Nikolai F Zobov

List of Publications by Citations

26 papers	1,449 citations	17 h-index	30 g-index
30 ext. papers	1,634 ext. citations	4.9 avg, IF	4.12 L-index

#	Paper	IF	Citations
26	High-accuracy ab initio rotation-vibration transitions for water. *Science*, **2003**, 299, 539-42	33.3	262
25	Recommended isolated-line profile for representing high-resolution spectroscopic transitions (IUPAC Technical Report). *Pure and Applied Chemistry*, **2014**, 86, 1931-1943	2.1	186
24	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
23	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
22	High-Accuracy CO(2) Line Intensities Determined from Theory and Experiment. *Physical Review Letters*, **2015**, 114, 243001	7.4	91
21	Spectroscopically determined potential energy surface of H216O up to 25 000 cm−1. *Journal of Chemical Physics*, **2003**, 118, 2124-2129	3.9	87
20	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
19	A new ab initio ground-state dipole moment surface for the water molecule. *Journal of Chemical Physics*, **2008**, 128, 044304	3.9	75
18	A database of water transitions from experiment and theory (IUPAC Technical Report). *Pure and Applied Chemistry*, **2014**, 86, 71-83	2.1	65
17	Calibration-quality adiabatic potential energy surfaces for H3(+) and its isotopologues. *Journal of Chemical Physics*, **2012**, 136, 184303	3.9	65
16	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
15	New studies of the visible and near-infrared absorption by water vapour and some problems with the HITRAN database. *Geophysical Research Letters*, **2000**, 27, 3703-3706	4.9	43
14	Ab initio rotation-vibration energy levels of triatomics to spectroscopic accuracy. *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy*, **2002**, 58, 663-72	4.4	32
13	Accurate line intensities for water transitions in the infrared: Comparison of theory and experiment. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2017**, 203, 88-102	2.1	28
12	ExoMol molecular line lists XX. A comprehensive line list for H3+. *Monthly Notices of the Royal Astronomical Society*, **2017**, 468, 1717-1725	4.3	25
11	High-accuracy water potential energy surface for the calculation of infrared spectra. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2018**, 376,	3	20
10	QED correction for H3+. *Physical Review A*, **2014**, 89,	2.6	18

9	A highly accurate dipole moment surface for the ground electronic state of water vapour for spectra extending into the ultraviolet. *Journal of Chemical Physics*, **2018**, 149, 084307	3.9	17
8	Communication: Visible line intensities of the triatomic hydrogen ion from experiment and theory. *Journal of Chemical Physics*, **2014**, 141, 241104	3.9	15
7	Potential energy surface, dipole moment surface and the intensity calculations for the 10 μm, 5 μm and 3 μm bands of ozone. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2018**, 210, 127-135	2.1	12
6	A global potential energy surface for H3+. *Molecular Physics*, **2019**, 117, 1663-1672	1.7	11
5	Calculated line lists for H216O and H218O with extensive comparisons to theoretical and experimental sources including the HITRAN2016 database. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **2020**, 241, 106711	2.1	8
4	High Accuracy ab Initio Calculations of Rotational-Vibrational Levels of the HCN/HNC System. *Journal of Physical Chemistry A*, **2018**, 122, 1326-1343	2.8	7
3	Absolute 13C/12C isotope amount ratio for Vienna PeeDee Belemnite from infrared absorption spectroscopy. *Nature Physics*, **2021**, 17, 889-893	16.2	2
2	Variational analysis of HF dimer tunneling rotational spectra using an ab initio potential energy surface. *Journal of Molecular Spectroscopy*, **2021**, 379, 111481	1.3	1
1	Highly accurate HF dimer ab initio potential energy surface.. *Journal of Chemical Physics*, **2022**, 156, 164305	3.9	