Bryan Changala

List of Publications by Year
in descending order

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59 papers	5,499 citations	172457 29 h-index	155660 55 g-index
60 all docs	60 docs citations	60 times ranked	4235 citing authors

#	Article	IF	Citations
1	Colloquium: Femtosecond optical frequency combs. Reviews of Modern Physics, 2003, 75, 325-342.	45.6	913
2	Broadband Cavity Ringdown Spectroscopy for Sensitive and Rapid Molecular Detection. Science, 2006, 311, 1595-1599.	12.6	447
3	Direct frequency comb spectroscopy in the extreme ultraviolet. Nature, 2012, 482, 68-71.	27.8	385
4	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
5	Cold molecules: Progress in quantum engineering of chemistry and quantum matter. Science, 2017, 357, 1002-1010.	12.6	320
6	Phase-stabilized, 15 W frequency comb at 28â€“48 Î¼m. Optics Letters, 2009, 34, 1330.	3.3	294
7	Cavity-enhanced optical frequency comb spectroscopy: application to human breath analysis. Optics Express, 2008, 16, 2387.	3.4	286
8	United Time-Frequency Spectroscopy for Dynamics and Global Structure. Science, 2004, 306, 2063-2068.	12.6	244
9	Mid-infrared Fourier transform spectroscopy with a broadband frequency comb. Optics Express, 2010, 18, 21861.	3.4	230
10	Cavity-Enhanced Direct Frequency Comb Spectroscopy: Technology and Applications. Annual Review of Analytical Chemistry, 2010, 3, 175-205.	5.4	202
11	Quantum-Noise-Limited Optical Frequency Comb Spectroscopy. Physical Review Letters, 2011, 107, 233002.	7.8	145
12	High-performance near- and mid-infrared crystalline coatings. Optica, 2016, 3, 647.	9.3	132
13	Mid-Infrared Time-Resolved Frequency Comb Spectroscopy of Transient Free Radicals. Journal of Physical Chemistry Letters, 2014, 5, 2241-2246.	4.6	110
14	Gas-phase broadband spectroscopy using active sources: progress, status, and applications [Invited]. Journal of the Optical Society of America B: Optical Physics, 2017, 34, 104.	2.1	105
15	Mid-infrared virtually imaged phased array spectrometer for rapid and broadband trace gas detection. Optics Letters, 2012, 37, 3285.	3.3	102
16	Discovery of the Pure Polycyclic Aromatic Hydrocarbon Indene (c-C9H8) with GOTHAM Observations of TMC-1. Astrophysical Journal Letters, 2021, 913, L18.	8.3	96
17	Continuous probing of cold complex molecules with infrared frequency comb spectroscopy. Nature, 2016, 533, 517-520.	27.8	92
18	Direct frequency comb spectroscopy. Advances in Atomic, Molecular and Optical Physics, 2008, 55, 1-60.	2.3	78

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19	DISCOVERY OF SiCSi IN IRC+10216: A MISSING LINK BETWEEN GAS AND DUST CARRIERS OF Siâ€“C BONDS. Astrophysical Journal Letters, 2015, 806, L3.	8.3	75
20	Rovibrational quantum state resolution of the C ₆₀ fullerene. Science, 2019, 363, 49-54.	12.6	67
21	Flexible and rapidly configurable femtosecond pulse generation in the mid-IR. Optics Letters, 2003, 28, 370.	3.3	60
22	Broadband molecular spectroscopy with optical frequency combs. Journal of Molecular Spectroscopy, 2019, 355, 66-78.	1.2	50
23	The Molecular Structure of gaucheâ€1,3â€Butadiene: Experimental Establishment of Nonâ€planarity. Angewandte Chemie - International Edition, 2018, 57, 1821-1825.	13.8	46
24	Spectroscopic characterization of isomerization transition states. Science, 2015, 350, 1338-1342.	12.6	45
25	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
26	Precision stabilization of femtosecond lasers to high-finesse optical cavities. Physical Review A, 2004, 69, .	2.5	42
27	Exhaustive Product Analysis of Three Benzene Discharges by Microwave Spectroscopy. Journal of Physical Chemistry A, 2020, 124, 5170-5181.	2.5	38
28	Discovery of a Missing Link: Detection and Structure of the Elusive Disilicon Carbide Cluster. Journal of Physical Chemistry Letters, 2015, 6, 2107-2111.	4.6	36
29	Active Thermochemical Tables: The Adiabatic Ionization Energy of Hydrogen Peroxide. Journal of Physical Chemistry A, 2017, 121, 8799-8806.	2.5	33
30	Interstellar Detection of 2-cyanocyclopentadiene, C₅H₅CN, a Second Five-membered Ring toward TMC-1. Astrophysical Journal Letters, 2021, 910, L2.	8.3	33
31	Ab initio effective rotational and rovibrational Hamiltonians for non-rigid systems via curvilinear second order vibrational MÃ¸llerâ€“Plesset perturbation theory. Journal of Chemical Physics, 2016, 145, 174106.	3.0	32
32	Fourth-order vibrational perturbation theory with the Watson Hamiltonian: Report of working equations and preliminary results. Journal of Chemical Physics, 2018, 149, 114102.	3.0	32
33	Phase-stabilized 100ÂmW frequency comb near 10ÂÎ¼m. Applied Physics B: Lasers and Optics, 2018, 124, 128.	2.2	29
34	Photoelectron Spectroscopy of the Methide Anion: Electron Affinities of ^{â€¢}CH₃ and ^{â€¢}CD₃ and Inversion Splittings of CH₃^{â€“} and CD₃^{â€“}. Journal of the American Chemical Society, 2015, 137, 12939-12945.	13.7	25
35	Three-photon absorption in optical parametric oscillators based on OP-GaAs. Optics Letters, 2016, 41, 5405.	3.3	25
36	A Search for Heterocycles in GOTHAM Observations of TMC-1. Journal of Physical Chemistry A, 2022, 126, 2716-2728.	2.5	25

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37	Direct measurements of DOCO isomers in the kinetics of OD + CO. Science Advances, 2018, 4, eaao4777.	10.3	22
38	Communication: The ground electronic state of Si2C: Rovibrational level structure, quantum monodromy, and astrophysical implications. Journal of Chemical Physics, 2015, 142, 231101.	3.0	21
39	The equilibrium structure of hydrogen peroxide. Journal of Molecular Spectroscopy, 2018, 343, 92-95.	1.2	20
40	The Ãƒ¹A_u state of acetylene: ungerade vibrational levels in the region 45,800â€“46,550â€‰cm^{â^'1}. Molecular Physics, 2012, 110, 2707-2723.	1.7	19
41	Sensitivity and resolution in frequency comb spectroscopy of buffer gas cooled polyatomic molecules. Applied Physics B: Lasers and Optics, 2016, 122, 1.	2.2	16
42	Elaborated thermochemical treatment of HF, CO, N2, and H2O: Insight into HEAT and its extensions. Journal of Chemical Physics, 2021, 155, 184109.	3.0	15
43	Probing cis-trans isomerization in the S1 state of C2H2 via H-atom action and hot band-pumped IR-UV double resonance spectroscopies. Journal of Chemical Physics, 2015, 143, 084310.	3.0	11
44	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
45	The Molecular Structure of gauche â€1,3â€Butadiene: Experimental Establishment of Nonâ€planarity. Angewandte Chemie, 2018, 130, 1839-1843.	2.0	10
46	Reduced dimension rovibrational variational calculations of the S1 state of C2H2. II. The S1 rovibrational manifold and the effects of isomerization. Journal of Chemical Physics, 2014, 140, 024313.	3.0	9
47	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
48	OD + CO â† D + CO2 branching kinetics probed with time-resolved frequency comb spectroscopy. Chemical Physics Letters, 2017, 683, 91-95.	2.6	8
49	The Hunt for Elusive Molecules: Insights from Joint Theoretical and Experimental Investigations. Chemistry - A European Journal, 2019, 25, 7243-7258.	3.3	8
50	Rotational Characterization of the Elusive gauche-Isoprene. Journal of Physical Chemistry Letters, 2019, 10, 1981-1985.	4.6	8
51	Spectral analyses of trans- and cis-DOCO transients via comb spectroscopy. Molecular Physics, 2018, 116, 3710-3717.	1.7	7
52	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
53	Reduced dimension rovibrational variational calculations of the S1 state of C2H2. I. Methodology and implementation. Journal of Chemical Physics, 2014, 140, 024312.	3.0	4
54	Synchrotron-Based High Resolution Far-Infrared Spectroscopy of trans-Butadiene. Journal of Physical Chemistry A, 2020, 124, 2427-2435.	2.5	4

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55	Rotational spectrum of anti- and gauche-4-cyano-1-butyne (C5H5N) â€“ An open-chain isomer of pyridine. Journal of Molecular Spectroscopy, 2022, 385, 111604.	1.2	3
56	Direct Frequency Comb Spectroscopy with an Immersion Grating. , 2019, , .		1
57	Vibronic mean-field and perturbation theory for Jahn-Teller and pseudo-Jahn-Teller molecules. Molecular Physics, 0, , 1-14.	1.7	1
58	Carbon-13 studies of sulphur-terminated carbon chains: chemical bonding, molecular structures, and formation pathways. Molecular Physics, 0, , .	1.7	1
59	Frontispiece: The Hunt for Elusive Molecules: Insights from Joint Theoretical and Experimental Investigations. Chemistry - A European Journal, 2019, 25, .	3.3	0