked	1224 citing authors

#	Article	IF	Citations
1	An isolated line-shape model to go beyond the Voigt profile in spectroscopic databases and radiative transfer codes. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 129, 89-100.	2.3	256
2	Recommended isolated-line profile for representing high-resolution spectroscopic transitions (IUPAC) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.9	225
3	Spectroscopic line parameters of water vapor for rotation-vibration transitions near<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>7180</mml:mn><mml:mtext>â€,</mml:mtext><mml:msup><mml:mrow><mml:mtext>cm</ Physical Review A, 2009, 79, .	2.5	99
4	High-signal-to-noise-ratio laser technique for accurate measurements of spectral line parameters. Physical Review A, 2012, 85, .	2.5	96
5	Comparison of semiclassical line-shape models to rovibrationalH2Ospectra measured by frequency-stabilized cavity ring-down spectroscopy. Physical Review A, 2006, 73, .	2.5	95
6	Pound-Drever-Hall-locked, frequency-stabilized cavity ring-down spectrometer. Review of Scientific Instruments, 2011, 82, 063107.	1.3	92
7	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
8	Experimental constraint on dark matter detection with optical atomic clocks. Nature Astronomy, 2017, 1, .	10.1	84
9	Frequency-stabilized cavity ring-down spectroscopy. Chemical Physics Letters, 2012, 536, 1-8.	2.6	72
10	The air-broadened, near-infrared CO2 line shape in the spectrally isolated regime: Evidence of simultaneous Dicke narrowing and speed dependence. Journal of Chemical Physics, 2011, 135, 064308.	3.0	67
11	Cavity mode-width spectroscopy with widely tunable ultra narrow laser. Optics Express, 2013, 21, 29744.	3.4	58
12	Experimental intensity and lineshape parameters of the oxygen A-band using frequency-stabilized cavity ring-down spectroscopy. Journal of Molecular Spectroscopy, 2008, 248, 1-13.	1.2	57
13	Comparison between theoretical calculations and high-resolution measurements of pressure broadening for near-infrared water spectra. Journal of Molecular Spectroscopy, 2008, 249, 86-94.	1.2	54
14	Cavity ring-down spectroscopy of the oxygen B-band with absolute frequency reference to the optical frequency comb. Journal of Chemical Physics, 2012, 136, 024201.	3.0	54
15	Accurate deuterium spectroscopy for fundamental studies. Journal of Quantitative Spectroscopy and Radiative Transfer, 2018, 213, 41-51.	2.3	54
16	High-resolution cavity ring-down spectroscopy measurements of blended H2O transitions. Applied Physics B: Lasers and Optics, 2007, 88, 317-325.	2.2	51
17	Comb-linked, cavity ring-down spectroscopy for measurements of molecular transition frequencies at the kHz-level. Journal of Chemical Physics, 2013, 138, 094201.	3.0	51
18	Line-shape study of self-broadened O<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>transitions measured by Pound-Drever-Hall-locked frequency-stabilized cavity ring-down spectroscopy. Physical Review A, 2011, 84, .	2.5	46

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19	Influence of the line-shape model on the spectroscopic determination of the Boltzmann constant. Physical Review A, 2010, 82, .	2.5	45
20	Absolute measurement of the 1S0â€‰â^’â€‰3P0 clock transition in neutral 88Sr over the 330 km-long stabilized fibre optic link. Scientific Reports, 2015, 5, 17495.	3.3	45
21	Frequency-stabilized cavity ring-down spectrometer for high-sensitivity measurements of water vapor concentration. Applied Physics B: Lasers and Optics, 2006, 85, 375-382.	2.2	43
22	One-dimensional frequency-based spectroscopy. Optics Express, 2015, 23, 14472.	3.4	42
23	Spectral line shapes of self-broadened P-branch transitions of oxygen B band. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 144, 36-48.	2.3	41
24	An accurate comparison of lineshape models on H2O lines in the spectral region around 3Î¼m. Journal of Molecular Spectroscopy, 2004, 227, 162-171.	1.2	40
25	Observations of Dicke narrowing and speed dependence in air-broadened CO2 lineshapes near 2.06Â<i>Î¼</i>m. Journal of Chemical Physics, 2014, 141, 174301.	3.0	40
26	Application of the Hartmannâ€“Tran profile to analysis of H2O spectra. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 164, 221-230.	2.3	39
27	Line shapes and intensities of self-broadened<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math><mml:m xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>b</mml:mi></mml:mrow></mml:math><mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:m	2.5	38
28	Active control of the Poundâ€“Deverâ€“Hall error signal offset in high-repetition-rate cavity ring-down spectroscopy. Measurement Science and Technology, 2011, 22, 115303.	2.6	37
29	Absolute molecular transition frequencies measured by three cavity-enhanced spectroscopy techniques. Journal of Chemical Physics, 2016, 144, 214202.	3.0	37
30	Low pressure line-shape study of self-broadened CO transitions in the (3â†0) band. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 130, 191-200.	2.3	32
31	Quadratic speed dependence of collisional broadening and shifting for atmospheric applications. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 151, 43-48.	2.3	32
32	Fibre-optic delivery of time and frequency to VLBI station. Astronomy and Astrophysics, 2017, 603, A48.	5.1	32
33	Spectral line-shapes investigation with Pound-Drever-Hall-locked frequency-stabilized cavity ring-down spectroscopy. European Physical Journal: Special Topics, 2013, 222, 2119-2142.	2.6	29
34	Broadband Optical Cavity Mode Measurements at Hz-Level Precision With a Comb-Based VIPA Spectrometer. Scientific Reports, 2019, 9, 8206.	3.3	29
35	Low-uncertainty H2O line intensities for the 930-nm region. Journal of Molecular Spectroscopy, 2008, 249, 6-13.	1.2	28
36	Iterative approach to line-shape calculations based on the transport-relaxation equation. Physical Review A, 2013, 88, .	2.5	28

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37	A new approach to spectral line shapes of the weak oxygen transitions for atmospheric applications. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 169, 111-121.	2.3	27
38	Laser-induced fluorescence study of collision-time asymmetry and speed-dependent effects on the114Cd326.1-nm line perturbed by Xe. Physical Review A, 2000, 62, .	2.5	26
39	High-precision pressure shifting measurement technique using frequency-stabilized cavity ring-down spectroscopy. Journal of Quantitative Spectroscopy and Radiative Transfer, 2008, 109, 435-444.	2.3	26
40	Strontium optical lattice clocks for practical realization of the metre and secondary representation of the second. Measurement Science and Technology, 2015, 26, 075201.	2.6	26
41	High-accuracy and wide dynamic range frequency-based dispersion spectroscopy in an optical cavity. Optics Express, 2019, 27, 21810.	3.4	26
42	Ultrahigh finesse cavity-enhanced spectroscopy for accurate tests of quantum electrodynamics for molecules. Optics Letters, 2020, 45, 1603.	3.3	26
43	H2 -He collisions: Ab initio theory meets cavity-enhanced spectra. Physical Review A, 2020, 101, .	2.5	24
44	Role of velocity- and speed-changing collisions on speed-dependent line shapes ofH2. Physical Review A, 2002, 66, .	2.5	22
45	One-dimensional cavity mode-dispersion spectroscopy for validation of CRDS technique. Measurement Science and Technology, 2016, 27, 045501.	2.6	21
46	The first comprehensive dataset of beyond-Voigt line-shape parameters from ab initio quantum scattering calculations for the HITRAN database: He-perturbed H<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si11.svg"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math> case study. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 260, 107477.	2.3	21
47	Low-pressure line-shape study in molecular oxygen with absolute frequency reference. Journal of Chemical Physics, 2013, 139, 194312.	3.0	20
48	Highâ€accuracy measurements of the vapor pressure of ice referenced to the triple point. Geophysical Research Letters, 2013, 40, 6303-6307.	4.0	20
49	Wavelength-meter controlled cavity ring-down spectroscopy: high-sensitivity detection of trace moisture in N 2 at sub-ppb levels. Sensors and Actuators A: Physical, 2016, 241, 152-160.	4.1	20
50	Spectral line shapes and frequencies of the molecular oxygen B-band R-branch transitions. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 155, 22-31.	2.3	19
51	Absolute frequency determination of molecular transition in the Doppler regime at kHz level of accuracy. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 201, 156-160.	2.3	19
52	Speed-dependent and correlation effects on the line shape of acetylene. Physical Review A, 2005, 72, .	2.5	18
53	Self-referenced, accurate and sensitive optical frequency comb spectroscopy with a virtually imaged phased array spectrometer. Optics Letters, 2016, 41, 974.	3.3	18
54	Analytical-function correction to the Hartmannâ€“Tran profile for more reliable representation of the Dicke-narrowed molecular spectra. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 242, 106784.	2.3	18

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55	Line positions, pressure broadening and shift coefficients for the second overtone transitions of carbon monoxide in argon. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 191, 46-54.	2.3	16
56	Speed-dependent effects and Dicke narrowing in nitrogen-broadened oxygen. Journal of Quantitative Spectroscopy and Radiative Transfer, 2015, 165, 68-75.	2.3	15
57	Ultra-Narrow Laser for Optical Frequency Reference. Acta Physica Polonica A, 2012, 121, 614-621.	0.5	15
58	Dual-comb cavity ring-down spectroscopy. Scientific Reports, 2022, 12, 2377.	3.3	14
59	On the role of Dicke narrowing in the formation of atomic line shapes in the optical domain. Journal of Physics B: Atomic, Molecular and Optical Physics, 2003, 36, 3985-3998.	1.5	13
60	Collision-Time Asymmetry and Speed-Dependent Effects on the114Cd 326.1 nm Line Perturbed by Kr. Acta Physica Polonica A, 2001, 99, 243-256.	0.5	12
61	Response of an optical cavity to phase-controlled incomplete power switching of nearly resonant incident light. Optics Express, 2018, 26, 5644.	3.4	11
62	Collision-time asymmetry of the 114Cd 326.1 nm line perturbed by Ar. European Physical Journal D, 2001, 14, 27-31.	1.3	10
63	Accuracy budget of the88Sr optical atomic clocks at KL FAMO. Physica Scripta, 2016, 91, 084003.	2.5	10
64	Parts-per-trillion sensitivity for trace-moisture detection using wavelength-meter-controlled cavity ring-down spectroscopy. AIP Advances, 2019, 9, .	1.3	10
65	Laser-induced fluorescence study of the influence of N $scriptstyle mathsf {}$ 2 and CH $scriptstyle mathsf {}$ 4 on the $scriptstyle mathsf {}$. European Physical Journal D, 2003, 23, 217-222.	1.3	9
66	Cavity buildup dispersion spectroscopy. Communications Physics, 2021, 4, .	5.3	9
67	Line-shape analysis for high J R-branch transitions of the oxygen B band. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 242, 106789.	2.3	8
68	Pressure Broadening and Shift of the 326.1 nm Cd Line Perturbed by H₂and D₂. Acta Physica Polonica A, 2000, 97, 1003-1010.	0.5	8
69	Simultaneous observation of speed dependence and Dicke narrowing for self-perturbed P-branch lines of O<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si36.svg"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math> B band. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 276, 107927.	2.3	7
70	Effects of Low-Polarizability Perturbers on the Cadmium Intercombination Line. Acta Physica Polonica A, 2003, 103, 23-40.	0.5	7
71	Frequency-based dispersion Lamb-dip spectroscopy in a high finesse optical cavity. Optics Express, 2021, 29, 39449.	3.4	7
72	Speed-Dependent Effects on the 748.8 nm Ne Self-Broadened Line. Acta Physica Polonica A, 1999, 96, 359-372.	0.5	6

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73	The hyperfine and isotope structure of the Cd intercombination line â€“ revisited. European Physical Journal D, 2009, 51, 295-302.	1.3	5
74	Precise cavity enhanced absorption spectroscopy. Journal of Physics: Conference Series, 2014, 548, 012015.	0.4	5
75	Dispersion corrections to the Gaussian profile describing the Doppler broadening of spectral lines. Physical Review A, 2016, 93, .	2.5	5
76	Nonlinear resonances in linear segmented Paul trap of short central segment. Journal of Mass Spectrometry, 2018, 53, 541-547.	1.6	5
77	Observation of the Line-Mixing and Collision-Time Asymmetry of the 5¹S₀-5³P₁Line of the Even-Odd¹¹³Cd Isotope. Acta Physica Polonica A, 2004, 105, 329-338.	0.5	5
78	Influence of Excitation Processes on the Shape of Argon and Neon Lines. Acta Physica Polonica A, 2000, 97, 275-284.	0.5	5
79	Optical system for Doppler cooling of trapped calcium ions. Photonics Letters of Poland, 2017, 9, 119.	0.4	5
80	Investigation of highly excited states of calcium by three-photon ionization. European Physical Journal D, 2004, 30, 15-22.	1.3	4
81	Asymmetry and speed-dependent effects on the 748.8Ânm self-broadened neon line. European Physical Journal D, 2010, 56, 17-25.	1.3	4
82	Spectroscopic measurement of the vapour pressure of ice. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 2509-2519.	3.4	4
83	Note: Reliable, robust measurement system for trace moisture in gas at parts-per-trillion levels using cavity ring-down spectroscopy. Review of Scientific Instruments, 2015, 86, 106110.	1.3	4
84	Speed-dependent effects in Doppler-free saturation spectra. Journal of Molecular Spectroscopy, 2018, 351, 21-28.	1.2	4
85	Broadband and high resolution measurements of cavity loss and dispersion. Photonics Letters of Poland, 2018, 10, 48.	0.4	4
86	Line mixing in the oxygen B band head. Journal of Chemical Physics, 2022, 156, 084301.	3.0	4
87	Temperature effects on the width, shift and asymmetry of 748.8Ânm self-broadened neon line. European Physical Journal D, 2011, 61, 1-6.	1.3	3
88	Spectral line-shapes of oxygen B-band transitions measured with cavity ring-down spectroscopy. Journal of Physics: Conference Series, 2014, 548, 012028.	0.4	3
89	Multi-spectrum fitting software for advanced spectral line shapes analysis. Journal of Physics: Conference Series, 2017, 810, 012025.	0.4	3
90	Electron impact ionization of calcium atoms inside quadrupole trap. Journal of Physics: Conference Series, 2017, 875, 052008.	0.4	3

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91	Spectral line-shape study by cavity-enhanced complex refractive index spectroscopy. Journal of Physics: Conference Series, 2017, 810, 012007.	0.4	3
92	Measurement of electron-calcium ionization integral cross section using an ion trap with a low-energy, pulsed electron gun. Journal of Electron Spectroscopy and Related Phenomena, 2018, 228, 13-19.	1.7	3
93	Semi-classical line shape models of rovibrational H[sub 2]O spectra tested using frequency-stabilized cavity ring-down spectroscopy. , 2008, , .		2
94	Precision spectroscopy of cold strontium atoms, towards optical atomic clock. Bulletin of the Polish Academy of Sciences: Technical Sciences, 2012, 60, 707-710.	0.8	2
95	Alternative approaches to cavity enhanced absorption spectroscopy. Journal of Physics: Conference Series, 2014, 548, 012024.	0.4	2
96	VIPA spectrometer calibration and comb-cavity locking schemes comparison for sensitive and accurate frequency comb spectroscopy. Journal of Physics: Conference Series, 2017, 810, 012035.	0.4	2
97	Multispectrum-fitting of phenomenological collisional line-shape models to a speed-dependent Blackmore profile for spectroscopic analysis and databases. Journal of Physics: Conference Series, 2017, 810, 012061.	0.4	2
98	Dual-laser cavity ring-down spectroscopy for real-time, long-term measurement of trace moisture in gas. Measurement Science and Technology, 2019, 30, 015002.	2.6	2
99	Non-Adiabatic Semiclassical Calculations of the Collision-Time Asymmetry of the114Cd 326.1 nm Line Perturbed by Noble Gases. Acta Physica Polonica A, 2004, 105, 217-232.	0.5	2
100	Broadband CO2 measurements with VIPA spectrometer in the near-infrared. Photonics Letters of Poland, 2015, 7, .	0.4	2
101	Spectral analysis of H₂O near 7180 cm^{â€“1} to accurately measure trace moisture in N₂ gas: evaluation of line shape profiles using Akaike Information Criterion. Japanese Journal of Applied Physics, 2022, 61, 012003.	1.5	2
102	Asymmetry of hyperfine-structure components of the 5 1S0-53P1 113Cd line perturbed by argon. European Physical Journal: Special Topics, 2007, 144, 239-242.	2.6	1
103	Application of precise line shape measurements to determine the vapor pressure of ice in the temperature range from 0 to â˜70Â°â€‰C. , 2010, , .		1
104	CRDS investigation of line shapes and intensities of the oxygen B-band transitions at low pressures. , 2010, , .		1
105	Ultra accurate measurements andab initiocalculations of collisional effects in pure D2.. Journal of Physics: Conference Series, 2017, 810, 012042.	0.4	1
106	Dispersion and relativistic corrections to the spectral line-shape models. Journal of Physics: Conference Series, 2017, 810, 012062.	0.4	1
107	Fourier-Transform Frequency Comb Cavity Mode Spectroscopy at Hz Level for Trace Gas Measurements. , 2018, , .		1
108	VIPA Spectrometer for Accurate and Sensitive Self-Referenced Frequency Comb Spectroscopy. , 2016, , .		1

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109	Asymmetric line broadening. , 2003, , .		0
110	Line-mixing and collision duration asymmetry of the 51S 0 -53P 1 line of even-odd and even-even isotopes of cadmium. , 2005, , .		0
111	Methane-in-air standards measured using a 1.65Î¼m frequency-stabilized cavity ring-down spectrometer. , 2006, , .		0
112	Line Shape Study of the 326.1 nm [sup 113]Cd line perturbed by Ar and Xe. , 2008, , .		0
113	Isotope Structure and Hyperfine Splitting of 326.1 nm [sup 113]Cd line. , 2008, , .		0
114	Frequency-stabilized cavity ring-down spectroscopy with a PDH locked laser. , 2010, , .		0
115	Spectral line shape problem in the spectroscopic determination of the Boltzmann constant. , 2010, , .		0
116	Demonstration of the extremely high signal-to-noise ratio and advanced O₂B-band line shape analysis in the PDH-locked FS-CRDS experiment. Journal of Physics: Conference Series, 2012, 397, 012046.	0.4	0
117	Transition frequencies of oxygen B-band lines measured with optical frequency comb assisted cavity ring-down spectroscopy. Journal of Physics: Conference Series, 2012, 397, 012045.	0.4	0
118	Towards Polish Optical Clock with Cold Strontium Atoms, present status and performance. , 2012, , .		0
119	Project of photoassociative measurements for determination of the density shift of the¹S<inf>0</inf>−³P<inf>0</inf> clock transition in neutral strontium. , 2013, , .		0
120	Line-shapes analysis with ultra-high accuracy. Journal of Physics: Conference Series, 2014, 548, 012022.	0.4	0
121	CRDS investigation of line shapes of the nitrogen-broadened oxygenB-band transition. Journal of Physics: Conference Series, 2015, 635, 092109.	0.4	0
122	Two independent strontium optical lattice clocks for practical realization of the meter and secondary representation of the second. , 2015, , .		0
123	The optical 88Sr lattice clocks and stabilized fibre links: A frequency reference for the VLBI system over a 15.5-km link and an absolute measurement of the clock transition over a 330-km link. , 2016, , .		0
124	Speed-dependent Voigt profile parameters for oxygen B-band measured by cavity ring-down spectrometer referenced to the optical frequency comb. Journal of Physics: Conference Series, 2017, 810, 012030.	0.4	0
125	Measurement of oxygen Bâ€“band line center frequency in reference to strontium atomic optical clock. Journal of Physics: Conference Series, 2017, 810, 012024.	0.4	0
126	Experimental constraint on dark matter-standard model coupling with optical atomic clocks. , 2017, , .		0

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127	XXIII International Conference on Spectral Line Shapes. Journal of Physics: Conference Series, 2017, 810, 011001.	0.4	0
128	Optical Frequency Comb Spectroscopy for Gas Metrology and Trace Gas Detection. , 2017, , .		0
129	Optical Cavity Mode Measurements at Hz-Level Precision With a Comb-Based VIPA Spectrometer. , 2018, , .		0
130	Comb-Based Fourier-Transform Spectrometry for Broadband Measurements of Absorption and Dispersion. , 2019, , .		0
131	Temperature Effects on Dissociative Recombination in Neon. Acta Physica Polonica A, 2011, 119, 336-341.	0.5	0
132	Broadband cavity-enhanced molecular absorption and dispersion spectroscopy with a frequency comb-based VIPA spectrometer. , 2018, , .		0
133	Cavity-Enhanced Direct Optical Frequency Comb Spectroscopy with Tooth-Width Limited Resolution. , 2019, , .		0
134	Mirror Characterization and Complex Refractive Index Measurements with Hz-level Resolution Fourier Transform Spectrometry. , 2019, , .		0