

Stephen Gibson

List of Publications by Year in descending order

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97
papers

2,641
citations

172207

29
h-index

205818

48
g-index

97
all docs

97
docs citations

97
times ranked

1761
citing authors

#	ARTICLE	IF	CITATIONS
1	Photoionization of the amidogen radical. <i>Journal of Chemical Physics</i> , 1985, 83, 4319-4328.	1.2	190
2	Source of Nitrogen Isotope Anomaly in HCN in the Atmosphere of Titan. <i>Astrophysical Journal</i> , 2007, 664, L115-L118.	1.6	119
3	Remote Sensing of Earth's Limb by TIMED/GUVI: Retrieval of thermospheric composition and temperature. <i>Earth and Space Science</i> , 2015, 2, 1-37.	1.1	103
4	High-resolution velocity-map-imaging photoelectron spectroscopy of the O^+ photodetachment fine-structure transitions. <i>Physical Review A</i> , 2007, 76, .	1.0	94
5	Photoionization mass spectrometric study and ab initio calculations of ionization and bonding in H^+ compounds; heats of formation, bond energies, and the $B1\sigma^+$ separation in PH_2^+ . <i>Journal of Chemical Physics</i> , 1986, 84, 375-384.	1.2	90
6	Predissociation mechanism for the lowest $\hat{u}1$ states of N_2 . <i>Journal of Chemical Physics</i> , 2005, 122, 144302.	1.2	89
7	Isotope selective photodissociation of N_2 by the interstellar radiation field and cosmic rays. <i>Astronomy and Astrophysics</i> , 2014, 562, A61.	2.1	85
8	Photodissociation of interstellar N_2 . <i>Astronomy and Astrophysics</i> , 2013, 555, A14.	2.1	79
9	Rotational variation of predissociation linewidth in the Schumann-Runge bands of $16O_2$. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1986, 36, 187-207.	1.1	75
10	A direct comparison of high-speed methods for the numerical Abel transform. <i>Review of Scientific Instruments</i> , 2019, 90, 065115.	0.6	74
11	Angular distributions for photodissociation of O_2 in the Herzberg continuum. <i>Journal of Chemical Physics</i> , 1998, 108, 7229-7243.	1.2	70
12	Ion densities and composition of Titan's upper atmosphere derived from the Cassini Ion Neutral Mass Spectrometer: Analysis methods and comparison of measured ion densities to photochemical model simulations. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	67
13	A photoionization study of SeH and H_2Se . <i>Journal of Chemical Physics</i> , 1986, 85, 4815-4824.	1.2	61
14	Fine-structure dependence of predissociation linewidth in the Schumann-Runge bands of molecular oxygen. <i>Journal of Chemical Physics</i> , 1994, 100, 7012-7035.	1.2	60
15	Temperature dependence in the Schumann-Runge photoabsorption continuum of oxygen. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1983, 30, 385-393.	1.1	59
16	A coupled-channel model of the $\hat{3}u$ states of N_2 : Structure and interactions of the $3s\hat{1}gF3\hat{u}$ and $3p\hat{1}eG3\hat{u}$ Rydberg states. <i>Journal of Chemical Physics</i> , 2008, 129, 164306.	1.2	58
17	Encoding of vinylidene isomerization in its anion photoelectron spectrum. <i>Science</i> , 2017, 358, 336-339.	6.0	55
18	Asymmetric line shapes in the indirect predissociation of the $f\hat{u}+Rydberg$ state of O_2 . <i>Journal of Chemical Physics</i> , 1995, 102, 6631-6640.	1.2	48

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19	Rotational effects in the band oscillator strengths and predissociation linewidths for the lowest $\tilde{u}^1\text{g}^+$ transitions of N_2 . <i>Journal of Chemical Physics</i> , 2005, 123, 214304.	1.2	43
20	The $(\text{X}^2\text{g})^{\ominus}\text{S}^1, 3\text{g}$ Rydberg states of O_2 : Spectra, structures, and interactions. <i>Journal of Chemical Physics</i> , 1999, 111, 173-185.	1.2	42
21	Sign reversal of the spin-orbit constant for the C^3u state of N_2 . <i>Journal of Chemical Physics</i> , 2008, 129, 164307.	1.2	37
22	Photodissociation of $^{16}\text{O}^{18}\text{O}$ in the atmosphere. <i>Journal of Geophysical Research</i> , 1984, 89, 7277-7284.	3.3	36
23	Photoionisation of atomic sulphur. <i>Journal of Physics B: Atomic and Molecular Physics</i> , 1986, 19, 2825-2840.	1.6	36
24	Lifetime and predissociation yield of $^{14}\text{N}_2^1\text{u}(v=1)$. <i>Journal of Chemical Physics</i> , 2004, 120, 8973-8978.	1.2	36
25	Lifetime and predissociation yield of $\text{N}_2^1\text{u}(v=1)$ revisited: Effects of rotation. <i>Journal of Chemical Physics</i> , 2005, 123, 236101.	1.2	36
26	Resonances in the photodissociation of isotopic molecular oxygen $^{16}\text{O}^{18}\text{O}$. The longest band. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1988, 40, 1-13.	1.1	34
27	Decomposition of the photoabsorption continuum underlying the Schumann-Runge bands of ^{16}O . Role of the state: A new dissociation limit. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1985, 33, 627-643.	1.1	31
28	Experimentally determined oscillator strengths and linewidths for the Schumann-Runge band system of molecular oxygen $^{16}\text{O}^{18}\text{O}$. The (7-0) to (19-0) bands. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1981, 26, 469-481.	1.1	30
29	A comparative high-resolution study of predissociation linewidths in the Schumann-Runge bands of O_2 . <i>Journal of Chemical Physics</i> , 1998, 109, 3856-3867.	1.2	30
30	Vibronic coupling in the superoxide anion: The vibrational dependence of the photoelectron angular distribution. <i>Journal of Chemical Physics</i> , 2010, 133, 174311.	1.2	30
31	Understanding diatomic photodissociation with a coupled-channel Schrödinger equation model. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1996, 80, 9-12.	0.8	29
32	Two-photon REMPI spectra from and to in O_2 . <i>Journal of Molecular Spectroscopy</i> , 2003, 219, 200-216.	0.4	29
33	Assignment of the $3\text{u}^+\text{X}^3\text{g}^+$ bands of O_2 observed in the region 1040-1200 Å.... <i>Journal of Chemical Physics</i> , 1996, 104, 2765-2772.	1.2	27
34	The $\text{O}(1\text{D})$ yield from O_2 photodissociation near H Lyman- β (121.6 nm). <i>Journal of Chemical Physics</i> , 1999, 110, 1949-1958.	1.2	27
35	Perturbations in the $3\text{s}^1\text{f}^{\ominus}\text{S}^1, 3\text{g}$ Rydberg states of O_2 : Bound-bound interactions with the second 1g and 1g^+ valence states. <i>Journal of Chemical Physics</i> , 1999, 111, 186-197.	1.2	27
36	Decomposition of the photoabsorption continuum underlying the Schumann-Runge bands of $^{16}\text{O}_2^{18}\text{O}$. Role of the 1g state and collision-induced absorption. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1985, 34, 405-415.	1.1	23

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37	A circularisation method to repair deformations and determine the centre of velocity map images. Journal of Chemical Physics, 2017, 147, 013924.	1.2	23
38	Resonances in the photodissociation of isotopic molecular oxygen ¹⁸ O ₂ . The second and third bands. Journal of Quantitative Spectroscopy and Radiative Transfer, 1988, 40, 469-477.	1.1	22
39	Rotational features in the fluorescence excitation spectrum of O(1D ₂) from vacuum ultraviolet laser photodissociation of O ₂ . Journal of Chemical Physics, 1991, 94, 1060-1068.	1.2	22
40	Experimental observation of the lowest $\Sigma^+_{g,1}$ valence state of O ₂ . Physical Review A, 1995, 52, 2717-2733.	1.0	22
41	Electron energy-loss spectra of coupled electronic states: Effects of Rydberg-valence interactions in O ₂ . Physical Review A, 2001, 63, .	1.0	22
42	Observation of vibration-dependent electron anisotropy in O^+ . Physical Review A, 2010, 82, .	1.0	22
43	High-Resolution Oscillator Strength Measurements for High- ν Bands of the $A^1\Pi^+(v=0)$ System of Carbon Monoxide. Astrophysical Journal, 1998, 505, 452-458.	1.6	21
44	Relations between Rydberg-valence interactions in the O ₂ molecule. Journal of Chemical Physics, 2000, 113, 2214-2223.	1.2	21
45	High-Resolution Oscillator Strength Measurements of the CO $B^2\Sigma^+$ System. Astrophysical Journal, 2014, 789, 101-111.	1.6	20
46	THE HIGH-RESOLUTION EXTREME-ULTRAVIOLET SPECTRUM OF N ₂ BY ELECTRON IMPACT. Astrophysical Journal, Supplement Series, 2014, 211, 28.	3.0	20
47	The dicarbon bonding puzzle viewed with photoelectron imaging. Nature Communications, 2019, 10, 5199.	5.8	19
48	Electronic transition moments for the Herzberg I bands of O ₂ . Canadian Journal of Physics, 1996, 74, 185-193.	0.4	17
49	Measurements of thermospheric molecular oxygen from the Solar Ultraviolet Spectral Irradiance Monitor. Journal of Geophysical Research, 2007, 112, .	3.3	17
50	The $B^2\Sigma^+_g$ transition of molecular oxygen. Journal of Chemical Physics, 1999, 110, 11129-11132.	1.2	16
51	Photoionisation of atomic selenium. Journal of Physics B: Atomic and Molecular Physics, 1986, 19, 2841-2845.	1.6	15
52	Structure and predissociation of the $3p^2\ ^1\Pi_u$ Rydberg state of N ₂ : First extreme-ultraviolet and new near-infrared observations, with coupled-channels analysis. Journal of Chemical Physics, 2008, 129, 204303.	1.2	15
53	Observation of the second Σ^+ valence state of O ₂ . Physical Review A, 1996, 54, 3923-3938.	1.0	14
54	Rotational line strengths in $^3\Sigma^+_g$ electronic transitions. The $^3\Sigma^+_g$ and $^3\Sigma^+_g$ electronic transitions. The $^3\Sigma^+_g$ and $^3\Sigma^+_g$ systems of molecular oxygen. Canadian Journal of Physics, 1990, 68, 231-237.	0.4	13

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55	Assignment of the excess absorption underlying the Schumann-Runge bands of molecular oxygen. <i>Journal of Chemical Physics</i> , 2001, 115, 245-248.	1.2	13
56	Experimental and coupled-channels investigation of the radiative properties of the $N_2^+ X^1\Sigma_g^+ \leftarrow N_2^+ X^1\Sigma_g^+$ band system. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	13
57	High-resolution photoelectron spectroscopy of linear bent polyatomic photodetachment transitions: The electron affinity of CS ₂ . <i>Journal of Chemical Physics</i> , 2012, 137, 144304.	1.2	13
58	Vacuum-ultraviolet absorption linewidth measurement using high-order anti-Stokes Raman-shifted radiation. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1989, 6, 1200.	0.9	12
59	Quantum interference in the Schumann-Runge bands of molecular oxygen. <i>Geophysical Research Letters</i> , 1998, 25, 2457-2460.	1.5	12
60	Velocity Map Imaging Spectroscopy of the Dipole-Bound State of CH ₂ CN ⁺ : Implications for the Diffuse Interstellar Bands. <i>Journal of the American Chemical Society</i> , 2021, 143, 18684-18692.	6.6	12
61	The Schumann-Runge continuum of oxygen at wavelengths greater than 175 NM. <i>Journal of Geophysical Research</i> , 1982, 87, 8307-8310.	3.3	11
62	Missing Bands in the Multiphoton Excitation of Coupled Molecular States. <i>Physical Review Letters</i> , 1999, 82, 4212-4215.	2.9	11
63	Experimental verification of strong rotational dependence of fluorescence and predissociation yield in the $b^1\Pi_u(v=1)$ level of 14N ₂ . <i>Journal of Chemical Physics</i> , 2012, 136, 044301.	1.2	11
64	Quantum reflection of metastable helium 23S atoms in hollow optical fibres. <i>Optics Communications</i> , 2003, 224, 89-95.	1.0	10
65	Fourier-transform-spectroscopic photoabsorption cross sections and oscillator strengths for the S ₂ $B^1\Sigma_u^+ \leftarrow X^1\Sigma_g^+$ system. <i>Journal of Chemical Physics</i> , 2018, 148, 244302.	1.2	10
66	Predissociation of the $B^1\Sigma_u^+$ state of S ₂ : A coupled-channel model. <i>Journal of Chemical Physics</i> , 2018, 148, 244303.	1.2	10
67	A new model for the Schumann-Runge bands of O ₂ . <i>Physics and Chemistry of the Earth, Part C: Solar, Terrestrial and Planetary Science</i> , 2001, 26, 519-526.	0.2	7
68	Fast 1 kV metal-oxide-semiconductor field-effect transistor switch. <i>Review of Scientific Instruments</i> , 2001, 72, 3718-3720.	0.6	7
69	Photodetachment of O ⁺ from threshold to 1.2 eV electron kinetic energy using velocity-map imaging. <i>Journal of Physics: Conference Series</i> , 2010, 212, 012034.	0.3	7
70	An ion gating, bunching, and potential re-referencing unit. <i>Review of Scientific Instruments</i> , 2001, 72, 2915-2922.	0.6	6
71	Identification of the $3p^1\Pi_u$ Rydberg state of O ₂ by (3+1) resonance-enhanced multiphoton-ionization spectroscopy. <i>Journal of Chemical Physics</i> , 2001, 114, 8364-8371.	1.2	6
72	Tuning out vibrational levels in molecular electron energy-loss spectra. <i>Physical Review A</i> , 2012, 85, .	1.0	6

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73	14N15N detectability in Pluto's atmosphere. <i>Icarus</i> , 2013, 226, 1514-1526.	1.1	6
74	Indirect predissociation of highly excited singlet states of N_2 . <i>EPJ Web of Conferences</i> , 2015, 84, 03004.	0.1	6
75	Comment on "The potential energy function for $O_2 X(3^1\Sigma^+g)$ and the transition dipole moment of the Schumann-Runge band near X state dissociation". <i>Journal of Chemical Physics</i> , 1990, 93, 7532-7533.	1.2	5
76	Observation of Completely Destructive Quantum Interference between Interacting Resonances in Molecular Predissociation. <i>Physical Review Letters</i> , 2001, 86, 1478-1481.	2.9	5
77	Wigner Near-Threshold Effects in the Photoelectron Angular Distribution of NO_2 . <i>Journal of Physical Chemistry A</i> , 2019, 123, 10418-10425.	1.1	5
78	Non-Lorentzian line shapes for interfering rotational resonances in the predissociation of O_2 . <i>Physical Review A</i> , 1997, 55, 4164-4167.	1.0	4
79	Anomalous isotopic predissociation in the $F^2\Pi_u(v=1)$ state of O_2 . <i>Journal of Chemical Physics</i> , 2002, 116, 3286-3296.	1.2	4
80	NOO Peroxy Isomer Exposed with Velocity-Map Imaging. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 4397-4401.	2.1	4
81	Narrow-bandwidth VUV laser measurements of fine-structure predissociation linewidths in the Schumann-Runge bands of O_2 . <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1996, 80, 29-32.	0.8	3
82	New magnetic dipole transition of the oxygen molecule: $B^2\Sigma^+_g \rightarrow X^2\Sigma^+_g(0,0)$. <i>Journal of Chemical Physics</i> , 2002, 116, 5503-5508.	1.2	3
83	Rydberg states of O_2 . <i>Journal of Molecular Spectroscopy</i> , 2003, 219, 217-226.	0.4	3
84	Experimental verification of line- and band-shape asymmetry in the Schumann-Runge system of O_2 . <i>Journal of Chemical Physics</i> , 2003, 118, 10924-10928.	1.2	3
85	Transmittance of the atmosphere in the (8^1O) and (9^1O) Schumann-Runge bands of oxygen. <i>Journal of Geophysical Research</i> , 1983, 88, 500-502.	3.3	2
86	Bonding and structure in the hydrides of groups III-VI deduced from photoionization studies. <i>Computational and Theoretical Chemistry</i> , 1989, 202, 363-373.	1.5	2
87	COMPARATIVE VERY-HIGH-RESOLUTION VUV SPECTROSCOPY: LASER SPECTROSCOPY OF O_2 . <i>Surface Review and Letters</i> , 2002, 09, 31-38.	0.5	2
88	Achieving high signal-to-noise performance for a velocity-map imaging experiment. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2005, 144-147, 251-254.	0.8	2
89	Indirect predissociation of the state of O_2 . <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 1996, 80, 17-20.	0.8	1
90	Asymmetry sum rule for molecular predissociation. <i>Physical Review A</i> , 2000, 63, .	1.0	1

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91	$\hat{1}^2$ and $\hat{1}^3$ reversal: The dissociation-limit region of the $B^3\Sigma_u^-$ state of O ₂ . Journal of Chemical Physics, 2001, 115, 5836-5842.	1.2	1
92	Approaching the O ⁺ photodetachment threshold with velocity-map imaging. Journal of Physics: Conference Series, 2009, 194, 022026.	0.3	1
93	Rotationally resolved photodetachment spectrum of OH ⁺ , exposed with velocity-map imaging. Journal of Physics: Conference Series, 2009, 194, 022060.	0.3	1
94	Comment on "Ab initio dynamic dipole polarizabilities for O ₂ , its photoabsorption spectrum in the Schumann-Runge region, and long-range interaction coefficients for its dimer". J. Chem. Phys. 109, 9802 (1998)]. Journal of Chemical Physics, 1999, 111, 11236-11237.	1.2	0
95	Vibration-dependent angular anisotropy in the photodetachment of O ₂ ⁺ , viewed with velocity-map imaging. Journal of Physics: Conference Series, 2009, 194, 022054.	0.3	0
96	Back to basics, the chemistry of aerosol formation, viewed with velocity-map imaging of photoelectrons. , 2014, , .		0
97	Two-photon excitation of two Rydberg levels of O ₂ above 95 130 cm ⁻¹ : Rotational-state dependence of predissociation linewidths. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 244, 106841.	1.1	0