

Bryan Changala

List of Publications by Year in descending order

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59
papers

5,499
citations

172457

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h-index

155660

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60
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60
docs citations

60
times ranked

4235
citing authors

#	ARTICLE	IF	CITATIONS
1	Rotational spectrum of anti- and gauche-4-cyano-1-butyne (C ₅ H ₅ N) – An open-chain isomer of pyridine. Journal of Molecular Spectroscopy, 2022, 385, 111604.	1.2	3
2	A Search for Heterocycles in GOTHAM Observations of TMC-1. Journal of Physical Chemistry A, 2022, 126, 2716-2728.	2.5	25
3	Interstellar Detection of 2-cyanocyclopentadiene, C ₅ H ₅ CN, a Second Five-membered Ring toward TMC-1. Astrophysical Journal Letters, 2021, 910, L2.	8.3	33
4	Discovery of the Pure Polycyclic Aromatic Hydrocarbon Indene (c-C ₉ H ₈) with GOTHAM Observations of TMC-1. Astrophysical Journal Letters, 2021, 913, L18.	8.3	96
5	Observations and Analysis of CH ⁺ Vibrational Emissions from the Young, Carbon-rich Planetary Nebula NGC 7027: A Textbook Example of Chemical Pumping. Astrophysical Journal, 2021, 917, 15.	4.5	9
6	Anomalous Intensities in the Infrared Emission of CH ⁺ Explained by Quantum Nuclear Motion and Electric Dipole Calculations. Astrophysical Journal, 2021, 917, 16.	4.5	5
7	Ultrasensitive multispecies spectroscopic breath analysis for real-time health monitoring and diagnostics. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	43
8	Elaborated thermochemical treatment of HF, CO, N ₂ , and H ₂ O: Insight into HEAT and its extensions. Journal of Chemical Physics, 2021, 155, 184109.	3.0	15
9	Photodissociation transition states characterized by chirped pulse millimeter wave spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 146-151.	7.1	11
10	Exhaustive Product Analysis of Three Benzene Discharges by Microwave Spectroscopy. Journal of Physical Chemistry A, 2020, 124, 5170-5181.	2.5	38
11	Synchrotron-Based High Resolution Far-Infrared Spectroscopy of <i>trans</i> -Butadiene. Journal of Physical Chemistry A, 2020, 124, 2427-2435.	2.5	4
12	Frontispiece: The Hunt for Elusive Molecules: Insights from Joint Theoretical and Experimental Investigations. Chemistry - A European Journal, 2019, 25, .	3.3	0
13	The Hunt for Elusive Molecules: Insights from Joint Theoretical and Experimental Investigations. Chemistry - A European Journal, 2019, 25, 7243-7258.	3.3	8
14	Rotational Characterization of the Elusive <i>gauche</i> -Isoprene. Journal of Physical Chemistry Letters, 2019, 10, 1981-1985.	4.6	8
15	Direct Frequency Comb Spectroscopy with an Immersion Grating. , 2019, , .		1
16	Rovibrational quantum state resolution of the C ₆₀ fullerene. Science, 2019, 363, 49-54.	12.6	67
17	Broadband molecular spectroscopy with optical frequency combs. Journal of Molecular Spectroscopy, 2019, 355, 66-78.	1.2	50
18	Direct measurements of DOCO isomers in the kinetics of OD + CO. Science Advances, 2018, 4, eaao4777.	10.3	22

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19	The Molecular Structure of gauche α , β -Butadiene: Experimental Establishment of Nonplanarity. <i>Angewandte Chemie</i> , 2018, 130, 1839-1843.	2.0	10
20	The equilibrium structure of hydrogen peroxide. <i>Journal of Molecular Spectroscopy</i> , 2018, 343, 92-95.	1.2	20
21	The Molecular Structure of <i>gauche</i> α , β -Butadiene: Experimental Establishment of Nonplanarity. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 1821-1825.	13.8	46
22	Fourth-order vibrational perturbation theory with the Watson Hamiltonian: Report of working equations and preliminary results. <i>Journal of Chemical Physics</i> , 2018, 149, 114102.	3.0	32
23	Spectral analyses of <i>trans</i> - and <i>cis</i> -DICO transients via comb spectroscopy. <i>Molecular Physics</i> , 2018, 116, 3710-3717.	1.7	7
24	Phase-stabilized 100W frequency comb near 10 μ m. <i>Applied Physics B: Lasers and Optics</i> , 2018, 124, 128.	2.2	29
25	OD + CO \rightarrow D + CO ₂ branching kinetics probed with time-resolved frequency comb spectroscopy. <i>Chemical Physics Letters</i> , 2017, 683, 91-95.	2.6	8
26	Active Thermochemical Tables: The Adiabatic Ionization Energy of Hydrogen Peroxide. <i>Journal of Physical Chemistry A</i> , 2017, 121, 8799-8806.	2.5	33
27	Cold molecules: Progress in quantum engineering of chemistry and quantum matter. <i>Science</i> , 2017, 357, 1002-1010.	12.6	320
28	Gas-phase broadband spectroscopy using active sources: progress, status, and applications [Invited]. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2017, 34, 104.	2.1	105
29	High-performance near- and mid-infrared crystalline coatings. <i>Optica</i> , 2016, 3, 647.	9.3	132
30	Sensitivity and resolution in frequency comb spectroscopy of buffer gas cooled polyatomic molecules. <i>Applied Physics B: Lasers and Optics</i> , 2016, 122, 1.	2.2	16
31	<i>Ab initio</i> effective rotational and rovibrational Hamiltonians for non-rigid systems via curvilinear second order vibrational Møller-Plesset perturbation theory. <i>Journal of Chemical Physics</i> , 2016, 145, 174106.	3.0	32
32	Continuous probing of cold complex molecules with infrared frequency comb spectroscopy. <i>Nature</i> , 2016, 533, 517-520.	27.8	92
33	Three-photon absorption in optical parametric oscillators based on OP-GaAs. <i>Optics Letters</i> , 2016, 41, 5405.	3.3	25
34	Probing <i>cis-trans</i> isomerization in the S ₁ state of C ₂ H ₂ via H-atom action and hot band-pumped IR-UV double resonance spectroscopies. <i>Journal of Chemical Physics</i> , 2015, 143, 084310.	3.0	11
35	Communication: The ground electronic state of Si ₂ C: Rovibrational level structure, quantum monodromy, and astrophysical implications. <i>Journal of Chemical Physics</i> , 2015, 142, 231101.	3.0	21
36	Discovery of a Missing Link: Detection and Structure of the Elusive Disilicon Carbide Cluster. <i>Journal of Physical Chemistry Letters</i> , 2015, 6, 2107-2111.	4.6	36

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37	Spectroscopic characterization of isomerization transition states. <i>Science</i> , 2015, 350, 1338-1342.	12.6	45
38	DISCOVERY OF SiCSi IN IRC+10216: A MISSING LINK BETWEEN GAS AND DUST CARRIERS OF Siâ€C BONDS. <i>Astrophysical Journal Letters</i> , 2015, 806, L3.	8.3	75
39	Photoelectron Spectroscopy of the Methide Anion: Electron Affinities of CH_3^- and CD_3^- and Inversion Splittings of CH_3^- and CD_3^- . <i>Journal of the American Chemical Society</i> , 2015, 137, 12939-12945.	13.7	25
40	Reduced dimension rovibrational variational calculations of the S1 state of C2H2. II. The S1 rovibrational manifold and the effects of isomerization. <i>Journal of Chemical Physics</i> , 2014, 140, 024313.	3.0	9
41	Reduced dimension rovibrational variational calculations of the S1 state of C2H2. I. Methodology and implementation. <i>Journal of Chemical Physics</i> , 2014, 140, 024312.	3.0	4
42	Mid-Infrared Time-Resolved Frequency Comb Spectroscopy of Transient Free Radicals. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 2241-2246.	4.6	110
43	Mid-infrared virtually imaged phased array spectrometer for rapid and broadband trace gas detection. <i>Optics Letters</i> , 2012, 37, 3285.	3.3	102
44	The $\tilde{\nu}_1$ state of acetylene: ungerade vibrational levels in the region 45,800â€46,550 cm^{-1} . <i>Molecular Physics</i> , 2012, 110, 2707-2723.	1.7	19
45	Direct frequency comb spectroscopy in the extreme ultraviolet. <i>Nature</i> , 2012, 482, 68-71.	27.8	385
46	Quantum-Noise-Limited Optical Frequency Comb Spectroscopy. <i>Physical Review Letters</i> , 2011, 107, 233002.	7.8	145
47	Cavity-Enhanced Direct Frequency Comb Spectroscopy: Technology and Applications. <i>Annual Review of Analytical Chemistry</i> , 2010, 3, 175-205.	5.4	202
48	Mid-infrared Fourier transform spectroscopy with a broadband frequency comb. <i>Optics Express</i> , 2010, 18, 21861.	3.4	230
49	Phase-stabilized, 15 W frequency comb at 28â€48 μm . <i>Optics Letters</i> , 2009, 34, 1330.	3.3	294
50	Cavity-enhanced optical frequency comb spectroscopy: application to human breath analysis. <i>Optics Express</i> , 2008, 16, 2387.	3.4	286
51	Direct frequency comb spectroscopy. <i>Advances in Atomic, Molecular and Optical Physics</i> , 2008, 55, 1-60.	2.3	78
52	Broadband Cavity Ringdown Spectroscopy for Sensitive and Rapid Molecular Detection. <i>Science</i> , 2006, 311, 1595-1599.	12.6	447
53	Precision stabilization of femtosecond lasers to high-finesse optical cavities. <i>Physical Review A</i> , 2004, 69, .	2.5	42
54	United Time-Frequency Spectroscopy for Dynamics and Global Structure. <i>Science</i> , 2004, 306, 2063-2068.	12.6	244

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55	Flexible and rapidly configurable femtosecond pulse generation in the mid-IR. Optics Letters, 2003, 28, 370.	3.3	60
56	Colloquium: Femtosecond optical frequency combs. Reviews of Modern Physics, 2003, 75, 325-342.	45.6	913
57	Ultrasensitive detections in atomic and molecular physics: demonstration in molecular overtone spectroscopy. Journal of the Optical Society of America B: Optical Physics, 1998, 15, 6.	2.1	368
58	Vibronic mean-field and perturbation theory for Jahn-Teller and pseudo-Jahn-Teller molecules. Molecular Physics, 0, , 1-14.	1.7	1
59	Carbon-13 studies of sulphur-terminated carbon chains: chemical bonding, molecular structures, and formation pathways. Molecular Physics, 0, , .	1.7	1