

# Ahmed H Zewail

## List of Publications by Year in descending order

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362  
papers

29,228  
citations

4370

86  
h-index

6979

154  
g-index

385  
all docs

385  
docs citations

385  
times ranked

14976  
citing authors

#	ARTICLE	IF	CITATIONS
1	Femtochemistry: Atomic-Scale Dynamics of the Chemical Bond. Journal of Physical Chemistry A, 2000, 104, 5660-5694.	1.1	1,532
2	Dynamics of Water in Biological Recognition. Chemical Reviews, 2004, 104, 2099-2124.	23.0	720
3	Four-Dimensional Electron Microscopy. Science, 2010, 328, 187-193.	6.0	676
4	Photon-induced near-field electron microscopy. Nature, 2009, 462, 902-906.	13.7	560
5	Biological water at the protein surface: Dynamical solvation probed directly with femtosecond resolution. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 1763-1768.	3.3	528
6	Proton-transfer reaction dynamics. Chemical Physics, 1996, 207, 477-498.	0.9	525
7	4D Visualization of Transitional Structures in Phase Transformations by Electron Diffraction. Science, 2007, 318, 788-792.	6.0	487
8	Direct Imaging of Transient Molecular Structures with Ultrafast Diffraction. Science, 2001, 291, 458-462.	6.0	486
9	4D ULTRAFAST ELECTRON DIFFRACTION, CRYSTALLOGRAPHY, AND MICROSCOPY. Annual Review of Physical Chemistry, 2006, 57, 65-103.	4.8	471
10	Biological Water: Femtosecond Dynamics of Macromolecular Hydration. Journal of Physical Chemistry B, 2002, 106, 12376-12395.	1.2	468
11	Direct Observation of the Transition State. Accounts of Chemical Research, 1995, 28, 119-132.	7.6	441
12	Femtochemistry: Atomic-Scale Dynamics of the Chemical Bond Using Ultrafast Lasers (Nobel Lecture). Angewandte Chemie - International Edition, 2000, 39, 2586-2631.	7.2	437
13	Femtosecond real-time observation of wave packet oscillations (resonance) in dissociation reactions. Journal of Chemical Physics, 1988, 88, 6672-6673.	1.2	386
14	Real-time femtosecond probing of transition states in chemical reactions. Journal of Chemical Physics, 1987, 87, 2395-2397.	1.2	381
15	Four-dimensional ultrafast electron microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 7069-7073.	3.3	295
16	Femtochemistry: Recent Progress in Studies of Dynamics and Control of Reactions and Their Transition States. The Journal of Physical Chemistry, 1996, 100, 12701-12724.	2.9	270
17	Femtosecond real-time probing of reactions. IV. The reactions of alkali halides. Journal of Chemical Physics, 1989, 91, 7415-7436.	1.2	260
18	DNA/RNA nucleotides and nucleosides: direct measurement of excited-state lifetimes by femtosecond fluorescence up-conversion. Chemical Physics Letters, 2001, 348, 255-262.	1.2	259

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19	Biological water: A critique. <i>Chemical Physics Letters</i> , 2011, 503, 1-11.	1.2	259
20	4D Imaging of Transient Structures and Morphologies in Ultrafast Electron Microscopy. <i>Science</i> , 2008, 322, 1227-1231.	6.0	243
21	Clocking transient chemical changes by ultrafast electron diffraction. <i>Nature</i> , 1997, 386, 159-162.	13.7	242
22	Ultrafast Dynamics of Porphyrins in the Condensed Phase: II. Zinc Tetraphenylporphyrin. <i>Journal of Physical Chemistry A</i> , 2002, 106, 9845-9854.	1.1	240
23	Photon-induced near-field electron microscopy (PINEM): theoretical and experimental. <i>New Journal of Physics</i> , 2010, 12, 123028.	1.2	240
24	Ultrafast Electron Crystallography of Interfacial Water. <i>Science</i> , 2004, 304, 80-84.	6.0	239
25	Water at DNA surfaces: Ultrafast dynamics in minor groove recognition. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 8113-8118.	3.3	233
26	Femtosecond real-time probing of reactions. I. The technique. <i>Journal of Chemical Physics</i> , 1988, 89, 6113-6127.	1.2	231
27	Ultrafast Dynamics of Porphyrins in the Condensed Phase: I. Free Base Tetraphenylporphyrin. <i>Journal of Physical Chemistry A</i> , 2002, 106, 9837-9844.	1.1	213
28	Nonequilibrium Phase Transitions in Cuprates Observed by Ultrafast Electron Crystallography. <i>Science</i> , 2007, 316, 425-429.	6.0	210
29	Electron and X-Ray Methods of Ultrafast Structural Dynamics: Advances and Applications. <i>ChemPhysChem</i> , 2009, 10, 28-43.	1.0	206
30	Electrons in Finite-Sized Water Cavities: Hydration Dynamics Observed in Real Time. <i>Science</i> , 2004, 306, 672-675.	6.0	205
31	4D Electron Microscopy: Principles and Applications. <i>Accounts of Chemical Research</i> , 2012, 45, 1828-1839.	7.6	200
32	Femtosecond dynamics of rubredoxin: Tryptophan solvation and resonance energy transfer in the protein. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 13-18.	3.3	193
33	Purely rotational coherence effect and time-resolved sub-Doppler spectroscopy of large molecules. I. Theoretical. <i>Journal of Chemical Physics</i> , 1987, 86, 2460-2482.	1.2	192
34	Energy Redistribution In Isolated Molecules and the Question of Mode-Selective Laser Chemistry Revisited. <i>The Journal of Physical Chemistry</i> , 1984, 88, 5459-5465.	2.9	188
35	Femtosecond real-time dynamics of photofragment-trapping resonances on dissociative potential energy surfaces. <i>Chemical Physics Letters</i> , 1988, 146, 175-179.	1.2	181
36	Femtosecond real-time probing of reactions. II. The dissociation reaction of ICN. <i>Journal of Chemical Physics</i> , 1988, 89, 6128-6140.	1.2	181

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37	Real-time picosecond clocking of the collision complex in a bimolecular reaction: The birth of OH from H+CO <sub>2</sub> . <i>Journal of Chemical Physics</i> , 1987, 87, 1451-1453.	1.2	176
38	Breaking resolution limits in ultrafast electron diffraction and microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 16105-16110.	3.3	174
39	Dynamics of Chemical Bonding Mapped by Energy-Resolved 4D Electron Microscopy. <i>Science</i> , 2009, 325, 181-184.	6.0	170
40	Attosecond electron pulses for 4D diffraction and microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 18409-18414.	3.3	167
41	Dynamics of intramolecular vibrational energy redistribution (IVR). II. Excess energy dependence. <i>Journal of Chemical Physics</i> , 1985, 82, 2975-2993.	1.2	164
42	Femtosecond transition-state dynamics. <i>Faraday Discussions of the Chemical Society</i> , 1991, 91, 207.	2.2	160
43	Double proton transfer dynamics of model DNA base pairs in the condensed phase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 8703-8708.	3.3	160
44	Femtosecond Activation of Reactions and the Concept of Nonergodic Molecules. <i>Science</i> , 1998, 279, 847-851.	6.0	153
45	Femtosecond dynamics of dissociation and recombination in solvent cages. <i>Nature</i> , 1993, 364, 427-430.	13.7	152
46	Hydration at the surface of the protein Monellin: Dynamics with femtosecond resolution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 10964-10969.	3.3	151
47	Ultrafast Solvation Dynamics of Human Serum Albumin: Correlations with Conformational Transitions and Site-Selected Recognition. <i>Journal of Physical Chemistry B</i> , 2006, 110, 10540-10549.	1.2	148
48	Dynamics of intramolecular vibrational energy redistribution (IVR). I. Coherence effects. <i>Journal of Chemical Physics</i> , 1985, 82, 2961-2974.	1.2	147
49	Laser selective chemistry "is it possible?". <i>Physics Today</i> , 1980, 33, 27-33.	0.3	145
50	Protein surface hydration mapped by site-specific mutations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 13979-13984.	3.3	144
51	Subparticle Ultrafast Spectrum Imaging in 4D Electron Microscopy. <i>Science</i> , 2012, 335, 59-64.	6.0	142
52	Dark Structures in Molecular Radiationless Transitions Determined by Ultrafast Diffraction. <i>Science</i> , 2005, 307, 558-563.	6.0	139
53	Single-nanoparticle phase transitions visualized by four-dimensional electron microscopy. <i>Nature Chemistry</i> , 2013, 5, 395-402.	6.6	139
54	Ultrafast Dynamics in DNA-Mediated Electron Transfer: Base Gating and the Role of Temperature. <i>Angewandte Chemie - International Edition</i> , 2003, 42, 5896-5900.	7.2	138

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55	Structural Preablation Dynamics of Graphite Observed by Ultrafast Electron Crystallography. <i>Physical Review Letters</i> , 2008, 100, 035501.	2.9	135
56	Femtosecond Real-Time Probing of Reactions. 23. Studies of Temporal, Velocity, Angular, and State Dynamics from Transition States to Final Products by Femtosecond-Resolved Mass Spectrometry. <i>Journal of Physical Chemistry A</i> , 1998, 102, 4031-4058.	1.1	134
57	Direct femtosecond observation of the transient intermediate in the $\text{C-C}$ cleavage reaction of $(\text{CH}_3)_2\text{CO}$ to $2\text{CH}_3+\text{CO}$ : Resolving the issue of concertedness. <i>Journal of Chemical Physics</i> , 1995, 103, 477-480.	1.2	132
58	Femtochemistry of Norrish Type-I Reactions: I. Experimental and Theoretical Studies of Acetone and Related Ketones on the $\text{S}_1$ Surface. <i>ChemPhysChem</i> , 2001, 2, 273-293.	1.0	130
59	Ultrafast Electron Diffraction. 5. Experimental Time Resolution and Applications. <i>The Journal of Physical Chemistry</i> , 1994, 98, 2782-2796.	2.9	127
60	Molecular state evolution after excitation with an ultra-short laser pulse: A quantum analysis of $\text{NaI}$ and $\text{NaBr}$ dissociation. <i>Chemical Physics Letters</i> , 1988, 152, 1-7.	1.2	125
61	Ultrafast electron crystallography: Transient structures of molecules, surfaces, and phase transitions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 1123-1128.	3.3	122
62	Ultrafast hydration dynamics in protein unfolding: Human serum albumin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 13411-13416.	3.3	120
63	Scanning ultrafast electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 14993-14998.	3.3	117
64	Femtochemistry. <i>World Scientific Series in 20th Century Chemistry</i> , 1994, , 3-22.	0.0	116
65	4D Electron Tomography. <i>Science</i> , 2010, 328, 1668-1673.	6.0	115
66	Dynamics of intramolecular vibrational energy redistribution (IVR). IV. Excess energy dependence, $\text{trans-stilbene}$ . <i>Journal of Chemical Physics</i> , 1985, 82, 3003-3010.	1.2	114
67	Ultrashort electron pulses for diffraction, crystallography and microscopy: theoretical and experimental resolutions. <i>Physical Chemistry Chemical Physics</i> , 2008, 10, 2894.	1.3	113
68	Femtosecond real-time probing of reactions. III. Inversion to the potential from femtosecond transition-state spectroscopy experiments. <i>Journal of Chemical Physics</i> , 1989, 90, 829-842.	1.2	111
69	Nonlinear partial differential equations and applications: Ultrafast surface hydration dynamics and expression of protein functionality: $\text{A-Chymotrypsin}$ . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 15297-15302.	3.3	111
70	Purely rotational coherence effect and time-resolved sub-Doppler spectroscopy of large molecules. II. Experimental. <i>Journal of Chemical Physics</i> , 1987, 86, 2483-2499.	1.2	109
71	Site- and sequence-selective ultrafast hydration of DNA. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 13746-13751.	3.3	109
72	Direct Determination of Hydrogen-Bonded Structures in Resonant and Tautomeric Reactions Using Ultrafast Electron Diffraction. <i>Journal of the American Chemical Society</i> , 2004, 126, 2266-2267.	6.6	108

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73	Dynamics of intramolecular vibrational energy redistribution (IVR). III. Role of molecular rotations. <i>Journal of Chemical Physics</i> , 1985, 82, 2994-3002.	1.2	107
74	Femtosecond Dynamics of Pyridine in the Condensed Phase: Valence Isomerization by Conical Intersections. <i>Journal of Physical Chemistry A</i> , 1999, 103, 7408-7418.	1.1	107
75	Four-dimensional ultrafast electron microscopy of phase transitions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 18427-18431.	3.3	107
76	Femtosecond Charge Transfer Dynamics of a Modified DNA Base: 2-Aminopurine in Complexes with Nucleotides. <i>ChemPhysChem</i> , 2002, 3, 781-788.	1.0	103
77	Dynamics of Water near a Protein Surface. <i>Journal of Physical Chemistry B</i> , 2003, 107, 13218-13228.	1.2	100
78	DNA folding and melting observed in real time redefine the energy landscape. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 712-716.	3.3	99
79	Multiple phase-coherent laser pulses in optical spectroscopy. I. The technique and experimental applications. <i>Journal of Chemical Physics</i> , 1983, 78, 2279-2297.	1.2	98
80	Ultrafast electron diffraction. Velocity mismatch and temporal resolution in crossed-beam experiments. <i>Chemical Physics Letters</i> , 1993, 209, 10-16.	1.2	97
81	Kinetic-energy, femtosecond resolved reaction dynamics. Modes of dissociation (in iodobenzene) from time-velocity correlations. <i>Chemical Physics Letters</i> , 1995, 237, 399-405.	1.2	95
82	Femtosecond real-time probing of reactions. XXI. Direct observation of transition state dynamics and structure in charge-transfer reactions. <i>Journal of Chemical Physics</i> , 1996, 105, 6216-6248.	1.2	93
83	Ultrafast Electron Diffraction of Transient [Fe(CO) <sub>4</sub> ]: Determination of Molecular Structure and Reaction Pathway. <i>Angewandte Chemie - International Edition</i> , 2001, 40, 1532-1536.	7.2	90
84	Picosecond photofragment spectroscopy. I. Microcanonical state-to-state rates of the reaction NCNO <sup>+</sup> + CN + NO. <i>Journal of Chemical Physics</i> , 1987, 87, 77-96.	1.2	89
85	Atomic-Scale Imaging in Real and Energy Space Developed in Ultrafast Electron Microscopy. <i>Nano Letters</i> , 2007, 7, 2545-2551.	4.5	88
86	Observation of restricted IVR in large molecules: Quasi-periodic behavior, phase-shifted and non-phase-shifted quantum beats. <i>Chemical Physics Letters</i> , 1983, 102, 113-119.	1.2	87
87	Direct Observation of Nonchaotic Multilevel Vibrational Energy Flow in Isolated Polyatomic Molecules. <i>Physical Review Letters</i> , 1984, 53, 501-504.	2.9	87
88	Femtochemistry. Past, present, and future. <i>Pure and Applied Chemistry</i> , 2000, 72, 2219-2231.	0.9	85
89	Ordered water structure at hydrophobic graphite interfaces observed by 4D, ultrafast electron crystallography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 4122-4126.	3.3	85
90	Biological imaging with 4D ultrafast electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 9933-9937.	3.3	85

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91	Solvation Ultrafast Dynamics of Reactions. 11. Dissociation and Caging Dynamics in the Gas-to-Liquid Transition Region. <i>The Journal of Physical Chemistry</i> , 1996, 100, 18629-18649.	2.9	84
92	Femtosecond Studies of Protein-DNA Binding and Dynamics: Histone I. <i>ChemPhysChem</i> , 2001, 2, 219-227.	1.0	84
93	Picosecond Time-Resolved Dynamics of Vibrational-Energy Redistribution and Coherence in Beam-Isolated Molecules. <i>Advances in Chemical Physics</i> , 2007, , 265-364.	0.3	84
94	4D Scanning Ultrafast Electron Microscopy: Visualization of Materials Surface Dynamics. <i>Journal of the American Chemical Society</i> , 2011, 133, 7708-7711.	6.6	84
95	Rates of photoisomerization of trans-stilbene in isolated and solvated molecules: experiments on the deuterium isotope effect and RRKM behavior. <i>The Journal of Physical Chemistry</i> , 1985, 89, 5402-5411.	2.9	83
96	Ultrafast Electron Diffraction. 4. Molecular Structures and Coherent Dynamics. <i>The Journal of Physical Chemistry</i> , 1994, 98, 2766-2781.	2.9	83
97	Nanoscale Mechanical Drumming Visualized by 4D Electron Microscopy. <i>Nano Letters</i> , 2008, 8, 3557-3562.	4.5	81
98	4D Nanoscale Diffraction Observed by Convergent-Beam Ultrafast Electron Microscopy. <i>Science</i> , 2009, 326, 708-712.	6.0	81
99	The Birth of Molecules. <i>Scientific American</i> , 1990, 263, 76-82.	1.0	80
100	Femtochemistry of Norrish Type-I Reactions: III. Highly Excited Ketonesâ€™ Theoretical. <i>ChemPhysChem</i> , 2002, 3, 57-78.	1.0	80
101	Picosecond photofragment spectroscopy. II. The overtone initiated unimolecular reaction $H_2O_2(\nu_{OH}=5) \rightarrow 2OH$ . <i>Journal of Chemical Physics</i> , 1987, 87, 97-114.	1.2	79
102	Picosecond photofragment spectroscopy. III. Vibrational predissociation of van der Waalsâ€™ clusters. <i>Journal of Chemical Physics</i> , 1987, 87, 115-127.	1.2	79
103	Temporal lenses for attosecond and femtosecond electron pulses. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 10558-10563.	3.3	79
104	Exceptional rigidity and biomechanics of amyloid revealed by 4D electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 10976-10981.	3.3	79
105	Femtosecond chemical dynamics in solution. Wavepacket evolution and caging of I <sub>2</sub> . <i>Chemical Physics Letters</i> , 1992, 193, 402-412.	1.2	78
106	Femtochemistry of organometallics: dynamics of metal-metal and metal-ligand bond cleavage in $M_2(CO)_{10}$ . <i>Chemical Physics Letters</i> , 1995, 233, 500-508.	1.2	77
107	Primary steps of the photoactive yellow protein: Isolated chromophore dynamics and protein directed function. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 258-262.	3.3	74
108	Direct role of structural dynamics in electron-lattice coupling of superconducting cuprates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 20161-20166.	3.3	74

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109	Imaging rotational dynamics of nanoparticles in liquid by 4D electron microscopy. <i>Science</i> , 2017, 355, 494-498.	6.0	74
110	Femtochemistry of Norrish Type-I Reactions: IV. Highly Excited Ketones—Experimental. <i>ChemPhysChem</i> , 2002, 3, 79-97.	1.0	72
111	4D Electron Diffraction Reveals Correlated Unidirectional Behavior in Zinc Oxide Nanowires. <i>Science</i> , 2008, 321, 1660-1664.	6.0	72
112	Picosecond fluctuating protein energy landscape mapped by pressure temperature molecular dynamics simulation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 17261-17265.	3.3	71
113	Direct picosecond time resolution of dissipative intramolecular vibrational-energy redistribution (IVR) in isolated molecules. <i>Chemical Physics Letters</i> , 1984, 108, 303-310.	1.2	70
114	Nanomechanical Motions of Cantilevers: Direct Imaging in Real Space and Time with 4D Electron Microscopy. <i>Nano Letters</i> , 2009, 9, 875-881.	4.5	69
115	Direct Visualization of Near-Fields in Nanoplasmonics and Nanophotonics. <i>Nano Letters</i> , 2012, 12, 3334-3338.	4.5	69
116	Exciton and vibronic effects in the spectroscopy of bianthracene in supersonic beams. <i>Journal of Chemical Physics</i> , 1986, 84, 1302-1311.	1.2	68
117	Ultrafast unequilibrated charge transfer: A new channel in the quenching of fluorescent biological probes. <i>Chemical Physics Letters</i> , 2005, 412, 158-163.	1.2	68
118	Ultrafast Electron Crystallography. 1. Nonequilibrium Dynamics of Nanometer-Scale Structures. <i>Journal of Physical Chemistry C</i> , 2007, 111, 4889-4919.	1.5	67
119	Bimolecular reactions observed by femtosecond detachment to aligned transition states: Inelastic and reactive dynamics. <i>Journal of Chemical Physics</i> , 1996, 105, 7864-7867.	1.2	66
120	EELS femtosecond resolved in 4D ultrafast electron microscopy. <i>Chemical Physics Letters</i> , 2009, 468, 107-111.	1.2	66
121	Picosecond MPI mass spectrometry of CH <sub>3</sub> I in the process of dissociation. <i>Chemical Physics Letters</i> , 1987, 142, 426-432.	1.2	65
122	Femtosecond dynamics of retro Diels–Alder reactions: the concept of concertedness. <i>Chemical Physics Letters</i> , 1999, 304, 134-144.	1.2	65
123	4D ultrafast electron microscopy: Imaging of atomic motions, acoustic resonances, and moiré fringe dynamics. <i>Ultramicroscopy</i> , 2009, 110, 7-19.	0.8	65
124	Picosecond real-time studies of mode-specific vibrational predissociation. <i>Journal of Chemical Physics</i> , 1990, 92, 3359-3376.	1.2	64
125	Femtosecond dynamics of valence-bond isomers of azines: transition states and conical intersections. <i>Chemical Physics Letters</i> , 1998, 298, 129-140.	1.2	64
126	4D electron imaging: principles and perspectives. <i>Physical Chemistry Chemical Physics</i> , 2008, 10, 2879.	1.3	64

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127	Stepwise Solvation of the Intramolecular-Charge-Transfer Molecule p-(Dimethylamino)benzonitrile. <i>The Journal of Physical Chemistry</i> , 1987, 91, 6162-6167.	2.9	63
128	Solvation Ultrafast Dynamics of Reactions. 9. Femtosecond Studies of Dissociation and Recombination of Iodine in Argon Clusters. <i>The Journal of Physical Chemistry</i> , 1995, 99, 11309-11320.	2.9	63
129	Solvation Ultrafast Dynamics of Reactions. 13. Theoretical and Experimental Studies of Wave Packet Reaction Coherence and Its Density Dependence. <i>The Journal of Physical Chemistry</i> , 1996, 100, 18666-18682.	2.9	63
130	Ultrafast electron diffraction: Excited state structures and chemistries of aromatic carbonyls. <i>Journal of Chemical Physics</i> , 2006, 124, 174707.	1.2	63
131	Ultrafast Photoisomerization of Photoactive Yellow Protein Chromophore Analogues in Solution: Influence of the Protonation State. <i>ChemPhysChem</i> , 2006, 7, 1717-1726.	1.0	63
132	Determination of excited-state rotational constants and structures by Doppler-free picosecond spectroscopy. <i>The Journal of Physical Chemistry</i> , 1989, 93, 5701-5717.	2.9	62
133	Hydration dynamics at fluorinated protein surfaces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 17101-17106.	3.3	62
134	Photonics and Plasmonics in 4D Ultrafast Electron Microscopy. <i>ACS Photonics</i> , 2015, 2, 1391-1402.	3.2	61
135	Direct observation of the femtosecond nonradiative dynamics of azulene in a molecular beam: The anomalous behavior in the isolated molecule. <i>Journal of Chemical Physics</i> , 1999, 110, 9785-9788.	1.2	60
136	Femtosecond Dynamics of Norrish Type-II Reactions: Nonconcerted Hydrogen-Transfer and Diradical Intermediacy. <i>Angewandte Chemie - International Edition</i> , 2000, 39, 260-263.	7.2	59
137	Ultrafast decay and hydration dynamics of DNA bases and mimics. <i>Chemical Physics Letters</i> , 2002, 363, 57-63.	1.2	59
138	Ultrafast Electron Microscopy (UEM): Four-Dimensional Imaging and Diffraction of Nanostructures during Phase Transitions. <i>Nano Letters</i> , 2007, 7, 2552-2558.	4.5	59
139	Entangled Nanoparticles: Discovery by Visualization in 4D Electron Microscopy. <i>Nano Letters</i> , 2012, 12, 5027-5032.	4.5	59
140	Multiple phase-coherent laser pulses in optical spectroscopy. II. Applications to multilevel systems. <i>Journal of Chemical Physics</i> , 1983, 78, 2298-2311.	1.2	58
141	Solvation Ultrafast Dynamics of Reactions. 12. Probing along the Reaction Coordinate and Dynamics in Supercritical Argon. <i>The Journal of Physical Chemistry</i> , 1996, 100, 18650-18665.	2.9	58
142	Ultrafast Electron Diffraction and Structural Dynamics: Transient Intermediates in the Elimination Reaction of C <sub>2</sub> F <sub>4</sub> I <sub>2</sub> . <i>Journal of Physical Chemistry A</i> , 2002, 106, 4087-4103.	1.1	58
143	Diffraction, crystallography and microscopy beyond three dimensions: structural dynamics in space and time. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2005, 363, 315-329.	1.6	57
144	Charge Transfer Assisted by Collective Hydrogen Bonding Dynamics. <i>Angewandte Chemie - International Edition</i> , 2009, 48, 6251-6256.	7.2	56

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145	Spatial-Temporal Imaging of Anisotropic Photocarrier Dynamics in Black Phosphorus. <i>Nano Letters</i> , 2017, 17, 3675-3680.	4.5	56
146	4D Lorentz Electron Microscopy Imaging: Magnetic Domain Wall Nucleation, Reversal, and Wave Velocity. <i>Nano Letters</i> , 2010, 10, 3796-3803.	4.5	55
147	Femtochemistry of Norrish Type-I Reactions: II. The Anomalous Predissociation Dynamics of Cyclobutanone on the S1 Surface. <i>ChemPhysChem</i> , 2001, 2, 294-309.	1.0	54
148	Ultrafast core-loss spectroscopy in four-dimensional electron microscopy. <i>Structural Dynamics</i> , 2015, 2, 024302.	0.9	54
149	Solvation in protein (un)folding of melittin tetramerâ€“monomer transition. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 12593-12598.	3.3	53
150	4D attosecond imaging with free electrons: Diffraction methods and potential applications. <i>Chemical Physics</i> , 2009, 366, 2-8.	0.9	53
151	Optical molecular dephasing: principles of and probings by coherent laser spectroscopy. <i>Accounts of Chemical Research</i> , 1980, 13, 360-368.	7.6	52
152	Picosecond-jet spectroscopy and photochemistry. Energy redistribution and its impact on coherence, isomerization, dissociation and solvation. <i>Faraday Discussions of the Chemical Society</i> , 1983, 75, 315.	2.2	52
153	Femtosecond pH jump: dynamics of acidâ€“base reactions in solvent cages. <i>Chemical Physics Letters</i> , 1994, 228, 369-378.	1.2	51
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