Jonathan Tennyson

List of Publications by Citations

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 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 IEnergy 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□ibrational 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□ibrational 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
785	Ab initio calculation of the rotation□ibration energy levels of H3+ and its isotopomers to spectroscopic accuracy. *Journal of Chemical Physics*, **1999**, 110, 5056-5064	3.9	130
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
778	A spectroscopically determined potential energy surface for the ground state of H216O: A new level of accuracy. *Journal of Chemical Physics*, **1994**, 101, 7651-7657	3.9	110
777	DVR3D: for the fully pointwise calculation of ro-vibrational spectra of triatomic molecules. *Computer Physics Communications*, **1995**, 86, 175-198	4.2	107
776	CVRQD ab initio ground-state adiabatic potential energy surfaces for the water molecule. *Journal of Chemical Physics*, **2006**, 125, 204307	3.9	106
775	. *Reports on Progress in Physics*, **1995**, 58, 421-476	14.4	105
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
768	Detection of H3(+) from Uranus. *Astrophysical Journal*, **1993**, 405, 761	4.7	101
767	Accurate partition function and thermodynamic data for water. *Journal of Chemical Physics*, **2000**, 113, 9766-9771	3.9	100
766	Line lists for H218O and H217O based on empirical line positions and ab initio intensities. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2012**, 113, 850-858	2.1	99
765	Duo: A general program for calculating spectra of diatomic molecules. *Computer Physics Communications*, **2016**, 202, 262-275	4.2	98
764	New ab initio potential energy surface and the vibration-rotation-tunneling levels of (H2O)2 and (D2O)2. *Journal of Chemical Physics*, **2008**, 128, 034312	3.9	97

763	R-matrix calculation of Rydberg states of CO. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **1996**, 29, 6185-6201	1.3	97
762	On the rovibrational levels of the H3 + and H2D+ molecules. *Molecular Physics*, **1984**, 51, 887-906	1.7	97
761	The virtual atomic and molecular data centre (VAMDC) consortium. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2016**, 49, 074003	1.3	97
760	METHANE IN THE ATMOSPHERE OF THE TRANSITING HOT NEPTUNE GJ436B?. *Astrophysical Journal*, **2011**, 731, 16	4.7	96
759	Improved HCN/HNC linelist, model atmospheres and synthetic spectra for WZ Cas. *Monthly Notices of the Royal Astronomical Society*, **2006**, 367, 400-406	4.3	96
758	Ab initio global potential, dipole, adiabatic, and relativistic correction surfaces for the HCN□HNC system. *Journal of Chemical Physics*, **2001**, 115, 3706-3718	3.9	96
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
753	Total internal partition sums for 166 isotopologues of 51 molecules important in planetary atmospheres: Application to HITRAN2016 and beyond. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2017**, 203, 70-87	2.1	94
752	Highly rotationally excited states of floppy molecules: H2D+ with J ? 20. *Molecular Physics*, **1986**, 58, 1067-1085	1.7	94
751	Quantum dynamics of the van der Waals molecule (N2)2: An ab initio treatment. *Journal of Chemical Physics*, **1982**, 77, 5664-5681	3.9	93
750	JIM: A time-dependent, three-dimensional model of Jupiter's thermosphere and ionosphere. *Journal of Geophysical Research*, **1998**, 103, 20089-20112		92
749	High-Accuracy CO(2) Line Intensities Determined from Theory and Experiment. *Physical Review Letters*, **2015**, 114, 243001	7.4	91
748	Water production and release in Comet 153P/Ikeya□hang (C/2002 C1): accurate rotational temperature retrievals from hot-band lines near 2.9-□m. *Icarus*, **2004**, 168, 186-200	3.8	91
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 Ìm IRAC photometric observations in primary transit. *Monthly Notices of the Royal Astronomical Society*, **2010**, 409, 963-974	4.3	88
744	A Baseline Spectroscopic Study of the Infrared Auroras of Jupiter. *Icarus*, **1997**, 127, 379-393	3.8	88
743	Temperature-dependent molecular absorption cross sections for exoplanets and other atmospheres. *Icarus*, **2013**, 226, 1673-1677	3.8	87
742	Spectroscopically determined potential energy surface of H216O up to 25 000 cm1. *Journal of Chemical Physics*, **2003**, 118, 2124-2129	3.9	87
741	Variationally exact ro-vibrational levels of the floppy CH2+ molecule. *Journal of Molecular Spectroscopy*, **1983**, 101, 71-82	1.3	87
740	On the use of variational wavefunctions in calculating vibrational band intensities. *Molecular Physics*, **1992**, 76, 1147-1156	1.7	86
739	ExoMol molecular line lists XXXIII. The spectrum of Titanium Oxide. *Monthly Notices of the Royal Astronomical Society*, **2019**, 488, 2836-2854	4.3	84
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
737	RESONANCE PARAMETERS AND QUANTUM DEFECTS FOR SUPEREXCITED H2. *Atomic Data and Nuclear Data Tables*, **1996**, 64, 253-277	2	84
736	Low-energy electron-H2+collisions: variation of resonance parameters with internuclear separation. *Journal of Physics B: Atomic and Molecular Physics*, **1985**, 18, 155-165		84
735	Spectrum of hot methane in astronomical objects using a comprehensive computed line list. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 9379-83	11.5	83
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
728	Quantum monodromy in the spectrum of H2O and other systems: new insight into the level structure of quasi-linear molecules. *Molecular Physics*, **1999**, 96, 371-379	1.7	78

727	Xenon in CO2 well gas revisited. *Journal of Geophysical Research*, **1978**, 83, 2313		78
726	Infrared emissions of H3(+) in the atmosphere of Jupiter in the 2.1 and 4.0 micron region. *Astrophysical Journal*, **1990**, 360, L55	4.7	78
725	A new algorithm for Hamiltonian matrix construction in electron - molecule collision calculations. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **1996**, 29, 1817-1828	1.3	77
724	Identification of features due to H3+ in the infrared spectrum of supernova 1987A. *Nature*, **1992**, 355, 420-422	50.4	77
723	Estimation of Lamb-shift effects for molecules: Application to the rotation-vibration spectra of water. *Physical Review A*, **2001**, 63,	2.6	76
722	ExoMol line lists VII. The rotation–vibration spectrum of phosphine up to 1500 K. *Monthly Notices of the Royal Astronomical Society*, **2015**, 446, 2337-2347	4.3	75
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
717	Variationally exact rovibrational spectra of nonrigid triatomics: The HeHF van der Waals molecule. *Journal of Chemical Physics*, **1983**, 79, 43-51	3.9	73
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
715	Bound states using the R-matrix method: Rydberg states of HeH. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **1991**, 24, 3685-3699	1.3	72
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
713	First-principles prediction and partial characterization of the vibrational states of water up to dissociation. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2010**, 111, 1043-1064	2.1	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

709	Vibrational transition moments of CH4 from first principles. *Journal of Molecular Spectroscopy*, **2013**, 291, 69-76	1.3	69
708	Dissociative recombination without curve crossing: study of HeH+. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **1994**, 27, 5943-5953	1.3	69
707	Overtone bands of H3+: First principle calculations. *Journal of Molecular Spectroscopy*, **1988**, 128, 530-539	2.3	69
706	IUPAC critical evaluation of the rotational–vibrational spectra of water vapor. Part IV. Energy levels and transition wavenumbers for D216O, D217O, and D218O. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2014**, 142, 93-108	2.1	67
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
703	Ab initio investigation of the bound rovibrational states in the electronic ground state of HeN+2. *Journal of Chemical Physics*, **1988**, 89, 2178-2184	3.9	67
702	ExoMol molecular line lists IX. The spectrum of AlO. *Monthly Notices of the Royal Astronomical Society*, **2015**, 449, 3613-3619	4.3	66
701	Water vapour line assignments in the 9250–16000cm−1 frequency range. *Journal of Molecular Spectroscopy*, **2005**, 233, 68-76	1.3	66
700	Chercher le croisement. *Chemical Physics Letters*, **1979**, 61, 431-434	2.5	66
699	A database of water transitions from experiment and theory (IUPAC Technical Report). *Pure and Applied Chemistry*, **2014**, 86, 71-83	2.1	65
698	Calibration-quality adiabatic potential energy surfaces for H3(+) and its isotopologues. *Journal of Chemical Physics*, **2012**, 136, 184303	3.9	65
697	Influence of a new potential energy surface on the rotational (de)excitation of H$_{mathsf 2}$O by H$_{mathsf 2}$ at low temperature. *Astronomy and Astrophysics*, **2006**, 460, 323-329	5.1	65
696	Calculation of the rotation–vibration states of water up to dissociation. *Journal of Chemical Physics*, **1998**, 109, 10885-10892	3.9	64
695	Monodromy in the water molecule. *Chemical Physics Letters*, **2005**, 414, 193-197	2.5	63
694	First principles calculation of the molecular constants of H3+, H2D+, D2H+, and D3+. *Journal of Molecular Spectroscopy*, **1987**, 126, 183-192	1.3	62
693	A table of astronomically important ro-vibrational transitions for the H3(+) molecular ion. *Astrophysical Journal, Supplement Series*, **1991**, 77, 317	8	62
692	BLIND EXTRACTION OF AN EXOPLANETARY SPECTRUM THROUGH INDEPENDENT COMPONENT ANALYSIS. *Astrophysical Journal*, **2013**, 766, 7	4.7	61

691	Theoretical methods for small-molecule ro-vibrational spectroscopy. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2010**, 43, 133001	1.3	61
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689	Electron□H+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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681	Electron-impact rotational excitation of water. *Monthly Notices of the Royal Astronomical Society*, **2004**, 347, 323-333	4.3	59
680	The influence of H2O line blanketing on the spectra of cool dwarf stars. *Astrophysical Journal*, **1994**, 426, L39	4.7	59
679	Spectroscopically determined potential energy surfaces of the H216O, H217O, and H218O isotopologues of water. *Journal of Molecular Spectroscopy*, **2006**, 236, 216-223	1.3	58
678	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, 43-50	1.3	58
677	Ab initio SCF calculations on the potential energy surface of potassium cyanide (KCN). *Journal of Chemical Physics*, **1981**, 75, 1245-1252	3.9	58
676	H3+ cooling in planetary atmospheres. *Faraday Discussions*, **2010**, 147, 283-91; discussion 379-403	3.6	57
675	Calculation of the O-H stretching vibrational overtone spectrum of the water dimer. *Journal of Physical Chemistry A*, **2008**, 112, 6305-12	2.8	57
674	Electron impact excitation cross sections for CO. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **1993**, 26, 2429-2441	1.3	57

673	Vibrational and rotational cooling of H3+. *Physical Review A*, **2002**, 66,	2.6	56
672	Dissociative recombination of NO+: calculations and comparison with experiment. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2000**, 33, 4849-4861	1.3	56
671	Collision of comet Shoemaker-Levy 9 with Jupiter observed by the NASA infrared telescope facility. *Science*, **1995**, 267, 1277-82	33.3	56
670	Laboratory spectra of hot molecules: Data needs for hot super-Earth exoplanets. *Molecular Astrophysics*, **2017**, 8, 1-18	1.7	55
669	[ITAL]K[/ITAL]-Band Spectrum of Water in Sunspots. *Astrophysical Journal*, **1997**, 489, L205-L208	4.7	55
668	Low-energy electron collisions with water: elastic and rotationally inelastic scattering. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2004**, 37, 801-807	1.3	55
667	Electron collisions with polyatomic molecules using the R□matrix method. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **1999**, 357, 1161-1173	3	55
666	A High-Temperature Partition Function for [FORMULA][F][RM]H[/RM][SUP]+[/SUP][INF]3[/INF][/F][/FORMULA]. *Astrophysical Journal*, **1995**, 454,	4.7	55
665	Ab initio ro-vibrational levels of H3+ beyond the Born-Oppenheimer approximation. *Chemical Physics Letters*, **1995**, 232, 295-300	2.5	55
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663	Accurate bond dissociation energy of water determined by triple-resonance vibrational spectroscopy and ab initio calculations. *Chemical Physics Letters*, **2013**, 568-569, 14-20	2.5	54
662	Relativistic correction to the potential energy surface and vibration-rotation levels of water. *Chemical Physics Letters*, **1998**, 293, 317-323	2.5	54
661	Quantum and classical vibrational chaos in floppy molecules. *Journal of Chemical Physics*, **1985**, 82, 800-809	3.9	54
660	The 2020 release of the ExoMol database: Molecular line lists for exoplanet and other hot atmospheres. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2020**, 255, 107228	2.1	54
659	ExoMol molecular line lists □XVI. The rotation□ibration spectrum of hot H2S. *Monthly Notices of the Royal Astronomical Society*, **2016**, 460, 4063-4074	4.3	54
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