Paul L Houston

List of Publications by Year
in descending order

57 papers	2,865 citations	218592 26 h-index	182361 51 g-index
57 all docs	57 docs citations	57 times ranked	1631 citing authors

#	Article	IF	Citations
1	Twoâ€dimensional imaging of stateâ€selected photodissociation products detected by multiphoton ionization. Journal of Chemical Physics, 1987, 87, 1445-1447.	1.2	902
2	Improved two-dimensional product imaging: The real-time ion-counting method. Review of Scientific Instruments, 1998, 69, 1665-1670.	0.6	175
3	Formaldehyde photochemistry: Appearance rate, vibrational relaxation, and energy distribution of the CO product. Journal of Chemical Physics, 1976, 65, 757-770.	1.2	145
4	Photodissociation dynamics of acetone at 193 nm: Photofragment internal and translational energy distributions. Journal of Chemical Physics, 1989, 91, 7498-7513.	1.2	136
5	Î” -machine learning for potential energy surfaces: A PIP approach to bring a DFT-based PES to CCSD(T) level of theory. Journal of Chemical Physics, 2021, 154, 051102.	1.2	89
6	New Laser-Based and Imaging Methods for Studying the Dynamics of Molecular Collisions. The Journal of Physical Chemistry, 1996, 100, 12757-12770.	2.9	77
7	Theories and simulations of roaming. Chemical Society Reviews, 2017, 46, 7615-7624.	18.7	67
8	The energy distribution, angular distribution, and alignment of the O(1D2) fragment from the photodissociation of ozone between 235 and 305 nm. Journal of Chemical Physics, 2001, 115, 7460-7473.	1.2	66
9	Capturing roaming molecular fragments in real time. Science, 2020, 370, 1072-1077.	6.0	61
10	Photodissociation dynamics of stateâ€selected resonances of HCO XÌƒâ€‰2Aâ€™ prepared by stimulated emission pumping. Journal of Chemical Physics, 1995, 102, 1645-1657.	1.2	56
11	â€œPlug and playâ€•full-dimensional ab initio potential energy and dipole moment surfaces and anharmonic vibrational analysis for CH₄â€“H₂O. Physical Chemistry Chemical Physics, 2015, 17, 8172-8181.	1.3	54
12	The vibrational distribution of O2(Xâ€Š3Î£gâˆ’) produced in the photodissociation of ozone between 226 and 240 and at 266 nm. Journal of Chemical Physics, 2000, 112, 1279-1286.	1.2	53
13	Determination of the heat of formation of O3 using vacuum ultraviolet laser-induced fluorescence spectroscopy and two-dimensional product imaging techniques. Journal of Chemical Physics, 1999, 111, 6350-6355.	1.2	50
14	Two roaming pathways in the photolysis of CH₃CHO between 328 and 308 nm. Chemical Science, 2014, 5, 4633-4638.	3.7	49
15	Speed-Dependent Anisotropy Parameters in the UV Photodissociation of Ozone. Journal of Physical Chemistry A, 1997, 101, 7593-7599.	1.1	46
16	Roaming Under the Microscope: Trajectory Study of Formaldehyde Dissociation. Journal of Physical Chemistry A, 2016, 120, 5103-5114.	1.1	45
17	Perspective: Advanced particle imaging. Journal of Chemical Physics, 2017, 147, 013601.	1.2	44
18	A Machine Learning Approach for Prediction of Rate Constants. Journal of Physical Chemistry Letters, 2019, 10, 5250-5258.	2.1	42

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19	q-AQUA: A Many-Body CCSD(T) Water Potential, Including Four-Body Interactions, Demonstrates the Quantum Nature of Water from Clusters to the Liquid Phase. Journal of Physical Chemistry Letters, 2022, 13, 5068-5074.	2.1	41
20	Product correlations in photofragment dynamics. Faraday Discussions of the Chemical Society, 1986, 82, 13.	2.2	40
21	Evidence for Vinylidene Production in the Photodissociation of the Allyl Radical. Journal of Physical Chemistry Letters, 2010, 1, 1875-1880.	2.1	40
22	Breaking the Coupled Cluster Barrier for Machine-Learned Potentials of Large Molecules: The Case of 15-Atom Acetylacetone. Journal of Physical Chemistry Letters, 2021, 12, 4902-4909.	2.1	39
23	Communication: A benchmark-quality, full-dimensional ab initio potential energy surface for Ar-HOCO. Journal of Chemical Physics, 2014, 140, .	1.2	37
24	A new (multi-reference configuration interaction) potential energy surface for H ₂ CO and preliminary studies of roaming. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160194.	1.6	33
25	Efficient Generation of Permutationally Invariant Potential Energy Surfaces for Large Molecules. Journal of Chemical Theory and Computation, 2020, 16, 3264-3272.	2.3	33
26	Classical Trajectory Study of Energy Transfer in Collisions of Highly Excited Allyl Radical with Argon. Journal of Physical Chemistry A, 2013, 117, 14028-14041.	1.1	28
27	A Machine Learning Approach for Rate Constants. II. Clustering, Training, and Predictions for the O(³P) + HCl â†’ OH + Cl Reaction. Journal of Physical Chemistry A, 2020, 124, 5746-5755.	1.1	28
28	Permutationally invariant polynomial potential energy surfaces for tropolone and H and D atom tunneling dynamics. Journal of Chemical Physics, 2020, 153, 024107.	1.2	27
29	Changes in the Vibrational Population of SO(3Î£-) from the Photodissociation of SO2between 202 and 207 nmâ€. Journal of Physical Chemistry A, 2000, 104, 10240-10246.	1.1	26
30	Evidence of a Double Surface Crossing between Open- and Closed-Shell Surfaces in the Photodissociation of Cyclopropyl Iodide. Journal of Physical Chemistry A, 2001, 105, 1693-1701.	1.1	26
31	A CCSD(T)-Based 4-Body Potential for Water. Journal of Physical Chemistry Letters, 2021, 12, 10318-10324.	2.1	25
32	Rotational resonances in the H ₂ CO roaming reaction are revealed by detailed correlations. Science, 2020, 369, 1592-1596.	6.0	24
33	Full-dimensional potential energy surface for acetylacetone and tunneling splittings. Physical Chemistry Chemical Physics, 2021, 23, 7758-7767.	1.3	24
34	Permutationally invariant polynomial regression for energies and gradients, using reverse differentiation, achieves orders of magnitude speed-up with high precision compared to other machine learning methods. Journal of Chemical Physics, 2022, 156, 044120.	1.2	24
35	Full-dimensional, ab initio potential energy surface for glycine with characterization of stationary points and zero-point energy calculations by means of diffusion Monte Carlo and semiclassical dynamics. Journal of Chemical Physics, 2020, 153, 244301.	1.2	23
36	Formaldehyde roaming dynamics: Comparison of quasi-classical trajectory calculations and experiments. Journal of Chemical Physics, 2017, 147, 013936.	1.2	20

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37	The Dynamics of Allyl Radical Dissociation. Journal of Physical Chemistry A, 2011, 115, 6797-6804.	1.1	19
38	Differential Cross Section for Rotationally Inelastic Scattering of Vibrationally Excited NO(v=5) from Ar. Journal of Physical Chemistry A, 2001, 105, 11165-11170.	1.1	17
39	Collisional Energy Transfer in Highly Excited Molecules. Journal of Physical Chemistry A, 2014, 118, 7758-7775.	1.1	17
40	Trajectory and Model Studies of Collisions of Highly Excited Methane with Water Using an ab Initio Potential. Journal of Physical Chemistry A, 2015, 119, 12304-12317.	1.1	17
41	Zero Kinetic Energy Photofragment Spectroscopy:Â The Threshold Dissociation of NO2. Journal of Physical Chemistry A, 1998, 102, 9666-9673.	1.1	16
42	The MD17 datasets from the perspective of datasets for gas-phase â€œsmallâ€•molecule potentials. Journal of Chemical Physics, 2022, 156, .	1.2	12
43	A Model For Energy Transfer in Collisions of Atoms with Highly Excited Molecules. Journal of Physical Chemistry A, 2015, 119, 4695-4710.	1.1	11
44	Electronic to Vibrational Energy Transfer from Excited Halogen Atoms. Advances in Chemical Physics, 2007, , 381-418.	0.3	9
45	Ultraviolet Photodissociation Dynamics of the 1-Propenyl Radical. Journal of Physical Chemistry A, 2016, 120, 5248-5256.	1.1	9
46	MULTIMODE Calculations of Vibrational Spectroscopy and 1d Interconformer Tunneling Dynamics in Glycine Using a Full-Dimensional Potential Energy Surface. Journal of Physical Chemistry A, 2021, 125, 5346-5354.	1.1	9
47	Initiation of Atom-Molecule Reactions by Infrared Multiphoton Dissociation. Advances in Chemical Physics, 2007, , 625-638.	0.3	7
48	H atom Product Channels in the Ultraviolet Photodissociation of the 2-Propenyl Radical. Journal of Physical Chemistry A, 2019, 123, 9957-9965.	1.1	7
49	PHOTODISSOCIATION DYNAMICS OF OZONE IN THE HARTLEY BAND. Advanced Series in Physical Chemistry, 2004, , 281-327.	1.5	6
50	Product Imaging Studies of Photodissociation and Bimolecular Reaction Dynamics. Journal of the Chinese Chemical Society, 2001, 48, 309-318.	0.8	5
51	Electronic relaxation and dissociation dynamics in formaldehyde: pump wavelength dependence. Physical Chemistry Chemical Physics, 2022, 24, 1779-1786.	1.3	5
52	Teaching vibrational spectra to assign themselves. Faraday Discussions, 2018, 212, 65-82.	1.6	3
53	MULTIMODE, The n-Mode Representation of the Potential and Illustrations to IR Spectra of Glycine and Two Protonated Water Clusters. , 2022, , 296-339.		1
54	Improvements in the Product Imaging Technique and Their Application to Ozone Photodissociation. ACS Symposium Series, 2000, , 34-55.	0.5	0

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55	A Tribute to William M. Jackson, Jr.. Journal of Physical Chemistry A, 2019, 123, 1905-1907.	1.1	0
56	On the measurement of statistical dynamics using the method of Coulomb explosion imaging. AIP Conference Proceedings, 2021, , .	0.3	0
57	Capturing Roaming Fragments in Real Time: A Molecular Road Movie. , 2020, , .		0