

# Peter M Weber

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8625481/publications.pdf>

Version: 2024-02-01

102  
papers

4,061  
citations

126907

33  
h-index

123424

61  
g-index

103  
all docs

103  
docs citations

103  
times ranked

2527  
citing authors

#	ARTICLE	IF	CITATIONS
1	Feedback quantum control of molecular electronic population transfer. <i>Chemical Physics Letters</i> , 1997, 280, 151-158.	2.6	509
2	Ultrafast electron microscopy in materials science, biology, and chemistry. <i>Journal of Applied Physics</i> , 2005, 97, 111101.	2.5	281
3	Imaging Molecular Motion: Femtosecond X-Ray Scattering of an Electrocyclic Chemical Reaction. <i>Physical Review Letters</i> , 2015, 114, 255501.	7.8	254
4	Ultrafast time-resolved electron diffraction with megavolt electron beams. <i>Applied Physics Letters</i> , 2006, 89, 184109.	3.3	203
5	The photochemical ring-opening of 1,3-cyclohexadiene imaged by ultrafast electron diffraction. <i>Nature Chemistry</i> , 2019, 11, 504-509.	13.6	157
6	Ultrafast Diffraction Imaging of the Electrocyclic Ring-Opening Reaction of 1,3-Cyclohexadiene. <i>Journal of Physical Chemistry A</i> , 2001, 105, 4167-4171.	2.5	142
7	The Ultrafast Pathway of Photon-Induced Electrocyclic Ring-Opening Reactions: The Case of 1,3-Cyclohexadiene. <i>Annual Review of Physical Chemistry</i> , 2011, 62, 19-39.	10.8	118
8	Capturing Chemistry in Action with Electrons: Realization of Atomically Resolved Reaction Dynamics. <i>Chemical Reviews</i> , 2017, 117, 11066-11124.	47.7	108
9	Rydberg Fingerprint Spectroscopy: A New Spectroscopic Tool with Local and Global Structural Sensitivity. <i>Journal of Physical Chemistry A</i> , 2005, 109, 4899-4904.	2.5	81
10	Time-delayed two-color photoelectron spectra of aniline, 2-aminopyridine, and 3-aminopyridine: Snapshots of the nonadiabatic curve crossings. <i>Journal of Chemical Physics</i> , 1995, 103, 6903-6913.	3.0	79
11	Ultrafast X-ray scattering reveals vibrational coherence following Rydberg excitation. <i>Nature Chemistry</i> , 2019, 11, 716-721.	13.6	73
12	Ultrafast Dynamics in Superexcited States of Phenol. <i>Journal of Physical Chemistry A</i> , 2001, 105, 3725-3734.	2.5	71
13	Rydberg states: sensitive probes of molecular structure. <i>Chemical Physics Letters</i> , 2003, 378, 647-653.	2.6	64
14	High resolution photoelectron spectroscopy: The vibrational spectrum of the 2-aminopyridine cation. <i>Journal of Chemical Physics</i> , 1992, 97, 5384-5391.	3.0	60
15	Spectroscopy and femtosecond dynamics of the ring opening reaction of 1,3-cyclohexadiene. <i>Journal of Chemical Physics</i> , 2006, 125, 133307.	3.0	60
16	From the (1B) Spectroscopic State to the Photochemical Product of the Ultrafast Ring-Opening of 1,3-Cyclohexadiene: A Spectral Observation of the Complete Reaction Path. <i>Journal of Physical Chemistry A</i> , 2015, 119, 8832-8845.	2.5	58
17	Observation of femtosecond molecular dynamics via pump-probe gas phase x-ray scattering. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 034001.	1.5	53
18	Roadmap on photonic, electronic and atomic collision physics: I. Light-matter interaction. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2019, 52, 171001.	1.5	52

#	ARTICLE	IF	CITATIONS
19	Femtosecond Multiphoton Ionization Photoelectron Spectroscopy of the S <sub>2</sub> State of Phenol. <i>Journal of Physical Chemistry A</i> , 1999, 103, 10470-10476.	2.5	51
20	Energy Flow and Fragmentation Dynamics of N,N-Dimethylisopropylamine. <i>Journal of Physical Chemistry A</i> , 2006, 110, 4251-4255.	2.5	51
21	Toward structural femtosecond chemical dynamics: imaging chemistry in space and time. <i>Faraday Discussions</i> , 2014, 171, 81-91.	3.2	48
22	Control of Local Ionization and Charge Transfer in the Bifunctional Molecule 2-Phenylethyl-N,N-dimethylamine Using Rydberg Fingerprint Spectroscopy. <i>Journal of Physical Chemistry A</i> , 2005, 109, 1920-1925.	2.5	46
23	Electronic Spectroscopy and Ultrafast Energy Relaxation Pathways in the Lowest Rydberg States of Trimethylamine. <i>Journal of Physical Chemistry A</i> , 2008, 112, 10736-10743.	2.5	46
24	Direct imaging of excited electronic states using diffraction techniques: theoretical considerations. <i>Chemical Physics Letters</i> , 1996, 262, 405-414.	2.6	44
25	Time-Resolved Conformational Dynamics in Hydrocarbon Chains. <i>Physical Review Letters</i> , 2007, 98, 253004.	7.8	44
26	Observation of the molecular response to light upon photoexcitation. <i>Nature Communications</i> , 2020, 11, 2157.	12.8	42
27	Multicomponent molecular memory. <i>Nature Communications</i> , 2020, 11, 691.	12.8	40
28	Structural Dynamics in Floppy Systems: Ultrafast Conformer Motions in Rydberg-Excited Triethylamine. <i>Journal of Physical Chemistry A</i> , 2011, 115, 1804-1809.	2.5	37
29	Charge localization in a diamine cation provides a test of energy functionals and self-interaction correction. <i>Nature Communications</i> , 2016, 7, 11013.	12.8	37
30	Determining Orientations of Optical Transition Dipole Moments Using Ultrafast X-ray Scattering. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 6556-6562.	4.6	36
31	Rydberg Fingerprint Spectroscopy of Hot Molecules: Å Structural Dispersion in Flexible Hydrocarbons. <i>Journal of Physical Chemistry A</i> , 2006, 110, 10212-10218.	2.5	35
32	A deep UV trigger for ground-state ring-opening dynamics of 1,3-cyclohexadiene. <i>Science Advances</i> , 2019, 5, eaax6625.	10.3	35
33	Ground state recovery and molecular structure upon ultrafast transition through conical intersections in cyclic dienes. <i>Chemical Physics Letters</i> , 2009, 470, 187-190.	2.6	33
34	Structural Dynamics and Charge Transfer in Electronically Excited N,N-Dimethylpiperazine. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 2780-2784.	4.6	33
35	Ultrafast Dynamics in the Three-Photon, Double-Resonance Ionization of Phenol via the S <sub>2</sub> Electronic State. <i>Journal of Physical Chemistry A</i> , 2001, 105, 3735-3740.	2.5	32
36	Self-interaction corrected density functional calculations of molecular Rydberg states. <i>Journal of Chemical Physics</i> , 2013, 139, 194102.	3.0	32

#	ARTICLE	IF	CITATIONS
37	Ab Initio Calculation of Total X-ray Scattering from Molecules. <i>Journal of Chemical Theory and Computation</i> , 2019, 15, 2836-2846.	5.3	32
38	Structure sensitive photoionization via Rydberg levels. <i>Journal of Molecular Structure</i> , 2006, 787, 163-166.	3.6	31
39	Ultrafast structural dynamics in Rydberg excited N,N,N,N-tetramethylethylenediamine: conformation dependent electron lone pair interaction and charge delocalization. <i>Chemical Science</i> , 2014, 5, 4394-4403.	7.4	31
40	Ultrafast x-ray and electron scattering of free molecules: A comparative evaluation. <i>Structural Dynamics</i> , 2020, 7, 034102.	2.3	30
41	Photoionization via transient states. A coherent probe of molecular eigenstates. <i>Chemical Physics Letters</i> , 1992, 197, 556-561.	2.6	29
42	Dependence of two-photon ionization photoelectron spectra on laser coherence bandwidth. <i>Chemical Physics Letters</i> , 1993, 214, 276-280.	2.6	25
43	Reflectron design for femtosecond electron guns. , 1995, , .		25
44	Pump-probe diffraction imaging of vibrational wave functions. <i>Journal of Chemical Physics</i> , 1998, 108, 8004-8011.	3.0	25
45	Ultrafast structural and isomerization dynamics in the Rydberg-excited Quadricyclane: Norbornadiene system. <i>Journal of Chemical Physics</i> , 2012, 136, 134303.	3.0	25
46	Simplicity Beneath Complexity: Counting Molecular Electrons Reveals Transients and Kinetics of Photodissociation Reactions. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 6371-6375.	13.8	25
47	Centering of ultrafast time-resolved pump-probe electron diffraction patterns. <i>Chemical Physics</i> , 2004, 299, 307-312.	1.9	24
48	Structural dynamics and energy flow in Rydberg-excited clusters of N,N-dimethylisopropylamine. <i>Journal of Chemical Physics</i> , 2011, 135, 044319.	3.0	24
49	Femtosecond photodissociation dynamics of 1,4-diiodobenzene by gas-phase X-ray scattering and photoelectron spectroscopy. <i>Faraday Discussions</i> , 2016, 194, 525-536.	3.2	23
50	Dissociative Energy Flow, Vibrational Energy Redistribution, and Conformer Structural Dynamics in Bifunctional Amine Model Systems. <i>Journal of Physical Chemistry A</i> , 2010, 114, 11078-11084.	2.5	22
51	Self-interaction corrected density functional calculations of Rydberg states of molecular clusters: N,N-dimethylisopropylamine. <i>Journal of Chemical Physics</i> , 2014, 141, 234308.	3.0	22
52	Coherence in nonradiative transitions: internal conversion in Rydberg-excited N-methyl and N-ethyl morpholine. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 26403-26411.	2.8	22
53	Fundamental Limits on Spatial Resolution in Ultrafast X-ray Diffraction. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 534.	2.5	22
54	Electron Diffraction of Molecules in Specific Quantum States: A Theoretical Study of Vibronically Excited s-Tetrazine. <i>Journal of Physical Chemistry A</i> , 2004, 108, 1189-1199.	2.5	20

#	ARTICLE	IF	CITATIONS
55	Observation of Structural Wavepacket Motion: The Umbrella Mode in Rydberg-Excited N-Methyl Morpholine. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 3740-3744.	4.6	20
56	Advances in ultrafast gas-phase x-ray scattering. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2020, 53, 234004.	1.5	20
57	Diffraction Signals of Aligned Molecules in the Gas Phase: Tetrazine in Intense Laser Fields. <i>Journal of Physical Chemistry A</i> , 2003, 107, 6622-6629.	2.5	19
58	Resolved: Electronic states underneath broad absorptions. <i>Journal of Chemical Physics</i> , 2007, 127, 036101.	3.0	19
59	Ultrafast Dynamics of Highly Excited <i>trans</i> -Stilbene: A Different Twist. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 224-227.	4.6	18
60	Encoding information in synthetic metabolomes. <i>PLoS ONE</i> , 2019, 14, e0217364.	2.5	18
61	Ultrafast X-ray scattering offers a structural view of excited-state charge transfer. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	18
62	Identification of isomeric hydrocarbons by Rydberg photoelectron spectroscopy. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2008, 165, 5-10.	1.7	17
63	Principles of Information Storage in Small-Molecule Mixtures. <i>IEEE Transactions on Nanobioscience</i> , 2020, 19, 378-384.	3.3	17
64	Scattering off molecules far from equilibrium. <i>Journal of Chemical Physics</i> , 2019, 151, 084301.	3.0	16
65	Ultrafast Structural Pathway of Charge Transfer in N,N,N',N'-Tetramethylethylenediamine. <i>Journal of Physical Chemistry A</i> , 2015, 119, 2813-2818.	2.5	15
66	Electron diffraction with bound electrons: The structure sensitivity of Rydberg Fingerprint Spectroscopy. <i>Journal of Molecular Structure</i> , 2010, 978, 250-256.	3.6	14
67	Self-Interaction Corrected Functional Calculations of a Dipole-Bound Molecular Anion. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 2068-2073.	4.6	14
68	Mapping static core-holes and ring-currents with X-ray scattering. <i>Faraday Discussions</i> , 2021, 228, 60-81.	3.2	14
69	Transient structures and chemical reaction dynamics. <i>Russian Chemical Reviews</i> , 2017, 86, 1173-1253.	6.5	13
70	Symmetry controlled excited state dynamics. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 2283-2294.	2.8	13
71	The diffraction signatures of individual vibrational modes in polyatomic molecules. <i>Journal of Chemical Physics</i> , 2000, 112, 1260-1270.	3.0	12
72	Megavolt Electron Beams for Ultrafast Time-Resolved Electron Diffraction. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	12

#	ARTICLE	IF	CITATIONS
73	Molecular structure and conformational properties of N-cyclohexylpiperidine as studied by gas-phase electron diffraction, mass spectrometry, IR spectroscopy and quantum chemical calculations. <i>Structural Chemistry</i> , 2015, 26, 1501-1512.	2.0	12
74	Resonant two photon ionization of phenanthrene via its transient S <sub>2</sub> state. <i>Zeitschrift für Physik D-Atoms Molecules and Clusters</i> , 1993, 28, 191-194.	1.0	11
75	Structure and dynamics of the S <sub>3</sub> state of CS <sub>2</sub> . <i>Journal of Chemical Physics</i> , 1997, 107, 6570-6576.	3.0	11
76	Charge transfer and ultrafast nuclear motions: the complex structural dynamics of an electronically excited triamine. <i>Chemical Science</i> , 2016, 7, 619-627.	7.4	11
77	Structure and conformational behavior of N-phenylpiperidine studied by gas-phase electron diffraction and quantum chemical calculations. <i>Journal of Molecular Structure</i> , 2017, 1132, 3-10.	3.6	11
78	High-repetition-rate time-resolved gas phase electron diffraction. , 1995, 2521, 136.		10
79	Experimental adaptive optimization of mass spectrometer ion optic voltages using a genetic algorithm. <i>Review of Scientific Instruments</i> , 1999, 70, 2262-2267.	1.3	10
80	Intramolecular inversions, structure and conformational behavior of gaseous and liquid N-cyanopiperidine. Comparison with other 1-cyanoheterocyclohexanes. <i>Journal of Molecular Structure</i> , 2017, 1138, 41-49.	3.6	10
81	Determination of excited state molecular structures from time-resolved gas-phase X-ray scattering. <i>Faraday Discussions</i> , 2021, 228, 104-122.	3.2	10
82	Strong-field induced fragmentation and isomerization of toluene probed by ultrafast femtosecond electron diffraction and mass spectrometry. <i>Faraday Discussions</i> , 2021, 228, 39-59.	3.2	10
83	Non-intrusive detection of combustion intermediates by photoionization via Rydberg states and microwave backscattering. <i>Combustion and Flame</i> , 2016, 171, 162-167.	5.2	9
84	Pump-probe low-energy electron diffraction. , 1995, , .		8
85	Ultrafast Dynamics of 1,3-Cyclohexadiene in Highly Excited States. <i>Journal of Atomic, Molecular, and Optical Physics</i> , 2011, 2011, 1-6.	0.5	8
86	Ultrafast formation of an intramolecular cation- $\pi$ bond. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2010, 213, 70-72.	3.9	6
87	Simplicity Beneath Complexity: Counting Molecular Electrons Reveals Transients and Kinetics of Photodissociation Reactions. <i>Angewandte Chemie</i> , 2019, 131, 6437-6441.	2.0	6
88	Reply to: "The diamine cation is not a chemical example where density functional theory fails". <i>Nature Communications</i> , 2018, 9, 5348.	12.8	5
89	Ultrafast photodissociation dynamics of 1,4-diiodobenzene. <i>Journal of Chemical Physics</i> , 2018, 148, 194306.	3.0	5
90	Transient Symmetry Controls Photo Dynamics near Conical Intersections. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 9220-9225.	4.6	4

#	ARTICLE	IF	CITATIONS
91	Putting the Disulfide Bridge at Risk: How UVâ€C Radiation Leads to Ultrafast Rupture of the Sâ€S Bond. ChemPhysChem, 2018, 19, 2829-2834.	2.1	3
92	Spatially resolved standoff trace chemical sensing using backwards transient absorption spectroscopy. Optics Letters, 2018, 43, 1279.	3.3	2
93	Time-resolved diffraction: general discussion. Faraday Discussions, 2021, 228, 161-190.	3.2	2
94	Ultrafast conformational dynamics of Rydberg-excited <i>N</i> -methyl piperidine. Physical Chemistry Chemical Physics, 2021, 23, 27417-27427.	2.8	2
95	On the ultrafast photo-induced dynamics of $\beta$ -terpinene. Journal of Chemical Physics, 2016, 144, 194303.	3.0	1
96	Secret messaging with endogenous chemistry. Scientific Reports, 2021, 11, 13960.	3.3	1
97	Imaging the ultrafast photoinduced ring opening of 1,3-cyclohexadiene with MeV ultrafast electron diffraction (Conference Presentation). , 2018, , .		1
98	Conformational diversity of 1-phenylpiperidin-4-one in the gas phase. Chemical Physics Letters, 2022, 803, 139851.	2.6	1
99	Imaging the ring opening reaction of 1,3-cyclohexadiene with MeV ultrafast electron diffraction. EPJ Web of Conferences, 2019, 205, 07006.	0.3	0
100	Ultrafast X-ray science: general discussion. Faraday Discussions, 2021, 228, 597-621.	3.2	0
101	Chemical analysis from a distance: Spatially resolved, remote sensing using backward transient absorption. Chemical Physics Letters, 2022, 793, 139435.	2.6	0
102	Spectroscopic identification of 2,3-dimethylbut-2-ene transients in 2,3-dimethylbut-2-ane flames. Applied Physics B: Lasers and Optics, 2022, 128, 1.	2.2	0