

Peter M Weber

List of Publications by Year in descending order

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102
papers

4,061
citations

126858

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103
all docs

103
docs citations

103
times ranked

2527
citing authors

#	ARTICLE	IF	CITATIONS
1	Chemical analysis from a distance: Spatially resolved, remote sensing using backward transient absorption. <i>Chemical Physics Letters</i> , 2022, 793, 139435.	1.2	0
2	Spectroscopic identification of 2,3-dimethylbut-2-ene transients in 2,3-dimethylbut-2-ane flames. <i>Applied Physics B: Lasers and Optics</i> , 2022, 128, 1.	1.1	0
3	Conformational diversity of 1-phenylpiperidin-4-one in the gas phase. <i>Chemical Physics Letters</i> , 2022, 803, 139851.	1.2	1
4	Determination of excited state molecular structures from time-resolved gas-phase X-ray scattering. <i>Faraday Discussions</i> , 2021, 228, 104-122.	1.6	10
5	Mapping static core-holes and ring-currents with X-ray scattering. <i>Faraday Discussions</i> , 2021, 228, 60-81.	1.6	14
6	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.	1.6	10
7	Ultrafast X-ray science: general discussion. <i>Faraday Discussions</i> , 2021, 228, 597-621.	1.6	0
8	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, .	3.3	18
9	Secret messaging with endogenous chemistry. <i>Scientific Reports</i> , 2021, 11, 13960.	1.6	1
10	Transient Symmetry Controls Photo Dynamics near Conical Intersections. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 9220-9225.	2.1	4
11	Time-resolved diffraction: general discussion. <i>Faraday Discussions</i> , 2021, 228, 161-190.	1.6	2
12	Ultrafast conformational dynamics of Rydberg-excited <i>N</i> -methyl piperidine. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 27417-27427.	1.3	2
13	Ultrafast x-ray and electron scattering of free molecules: A comparative evaluation. <i>Structural Dynamics</i> , 2020, 7, 034102.	0.9	30
14	Principles of Information Storage in Small-Molecule Mixtures. <i>IEEE Transactions on Nanobioscience</i> , 2020, 19, 378-384.	2.2	17
15	Multicomponent molecular memory. <i>Nature Communications</i> , 2020, 11, 691.	5.8	40
16	Observation of the molecular response to light upon photoexcitation. <i>Nature Communications</i> , 2020, 11, 2157.	5.8	42
17	Advances in ultrafast gas-phase x-ray scattering. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2020, 53, 234004.	0.6	20
18	Ultrafast X-ray scattering reveals vibrational coherence following Rydberg excitation. <i>Nature Chemistry</i> , 2019, 11, 716-721.	6.6	73

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19	Roadmap on photonic, electronic and atomic collision physics: I. Light-matter interaction. Journal of Physics B: Atomic, Molecular and Optical Physics, 2019, 52, 171001.	0.6	52
20	Encoding information in synthetic metabolomes. PLoS ONE, 2019, 14, e0217364.	1.1	18
21	A deep UV trigger for ground-state ring-opening dynamics of 1,3-cyclohexadiene. Science Advances, 2019, 5, eaax6625.	4.7	35
22	Imaging the ring opening reaction of 1,3-cyclohexadiene with MeV ultrafast electron diffraction. EPJ Web of Conferences, 2019, 205, 07006.	0.1	0
23	Scattering off molecules far from equilibrium. Journal of Chemical Physics, 2019, 151, 084301.	1.2	16
24	Symmetry controlled excited state dynamics. Physical Chemistry Chemical Physics, 2019, 21, 2283-2294.	1.3	13
25	The photochemical ring-opening of 1,3-cyclohexadiene imaged by ultrafast electron diffraction. Nature Chemistry, 2019, 11, 504-509.	6.6	157
26	Simplicity Beneath Complexity: Counting Molecular Electrons Reveals Transients and Kinetics of Photodissociation Reactions. Angewandte Chemie, 2019, 131, 6437-6441.	1.6	6
27	Simplicity Beneath Complexity: Counting Molecular Electrons Reveals Transients and Kinetics of Photodissociation Reactions. Angewandte Chemie - International Edition, 2019, 58, 6371-6375.	7.2	25
28	Ab Initio Calculation of Total X-ray Scattering from Molecules. Journal of Chemical Theory and Computation, 2019, 15, 2836-2846.	2.3	32
29	Determining Orientations of Optical Transition Dipole Moments Using Ultrafast X-ray Scattering. Journal of Physical Chemistry Letters, 2018, 9, 6556-6562.	2.1	36
30	Reply to: "The diamine cation is not a chemical example where density functional theory fails". Nature Communications, 2018, 9, 5348.	5.8	5
31	Putting the Disulfide Bridge at Risk: How UV Radiation Leads to Ultrafast Rupture of the S-S Bond. ChemPhysChem, 2018, 19, 2829-2834.	1.0	3
32	Spatially resolved standoff trace chemical sensing using backwards transient absorption spectroscopy. Optics Letters, 2018, 43, 1279.	1.7	2
33	Ultrafast photodissociation dynamics of 1,4-diiodobenzene. Journal of Chemical Physics, 2018, 148, 194306.	1.2	5
34	Imaging the ultrafast photoinduced ring opening of 1,3-cyclohexadiene with MeV ultrafast electron diffraction (Conference Presentation)., 2018, .		1
35	Structure and conformational behavior of N-phenylpiperidine studied by gas-phase electron diffraction and quantum chemical calculations. Journal of Molecular Structure, 2017, 1132, 3-10.	1.8	11
36	Intramolecular inversions, structure and conformational behavior of gaseous and liquid N-cyanopiperidine. Comparison with other 1-cyanoheterocyclohexanes. Journal of Molecular Structure, 2017, 1138, 41-49.	1.8	10

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37	Capturing Chemistry in Action with Electrons: Realization of Atomically Resolved Reaction Dynamics. <i>Chemical Reviews</i> , 2017, 117, 11066-11124.	23.0	108
38	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.	1.3	22
39	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.	2.1	20
40	Transient structures and chemical reaction dynamics. <i>Russian Chemical Reviews</i> , 2017, 86, 1173-1253.	2.5	13
41	Fundamental Limits on Spatial Resolution in Ultrafast X-ray Diffraction. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 534.	1.3	22
42	Charge localization in a diamine cation provides a test of energy functionals and self-interaction correction. <i>Nature Communications</i> , 2016, 7, 11013.	5.8	37
43	On the ultrafast photo-induced dynamics of Î±-terpinene. <i>Journal of Chemical Physics</i> , 2016, 144, 194303.	1.2	1
44	Self-Interaction Corrected Functional Calculations of a Dipole-Bound Molecular Anion. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 2068-2073.	2.1	14
45	Non-intrusive detection of combustion intermediates by photoionization via Rydberg states and microwave backscattering. <i>Combustion and Flame</i> , 2016, 171, 162-167.	2.8	9
46	Femtosecond photodissociation dynamics of 1,4-diiodobenzene by gas-phase X-ray scattering and photoelectron spectroscopy. <i>Faraday Discussions</i> , 2016, 194, 525-536.	1.6	23
47	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.	0.6	53
48	Charge transfer and ultrafast nuclear motions: the complex structural dynamics of an electronically excited triamine. <i>Chemical Science</i> , 2016, 7, 619-627.	3.7	11
49	Ultrafast Structural Pathway of Charge Transfer in N,N,N',N'-Tetramethylethylenediamine. <i>Journal of Physical Chemistry A</i> , 2015, 119, 2813-2818.	1.1	15
50	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.	1.1	58
51	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.	1.0	12
52	Imaging Molecular Motion: Femtosecond X-Ray Scattering of an Electrocyclic Chemical Reaction. <i>Physical Review Letters</i> , 2015, 114, 255501.	2.9	254
53	Self-interaction corrected density functional calculations of Rydberg states of molecular clusters: N,N-dimethylisopropylamine. <i>Journal of Chemical Physics</i> , 2014, 141, 234308.	1.2	22
54	Toward structural femtosecond chemical dynamics: imaging chemistry in space and time. <i>Faraday Discussions</i> , 2014, 171, 81-91.	1.6	48

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55	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.	3.7	31
56	Structural Dynamics and Charge Transfer in Electronically Excited <i>N,N</i> -Dimethylpiperazine. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 2780-2784.	2.1	33
57	Self-interaction corrected density functional calculations of molecular Rydberg states. <i>Journal of Chemical Physics</i> , 2013, 139, 194102.	1.2	32
58	Ultrafast structural and isomerization dynamics in the Rydberg-excited Quadricyclane: Norbornadiene system. <i>Journal of Chemical Physics</i> , 2012, 136, 134303.	1.2	25
59	Structural Dynamics in Floppy Systems: Ultrafast Conformer Motions in Rydberg-Excited Triethylamine. <i>Journal of Physical Chemistry A</i> , 2011, 115, 1804-1809.	1.1	37
60	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.	4.8	118
61	Structural dynamics and energy flow in Rydberg-excited clusters of <i>N,N</i> -dimethylisopropylamine. <i>Journal of Chemical Physics</i> , 2011, 135, 044319.	1.2	24
62	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
63	Ultrafast formation of an intramolecular cation- π bond. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2010, 213, 70-72.	2.0	6
64	Electron diffraction with bound electrons: The structure sensitivity of Rydberg Fingerprint Spectroscopy. <i>Journal of Molecular Structure</i> , 2010, 978, 250-256.	1.8	14
65	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.	1.1	22
66	Ultrafast Dynamics of Highly Excited <i>trans</i> -Stilbene: A Different Twist. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 224-227.	2.1	18
67	Ground state recovery and molecular structure upon ultrafast transition through conical intersections in cyclic dienes. <i>Chemical Physics Letters</i> , 2009, 470, 187-190.	1.2	33
68	Identification of isomeric hydrocarbons by Rydberg photoelectron spectroscopy. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2008, 165, 5-10.	0.8	17
69	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.	1.1	46
70	Resolved: Electronic states underneath broad absorptions. <i>Journal of Chemical Physics</i> , 2007, 127, 036101.	1.2	19
71	Time-Resolved Conformational Dynamics in Hydrocarbon Chains. <i>Physical Review Letters</i> , 2007, 98, 253004.	2.9	44
72	Rydberg Fingerprint Spectroscopy of Hot Molecules: A Structural Dispersion in Flexible Hydrocarbons. <i>Journal of Physical Chemistry A</i> , 2006, 110, 10212-10218.	1.1	35

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73	Energy Flow and Fragmentation Dynamics of N,N-Dimethylisopropylamine. <i>Journal of Physical Chemistry A</i> , 2006, 110, 4251-4255.	1.1	51
74	Structure sensitive photoionization via Rydberg levels. <i>Journal of Molecular Structure</i> , 2006, 787, 163-166.	1.8	31
75	Megavolt Electron Beams for Ultrafast Time-Resolved Electron Diffraction. <i>AIP Conference Proceedings</i> , 2006, , .	0.3	12
76	Spectroscopy and femtosecond dynamics of the ring opening reaction of 1,3-cyclohexadiene. <i>Journal of Chemical Physics</i> , 2006, 125, 133307.	1.2	60
77	Ultrafast time-resolved electron diffraction with megavolt electron beams. <i>Applied Physics Letters</i> , 2006, 89, 184109.	1.5	203
78	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.	1.1	46
79	Rydberg Fingerprint Spectroscopy: A New Spectroscopic Tool with Local and Global Structural Sensitivity. <i>Journal of Physical Chemistry A</i> , 2005, 109, 4899-4904.	1.1	81
80	Ultrafast electron microscopy in materials science, biology, and chemistry. <i>Journal of Applied Physics</i> , 2005, 97, 111101.	1.1	281
81	Centering of ultrafast time-resolved pump-probe electron diffraction patterns. <i>Chemical Physics</i> , 2004, 299, 307-312.	0.9	24
82	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.	1.1	20
83	Rydberg states: sensitive probes of molecular structure. <i>Chemical Physics Letters</i> , 2003, 378, 647-653.	1.2	64
84	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.	1.1	19
85	Ultrafast Dynamics in the Three-Photon, Double-Resonance Ionization of Phenol via the S ₂ Electronic State. <i>Journal of Physical Chemistry A</i> , 2001, 105, 3735-3740.	1.1	32
86	Ultrafast Dynamics in Superexcited States of Phenol. <i>Journal of Physical Chemistry A</i> , 2001, 105, 3725-3734.	1.1	71
87	Ultrafast Diffraction Imaging of the Electrocyclic Ring-Opening Reaction of 1,3-Cyclohexadiene. <i>Journal of Physical Chemistry A</i> , 2001, 105, 4167-4171.	1.1	142
88	The diffraction signatures of individual vibrational modes in polyatomic molecules. <i>Journal of Chemical Physics</i> , 2000, 112, 1260-1270.	1.2	12
89	Experimental adaptive optimization of mass spectrometer ion optic voltages using a genetic algorithm. <i>Review of Scientific Instruments</i> , 1999, 70, 2262-2267.	0.6	10
90	Femtosecond Multiphoton Ionization Photoelectron Spectroscopy of the S ₂ State of Phenol. <i>Journal of Physical Chemistry A</i> , 1999, 103, 10470-10476.	1.1	51

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91	Pump-probe diffraction imaging of vibrational wave functions. Journal of Chemical Physics, 1998, 108, 8004-8011.	1.2	25
92	Structure and dynamics of the S3 state of CS2. Journal of Chemical Physics, 1997, 107, 6570-6576.	1.2	11
93	Feedback quantum control of molecular electronic population transfer. Chemical Physics Letters, 1997, 280, 151-158.	1.2	509
94	Direct imaging of excited electronic states using diffraction techniques: theoretical considerations. Chemical Physics Letters, 1996, 262, 405-414.	1.2	44
95	Pump-probe low-energy electron diffraction. , 1995, , .		8
96	Time-delayed two-color photoelectron spectra of aniline, 2-aminopyridine, and 3-aminopyridine: Snapshots of the nonadiabatic curve crossings. Journal of Chemical Physics, 1995, 103, 6903-6913.	1.2	79
97	High-repetition-rate time-resolved gas phase electron diffraction. , 1995, 2521, 136.		10
98	Reflectron design for femtosecond electron guns. , 1995, , .		25
99	Dependence of two-photon ionization photoelectron spectra on laser coherence bandwidth. Chemical Physics Letters, 1993, 214, 276-280.	1.2	25
100	Resonant two photon ionization of phenanthrene via its transient S2 state. Zeitschrift für Physik D-Atoms Molecules and Clusters, 1993, 28, 191-194.	1.0	11
101	High resolution photoelectron spectroscopy: The vibrational spectrum of the 2-aminopyridine cation. Journal of Chemical Physics, 1992, 97, 5384-5391.	1.2	60
102	Photoionization via transient states. A coherent probe of molecular eigenstates. Chemical Physics Letters, 1992, 197, 556-561.	1.2	29