J Peter Toennies

List of Publications by Year
in descending order

91	9,716	76322 40	42393 92
papers	citations	h-index	g-index

96	96	96	3210
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	An improved simple model for the van der Waals potential based on universal damping functions for the dispersion coefficients. Journal of Chemical Physics, 1984, 80, 3726-3741.	3.0	1,421
2	Superfluid Helium Droplets: A Uniquely Cold Nanomatrix for Molecules and Molecular Complexes. Angewandte Chemie - International Edition, 2004, 43, 2622-2648.	13.8	1,019
3	Superfluidity Within a Small Helium-4 Cluster: The Microscopic Andronikashvili Experiment. Science, 1998, 279, 2083-2086.	12.6	584
4	SPECTROSCOPY OF ATOMS AND MOLECULES IN LIQUID HELIUM. Annual Review of Physical Chemistry, 1998, 49, 1-41.	10.8	548
5	Rotationally Resolved Spectroscopy of SF6in Liquid Helium Clusters: A Molecular Probe of Cluster Temperature. Physical Review Letters, 1995, 75, 1566-1569.	7.8	543
6	The van der Waals potentials between all the rare gas atoms from He to Rn. Journal of Chemical Physics, 2003, 118, 4976-4983.	3.0	352
7	Successive capture and coagulation of atoms and molecules to small clusters in large liquid helium clusters. Journal of Chemical Physics, 1995, 102, 8191-8207.	3.0	351
8	Nondestructive Mass Selection of Small van der Waals Clusters. Science, 1994, 266, 1345-1348.	12.6	340
9	Determination of the Bond Length and Binding Energy of the Helium Dimer by Diffraction from a Transmission Grating. Physical Review Letters, 2000, 85, 2284-2287.	7.8	287
10	Theoretical studies of highly expanded free jets: Influence of quantum effects and a realistic intermolecular potential. Journal of Chemical Physics, 1977, 66, 3965-3979.	3.0	278
11	Accurate Analytical He-He van der Waals Potential Based on Perturbation Theory. Physical Review Letters, 1995, 74, 1546-1549.	7.8	266
12	Direct Spectroscopic Observation of Elementary Excitations in Superfluid He Droplets. Physical Review Letters, 1996, 76, 4560-4563.	7.8	235
13	Mass spectra and timeâ€ofâ€flight distributions of helium cluster beams. Journal of Chemical Physics, 1990, 92, 6875-6889.	3.0	224
14	Evidence for Superfluidity in Para-Hydrogen Clusters Inside Helium-4 Droplets at 0.15 Kelvin. Science, 2000, 289, 1532-1535.	12.6	216
15	The rotational spectrum of single OCS molecules in liquid 4He droplets. Journal of Chemical Physics, 2000, 112, 4485-4495.	3.0	208
16	Superfluid Helium Droplets: An Ultracold Nanolaboratory. Physics Today, 2001, 54, 31-37.	0.3	205
17	High-Resolution Molecular Spectroscopy of van der Waals Clusters in Liquid Helium Droplets. Science, 1996, 272, 1631-1634.	12.6	196
18	Determination of Atom-Surface van der Waals Potentials from Transmission-Grating Diffraction Intensities. Physical Review Letters, 1999, 83, 1755-1758.	7.8	174

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19	New combining rules for well parameters and shapes of the van der Waals potential of mixed rare gas systems. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1986, 1, 91-101.	1.0	162
20	A simple theoretical model for the van der Waals potential at intermediate distances. II. Anisotropic potentials of Heâ€“H2and Neâ€“H2. Journal of Chemical Physics, 1978, 68, 5501-5517.	3.0	147
21	Towards Realization of an Atomic de Broglie Microscope: Helium Atom Focusing Using Fresnel Zone Plates. Physical Review Letters, 1999, 83, 4229-4232.	7.8	103
22	Electron capture by large helium droplets. Journal of Chemical Physics, 1998, 108, 9327-9338.	3.0	95
23	Organ-pipe modes of sodium epitaxial multilayers on Cu(001) observed by inelastic helium-atom scattering. Physical Review Letters, 1992, 69, 2951-2954.	7.8	88
24	High resolution infrared spectroscopy of single SF6 molecules in helium droplets. I. Size effects in 4He droplets. Journal of Chemical Physics, 1999, 110, 5109-5123.	3.0	88
25	Helium-atom scattering investigation of facetting of the Al stepped (332) surface. Physical Review B, 1990, 42, 1547-1559.	3.2	83
26	Hole-Burning Studies of the Splitting in the Ground and Excited Vibronic States of Tetracene in Helium Droplets. Journal of Physical Chemistry A, 2001, 105, 6369-6377.	2.5	75
27	Molecular beam time of flight measurements of resolved rotational transitions for He+N2, CO, and CH4 collisions. Journal of Chemical Physics, 1980, 73, 2506-2507.	3.0	73
28	The phonon wings in the (S1â€‰â†â€‰S0) spectra of tetracene, pentacene, porphin and phthalocyanine in liquid helium droplets. Physical Chemistry Chemical Physics, 2002, 4, 4839-4844.	2.8	64
29	Cryogenic Microjet Source for Orthotropic Beams of Ultralarge Superfluid Helium Droplets. Physical Review Letters, 2003, 90, 234501.	7.8	62
30	Ion-molecule reactions in 4He droplets: Flying nano-cryo-reactors. Journal of Chemical Physics, 2005, 122, 014307.	3.0	62
31	Mode-Selected Electron-Phonon Coupling in Superconducting Pb Nanofilms Determined from He Atom Scattering. Physical Review Letters, 2011, 107, 095502.	7.8	62
32	Diffraction of Neutral Helium Clusters: Evidence for â€œMagic Numbersâ€• Physical Review Letters, 2004, 92, 185301.	7.8	61
33	The generalized Heitler-London theory for interatomic interaction and surface integral method for exchange energy. International Reviews in Physical Chemistry, 1998, 17, 363-406.	2.3	57
34	Microwave-infrared double resonance spectroscopy of an OCS molecule inside a 4He droplet. Journal of Chemical Physics, 2000, 113, 9060-9066.	3.0	57
35	Detection of Negative Charge Carriers in Superfluid Helium Droplets: The Metastable Anions He^{*â€“} and He₂^{*â€“}. Journal of Physical Chemistry Letters, 2014, 5, 2444-2449.	4.6	53
36	Inhomogeneous broadening of the zero phonon line of phthalocyanine in superfluid helium droplets. Journal of Chemical Physics, 2001, 115, 10199.	3.0	48

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37	Unveiling mode-selected electronâ€“phonon interactions in metal films by helium atom scattering. Physical Chemistry Chemical Physics, 2014, 16, 7159.	2.8	48
38	Van der Waals potentials of He2, Ne2, and Ar2 with the exchange energy calculated by the surface integral method. Journal of Chemical Physics, 1997, 107, 9502-9513.	3.0	45
39	Helium clusters and droplets: microscopic superfluidity and other quantum effects^{â€}. Molecular Physics, 2013, 111, 1879-1891.	1.7	43
40	Molecular Beam Measurements of the Rotational State Distribution of RbBr Produced in Reactive Scattering of Rb on Br2. Journal of Chemical Physics, 1970, 53, 3376-3378.	3.0	40
41	The dynamical polarisability and van der Waals dimer potential of mercury. Molecular Physics, 2008, 106, 1645-1653.	1.7	39
42	Comparison between positive and negative charging of helium droplets. Zeitschrift FÃ¼r Physik D-Atoms Molecules and Clusters, 1997, 40, 93-98.	1.0	32
43	Spectroscopic investigation of OCS (p-H2)nâ€ˆ(n=1â€“16) complexes inside helium droplets: Evidence for superfluid behavior. Journal of Chemical Physics, 2010, 132, 064501.	3.0	31
44	Magic numbers, excitation levels, and other properties of small neutral He4 clusters (Nâ©½50). Journal of Chemical Physics, 2006, 124, 084307.	3.0	30
45	The structure of para-hydrogen clusters. European Physical Journal D, 2010, 56, 353-358.	1.3	30
46	Novel low-energy vibrational states of foreign particles in fluid 4He clusters. Chemical Physics Letters, 1995, 235, 596-603.	2.6	29
47	Phonons in a quasi-two-dimensional solid: Cesium monolayer on Cu(001). Physical Review B, 2000, 62, R7771-R7774.	3.2	28
48	The damping function of the van der Waals attraction in the potential between rare gas atoms and metal surfaces. Surface Science, 1992, 279, L203-L206.	1.9	24
49	Johannes Diderik van der Waals: A Pioneer in the Molecular Sciences and Nobel Prize Winner in 1910. Angewandte Chemie - International Edition, 2010, 49, 9574-9579.	13.8	24
50	Infrared spectroscopy of carbonyl sulfide inside a pure 3He droplet. Journal of Chemical Physics, 2012, 136, 134316.	3.0	23
51	Electronâ€“Phonon Coupling Constant of Metallic Overlayers from Specular He Atom Scattering. Journal of Physical Chemistry Letters, 2018, 9, 76-83.	4.6	22
52	Laser-induced fluorescence spectra of tetracene complexes with Ne, H2O, D2O inside He droplets. Chemical Physics Letters, 2006, 429, 1-7.	2.6	19
53	Spectroscopy of the copper dimer in normal fluid, superfluid, and solid H4e. Journal of Chemical Physics, 2010, 133, 154508.	3.0	18
54	Conformal Analytical Potential for All the Rare Gas Dimers over the Full Range of Internuclear Distances. Physical Review Letters, 2020, 125, 253402.	7.8	18

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55	Angular momentum coupling in the exchange energy of multielectron systems. Journal of Chemical Physics, 1995, 103, 6617-6630.	3.0	17
56	Anomalously sharp phonon excitations in ³ He droplets. Europhysics Letters, 2009, 88, 26007.	2.0	15
57	Infrared Q-branch anomalies on cooling small OCS (pH ₂) _n clusters from 0.38â€‰K to 0.15â€‰K. Europhysics Letters, 2008, 83, 66008.	2.0	14
58	Molecular low energy collisions: past, present and future. Physica Scripta, 2007, 76, C15-C20.	2.5	13
59	Anomalous fine structures of the 0⁰₀band of tetracene in large He droplets and their dependence on droplet size. Molecular Physics, 2012, 110, 1767-1780.	1.7	13
60	The perturbation calculation of van der Waals potentials. Theoretica Chimica Acta, 1994, 88, 169-181.	0.8	12
61	Application of scaling and kinetic equations to helium cluster size distributions: Homogeneous nucleation of a nearly ideal gas. Journal of Chemical Physics, 2006, 125, 074305.	3.0	12
62	Communication: A simple full range analytical potential for H2b3âˆ‘u+, Hâ€“He 2âˆ‘+, and He21âˆ‘g+. Journal of Chemical Physics, 2015, 142, 131102.	3.0	12
63	Measuring the Electronâ€“Phonon Interaction in Two-Dimensional Superconductors with He-Atom Scattering. Condensed Matter, 2020, 5, 79.	1.8	11
64	The effects of isotope substitution and nuclear spin modifications on the spectra of complexes of tetracene with hydrogen molecules in ultracold 0.37 K He droplets. Journal of Chemical Physics, 2004, 121, 12282.	3.0	10
65	SERENDIPITOUS MEANDERINGS AND ADVENTURES WITH MOLECULAR BEAMS. Annual Review of Physical Chemistry, 2004, 55, 1-33.	10.8	10
66	A density functional study of the structure of small OCS@3HeN clusters. Journal of Chemical Physics, 2013, 138, 044321.	3.0	10
67	An accurate potential model for the a3Î£u+state of the alkali dimers Na2, K2, Rb2, and Cs2. Journal of Chemical Physics, 2016, 145, 194308.	3.0	10
68	Surface lattice dynamics and electronâ€“phonon interaction in cesium ultra-thin films. Physical Chemistry Chemical Physics, 2017, 19, 16358-16364.	2.8	10
69	An accurate semi-empirical potential model for the aâ€‰â€‰3Î£u+ state of the alkali dimers Na2, K2, Rb2, and Cs2 which reproduces the scattering length. Journal of Chemical Physics, 2019, 150, 144310.	3.0	9
70	Oscillations in the Expansion of SolidHe4into Vacuum. Physical Review Letters, 2005, 95, 095301.	7.8	8
71	The geyser effect in the vacuum expansion of solid³He_{0.54}⁴He_{0.46}and the determination of the Poisson ratio. New Journal of Physics, 2012, 14, 013007.	2.9	5
72	Vacancy-induced flow of solid helium. Physical Review B, 2016, 93, .	3.2	5

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73	Accurate semiempirical potential energy curves for the a 3Î£+-state of NaCs, KCs, and RbCs. Journal of Chemical Physics, 2021, 154, 154304.	3.0	5
74	Perturbation calculations of the van der Waals potentials of He(2 3S, 2 1S) metastable atoms with rare gas atoms. Chemical Physics Letters, 2002, 364, 371-378.	2.6	4
75	The Effect of 3He Impurities on Anomalous Oscillations in the Expansion of Solid 4He. Journal of Low Temperature Physics, 2007, 146, 393-402.	1.4	4
76	Liquid Drop Excitations and the Size Dependent Surface Tension of Small 4He clusters. Journal of Low Temperature Physics, 2005, 138, 235-240.	1.4	3
77	An accurate semiempirical potential energy curve for the a3Î£+-state of KRb. Journal of Chemical Physics, 2020, 153, 114303.	3.0	3
78	Magic Numbers in Boson 4He Clusters: The Auger Evaporation Mechanism. Molecules, 2021, 26, 6244.	3.8	3
79	Helium Nanodroplets: Formation, Physical Properties and Superfluidity. Topics in Applied Physics, 2022, , 1-40.	0.8	3
80	New Insight into Exchange Energy of Covalent Chemical Bonds. Journal of the Chinese Chemical Society, 2001, 48, 365-369.	1.4	2
81	Production and characterization of micron-sized filaments of solid argon. Review of Scientific Instruments, 2005, 76, 123904.	1.3	2
82	The Geyser effect in the expansion of solid helium into vacuum. European Physical Journal B, 2010, 76, 237-249.	1.5	2
83	Terminal Liquid Mass Fractions and Terminal Mean Droplet Sizes in He Free-Jet Expansions. , 2011, , .		2
84	The Response of a ³He Fermi Liquid Droplet to Vibronic Excitation of an Embedded Glyoxal Molecule. Journal of Physical Chemistry A, 2014, 118, 6574-6583.	2.5	2
85	Para-hydrogen and helium cluster size distributions in free jet expansions based on Smoluchowski theory with kernel scaling. Journal of Chemical Physics, 2015, 142, 074303.	3.0	2
86	Electronâ€“Phonon Interaction in the 4/3-Monolayer of Pb on Si(111): Theory Versus He-Atom Scattering Experiments. Journal of Physical Chemistry C, 2018, 122, 29039-29043.	3.1	2
87	Surface Phonons: Theoretical Methods and Results. Springer Handbooks, 2020, , 737-782.	0.6	2
88	Superfluid Helium Droplets: A Uniquely Cold Nanomatrix for Molecules and Molecular Complexes. ChemInform, 2004, 35, no.	0.0	1
89	Autobiography of Jan Peter Toennies. Journal of Physical Chemistry A, 2011, 115, 6742-6745.	2.5	1
90	Experimental Results: Vibrations of Adsorbates and Thin Films. Springer Series in Surface Sciences, 2018, , 441-486.	0.3	1

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91	Experimental Results: Surface Phonons. Springer Series in Surface Sciences, 2018, , 337-440.	0.3	0