Jonathan Tennyson

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

834 papers	42,432 citations	89 h-index	173 g-index
896 ext. papers	47,310 ext. citations	3.5 avg, IF	7.51 L-index

#	Paper	IF	Citations
834	The HITRAN 2008 molecular spectroscopic database. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2009**, 110, 533-572	2.1	2760
833	The HITRAN2012 molecular spectroscopic database. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2013**, 130, 4-50	2.1	2394
832	The HITRAN 2004 molecular spectroscopic database. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2005**, 96, 139-204	2.1	2346
831	The HITRAN2016 molecular spectroscopic database. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2017**, 203, 3-69	2.1	1701
830	HITEMP, the high-temperature molecular spectroscopic database. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2010**, 111, 2139-2150	2.1	1159
829	A high-accuracy computed water line list. *Monthly Notices of the Royal Astronomical Society*, **2006**, 368, 1087-1094	4.3	700
828	The 2017 Plasma Roadmap: Low temperature plasma science and technology. *Journal Physics D: Applied Physics*, **2017**, 50, 323001	3	496
827	Water vapour in the atmosphere of a transiting extrasolar planet. *Nature*, **2007**, 448, 169-71	50.4	394
826	The ab initio calculation of the vibrational-rotational spectrum of triatomic systems in the close-coupling approach, with KCN and H2Ne as examples. *Journal of Chemical Physics*, **1982**, 77, 4061-4072	3.9	355
825	Electron–molecule collision calculations using the R-matrix method. *Physics Reports*, **2010**, 491, 29-76	27.7	352
824	A KINETIC DATABASE FOR ASTROCHEMISTRY (KIDA). *Astrophysical Journal, Supplement Series*, **2012**, 199, 21	8	339
823	ExoMol: molecular line lists for exoplanet and other atmospheres. *Monthly Notices of the Royal Astronomical Society*, **2012**, 425, 21-33	4.3	300
822	Detection of H3+ on Jupiter. *Nature*, **1989**, 340, 539-541	50.4	282
821	The ExoMol database: Molecular line lists for exoplanet and other hot atmospheres. *Journal of Molecular Spectroscopy*, **2016**, 327, 73-94	1.3	280
820	The 2009 edition of the GEISA spectroscopic database. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2011**, 112, 2395-2445	2.1	278
819	The 2015 edition of the GEISA spectroscopic database. *Journal of Molecular Spectroscopy*, **2016**, 327, 31-72	1.3	267
818	High-accuracy ab initio rotation-vibration transitions for water. *Science*, **2003**, 299, 539-42	33.3	262

817	A variationally computed line list for hot NH3. *Monthly Notices of the Royal Astronomical Society*, **2011**, 413, 1828-1834	4.3	241
816	ExoMol line lists IV. The rotation–vibration spectrum of methane up to 1500 K. *Monthly Notices of the Royal Astronomical Society*, **2014**, 440, 1649-1661	4.3	235
815	Adiabatic-invariant change due to separatrix crossing. *Physical Review A*, **1986**, 34, 4256-4275	2.6	232
814	THE 2014 KIDA NETWORK FOR INTERSTELLAR CHEMISTRY. *Astrophysical Journal, Supplement Series*, **2015**, 217, 20	8	222
813	The calculation of the vibration-rotation energies of triatomic molecules using scattering coordinates. *Computer Physics Reports*, **1986**, 4, 1-36		221
812	Experimental Energy Levels of the Water Molecule. *Journal of Physical and Chemical Reference Data* , **2001**, 30, 735-831	4.3	214
811	GTOBAS: fitting continuum functions with Gaussian-type orbitals. *Computer Physics Communications*, **2002**, 144, 224-241	4.2	210
810	DVR3D: a program suite for the calculation of rotation–vibration spectra of triatomic molecules. *Computer Physics Communications*, **2004**, 163, 85-116	4.2	202
809	A general treatment of vibration-rotation coordinates for triatomic molecules. *International Journal of Quantum Chemistry*, **1991**, 39, 183-196	2.1	197
808	Recommended isolated-line profile for representing high-resolution spectroscopic transitions (IUPAC Technical Report). *Pure and Applied Chemistry*, **2014**, 86, 1931-1943	2.1	186
807	IUPAC critical evaluation of the rotational–vibrational spectra of water vapor, Part III: Energy levels and transition wavenumbers for H216O. *Journal of Quantitative Spectroscopy and Radiative Transfer* , **2013**, 117, 29-58	2.1	185
806	RESONA A program for the detection and fitting of Breit-Wigner resonances. *Computer Physics Communications*, **1984**, 33, 421-424	4.2	183
805	Quantum dynamics of non-rigid systems comprising two polyatomic fragments. *Molecular Physics*, **1983**, 50, 1025-1043	1.7	178
804	Spectroscopic Properties of the H 3 + Molecule: A New Calculated Line List. *Astrophysical Journal*, **1996**, 464, 516	4.7	174
803	The UK molecular R-matrix codes. *Computer Physics Communications*, **1998**, 114, 120-128	4.2	171
802	IUPAC critical evaluation of the rotational–vibrational spectra of water vapor. Part II Energy levels and transition wavenumbers for H217O and H218O. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2009**, 110, 573-596	2.1	166
801	TAU-REX I: A NEXT GENERATION RETRIEVAL CODE FOR EXOPLANETARY ATMOSPHERES. *Astrophysical Journal*, **2015**, 802, 107	4.7	161
800	BASECOL2012: A collisional database repository and web service within the Virtual Atomic and Molecular Data Centre (VAMDC). *Astronomy and Astrophysics*, **2013**, 553, A50	5.1	159

799	MARVEL: measured active rotational–vibrational energy levels. *Journal of Molecular Spectroscopy*, **2007**, 245, 115-125	1.3	157
798	DETECTION OF AN ATMOSPHERE AROUND THE SUPER-EARTH 55 CANCRI E. *Astrophysical Journal*, **2016**, 820, 99	4.7	156
797	IUPAC critical evaluation of the rotational–vibrational spectra of water vapor. Part II. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2010**, 111, 2160-2184	2.1	151
796	On equilibrium structures of the water molecule. *Journal of Chemical Physics*, **2005**, 122, 214305	3.9	148
795	A chemical survey of exoplanets with ARIEL. *Experimental Astronomy*, **2018**, 46, 135-209	1.3	148
794	A variationally computed T = 300 K line list for NH3. *Journal of Physical Chemistry A*, **2009**, 113, 11845-55	2.8	147
793	ExoMol molecular line lists XXX: a complete high-accuracy line list for water. *Monthly Notices of the Royal Astronomical Society*, **2018**, 480, 2597-2608	4.3	145
792	Virtual atomic and molecular data centre. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2010**, 111, 2151-2159	2.1	144
791	The potential energy surface of H2 16O. *Journal of Chemical Physics*, **1996**, 105, 6490-6497	3.9	144
790	A Population Study of Gaseous Exoplanets. *Astronomical Journal*, **2018**, 155, 156	4.9	144
789	UKRmol: a low-energy electron- and positron-molecule scattering suite. *European Physical Journal D* , **2012**, 66, 1	1.3	141
788	R-matrix calculations for polyatomic molecules: electron scattering by. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **1997**, 30, 4087-4096	1.3	134
787	A generalized approach to the calculation of ro-vibrational spectra of triatomic molecules. *Molecular Physics*, **1986**, 58, 1053-1066	1.7	134
786	A 3000 K laboratory emission spectrum of water. *Journal of Chemical Physics*, **2005**, 122, 074307	3.9	130
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784	Water vapour in the atmosphere of the habitable-zone eight-Earth-mass planet K2-18 b. *Nature Astronomy*, **2019**, 3, 1086-1091	12.1	127
783	A global, high accuracy ab initio dipole moment surface for the electronic ground state of the water molecule. *Journal of Chemical Physics*, **2011**, 135, 034113	3.9	124
782	Water on the sun: line assignments based on variational calculations. *Science*, **1997**, 277, 346-8	33.3	117

781	Highly excited rovibrational states using a discrete variable representation: The H+3 molecular ion. *Journal of Chemical Physics*, **1989**, 91, 3815-3825	3.9	112
780	LXCat: an Open-Access, Web-Based Platform for Data Needed for Modeling Low Temperature Plasmas. *Plasma Processes and Polymers*, **2017**, 14, 1600098	3.4	111
779	An SCF potential energy surface for lithium cyanide. *Chemical Physics Letters*, **1982**, 89, 223-227	2.5	111
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774	${mathcal{T}}$-REx. II. RETRIEVAL OF EMISSION SPECTRA. *Astrophysical Journal*, **2015**, 813, 13	4.7	104
773	The discovery of a very cool, very nearby brown dwarf in the Galactic plane. *Monthly Notices of the Royal Astronomical Society: Letters*, **2010**, 408, L56-L60	4.3	104
772	High-Temperature Rotational Transitions of Water in Sunspot and Laboratory Spectra. *Journal of Molecular Spectroscopy*, **1997**, 186, 422-47	1.3	102
771	All the vibrational bound states of H+3. *Chemical Physics Letters*, **1990**, 173, 133-138	2.5	102
770	ExoMol line lists III. An improved hot rotation-vibration line list for HCN and HNC. *Monthly Notices of the Royal Astronomical Society*, **2014**, 437, 1828-1835	4.3	101
769	The near infrared, visible, and near ultraviolet overtone spectrum of water. *Journal of Chemical Physics*, **1999**, 111, 2444-2450	3.9	101
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757	The HITRAN2020 molecular spectroscopic database. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2021**, 277, 107949	2.1	96
756	Quantemol-N: an expert system for performing electron molecule collision calculations using the R-matrix method. *Journal of Physics: Conference Series*, **2007**, 86, 012001	0.3	95
755	Water Production Rates, Rotational Temperatures, and Spin Temperatures in Comets C/1999 H1 (Lee), C/1999 S4, and C/2001 A2. *Astrophysical Journal*, **2005**, 621, 537-544	4.7	95
754	The role of H3+in planetary atmospheres. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2000**, 358, 2485-2502	3	95
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749	High-Accuracy CO(2) Line Intensities Determined from Theory and Experiment. *Physical Review Letters*, **2015**, 114, 243001	7.4	91
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747	Triatom: programs for the calculation of ro-vibrational spectra of triatomic molecules. *Computer Physics Communications*, **1993**, 75, 339-364	4.2	91
746	Vibration-rotation levels of water beyond the Born-Oppenheimer approximation. *Chemical Physics Letters*, **1996**, 260, 381-387	2.5	89

745	Water in the atmosphere of HD 209458b from 3.6–8 μm IRAC photometric observations in primary transit. *Monthly Notices of the Royal Astronomical Society*, **2010**, 409, 963-974	4.3	88
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742	Spectroscopically determined potential energy surface of H216O up to 25 000 cm−1. *Journal of Chemical Physics*, **2003**, 118, 2124-2129	3.9	87
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738	A room temperature CO2 line list with ab initio computed intensities. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2016**, 177, 31-42	2.1	84
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734	EChO. *Experimental Astronomy*, **2012**, 34, 311-353	1.3	82
733	Precision measurements and computations of transition energies in rotationally cold triatomic hydrogen ions up to the midvisible spectral range. *Physical Review Letters*, **2012**, 108, 023002	7.4	80
732	ExoMol line lists XVIII. The high-temperature spectrum of VO. *Monthly Notices of the Royal Astronomical Society*, **2016**, 463, 771-793	4.3	80
731	The Water Vapor Spectrum in the Region 8600-15 000 cm(-1): Experimental and Theoretical Studies for a New Spectral Line Database. *Journal of Molecular Spectroscopy*, **2001**, 208, 32-42	1.3	79
730	All the bound vibrational states of H3+: A reappraisal. *Journal of Chemical Physics*, **1993**, 98, 7191-7203	3.9	79
729	EXOCROSS: a general program for generating spectra from molecular line lists. *Astronomy and Astrophysics*, **2018**, 614, A131	5.1	78
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723	Estimation of Lamb-shift effects for molecules: Application to the rotation-vibration spectra of water. *Physical Review A*, **2001**, 63,	2.6	76
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721	ExoMol line lists II. The ro-vibrational spectrum of SiO. *Monthly Notices of the Royal Astronomical Society*, **2013**, 434, 1469-1475	4.3	75
720	A new ab initio ground-state dipole moment surface for the water molecule. *Journal of Chemical Physics*, **2008**, 128, 044304	3.9	75
719	Electron impact ionization of small molecules at intermediate energies: the molecularR-matrix with pseudostates method. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2005**, 38, 1607-1622	1.3	75
718	A full nine-dimensional potential-energy surface for hydrogen molecule-water collisions. *Journal of Chemical Physics*, **2005**, 122, 221102	3.9	75
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716	Electron impact dissociative excitation of water within the adiabatic nuclei approximation. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2002**, 35, 543-555	1.3	72
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714	Towards efficient refinement of molecular potential energy surfaces: Ammonia as a case study. *Journal of Molecular Spectroscopy*, **2011**, 268, 123-129	1.3	71
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712	Mid-to-Low Latitude H+3Emission from Jupiter. *Icarus*, **1997**, 130, 57-67	3.8	70
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710	Electronic excitation of the b3 ́u+state of H2using the R-matrix method. *Journal of Physics B: Atomic and Molecular Physics*, **1985**, 18, L851-L855		70

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705	A high accuracy computed line list for the HDO molecule. *Monthly Notices of the Royal Astronomical Society*, **2010**, 402, 492-496	4.3	67
704	Imaging Jupiter's aurorae from H3+ emissions in the 3-4 micrometers band. *Nature*, **1991**, 353, 539-42	50.4	67
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699	A database of water transitions from experiment and theory (IUPAC Technical Report). *Pure and Applied Chemistry*, **2014**, 86, 71-83	2.1	65
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689	Electron□+3collisions at intermediate energies. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2004**, 37, L343-L350	1.3	61
688	Electronic excitation of molecular hydrogen using the R-matrix method. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **1990**, 23, 4625-4639	1.3	61
687	Calculation of rotation-vibration energy levels of the water molecule with near-experimental accuracy based on an ab initio potential energy surface. *Journal of Physical Chemistry A*, **2013**, 117, 9633-43	2.8	60
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