

Ahmed H Zewail

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375
papers

25,639
citations

83
h-index

143
g-index

385
ext. papers

27,346
ext. citations

9.1
avg, IF

7.39
L-index

#	Paper	IF	Citations
375	Femtochemistry: Atomic-Scale Dynamics of the Chemical Bond <i>Journal of Physical Chemistry A</i> , 2000 , 104, 5660-5694	2.8	1312
374	Dynamics of water in biological recognition. <i>Chemical Reviews</i> , 2004 , 104, 2099-123	68.1	662
373	Four-dimensional electron microscopy. <i>Science</i> , 2010 , 328, 187-93	33.3	547
372	Biological water at the protein surface: dynamical solvation probed directly with femtosecond resolution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 1763-8	11.5	482
371	Proton-transfer reaction dynamics. <i>Chemical Physics</i> , 1996 , 207, 477-498	2.3	482
370	Biological Water: Femtosecond Dynamics of Macromolecular Hydration. <i>Journal of Physical Chemistry B</i> , 2002 , 106, 12376-12395	3.4	434
369	4D visualization of transitional structures in phase transformations by electron diffraction. <i>Science</i> , 2007 , 318, 788-92	33.3	415
368	Direct imaging of transient molecular structures with ultrafast diffraction. <i>Science</i> , 2001 , 291, 458-62	33.3	415
367	4D ultrafast electron diffraction, crystallography, and microscopy. <i>Annual Review of Physical Chemistry</i> , 2006 , 57, 65-103	15.7	400
366	Direct Observation of the Transition State. <i>Accounts of Chemical Research</i> , 1995 , 28, 119-132	24.3	392
365	Photon-induced near-field electron microscopy. <i>Nature</i> , 2009 , 462, 902-6	50.4	359
364	Femtochemistry: Atomic-Scale Dynamics of the Chemical Bond Using Ultrafast Lasers (Nobel Lecture) Copyright((c)) The Nobel Foundation 2000. We thank the Nobel Foundation, Stockholm, for permission to print this lecture. <i>Angewandte Chemie - International Edition</i> , 2000 , 39, 2586-2631	16.4	354
363	Femtosecond real-time observation of wave packet oscillations (resonance) in dissociation reactions. <i>Journal of Chemical Physics</i> , 1988 , 88, 6672-6673	3.9	349
362	Real-time femtosecond probing of transition states in chemical reactions. <i>Journal of Chemical Physics</i> , 1987 , 87, 2395-2397	3.9	325
361	Four-dimensional ultrafast electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005 , 102, 7069-73	11.5	247
360	Femtochemistry: Recent Progress in Studies of Dynamics and Control of Reactions and Their Transition States. <i>The Journal of Physical Chemistry</i> , 1996 , 100, 12701-12724		242
359	DNA/RNA nucleotides and nucleosides: direct measurement of excited-state lifetimes by femtosecond fluorescence up-conversion. <i>Chemical Physics Letters</i> , 2001 , 348, 255-262	2.5	241

358	Femtosecond real-time probing of reactions. IV. The reactions of alkali halides. <i>Journal of Chemical Physics</i> , 1989 , 91, 7415-7436	3.9	235
357	Biological water: A critique. <i>Chemical Physics Letters</i> , 2011 , 503, 1-11	2.5	234
356	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, 8113-8	11.5	217
355	Ultrafast electron crystallography of interfacial water. <i>Science</i> , 2004 , 304, 80-4	33.3	217
354	Ultrafast Dynamics of Porphyrins in the Condensed Phase: II. Zinc Tetraphenylporphyrin \square <i>Journal of Physical Chemistry A</i> , 2002 , 106, 9845-9854	2.8	215
353	Femtosecond real-time probing of reactions. I. The technique. <i>Journal of Chemical Physics</i> , 1988 , 89, 6113-6127	20.3	203
352	Clocking transient chemical changes by ultrafast electron diffraction. <i>Nature</i> , 1997 , 386, 159-162	50.4	198
351	4D imaging of transient structures and morphologies in ultrafast electron microscopy. <i>Science</i> , 2008 , 322, 1227-31	33.3	196
350	Electrons in finite-sized water cavities: hydration dynamics observed in real time. <i>Science</i> , 2004 , 306, 672-5	33.3	195
349	Ultrafast Dynamics of Porphyrins in the Condensed Phase: I. Free Base Tetraphenylporphyrin \square <i>Journal of Physical Chemistry A</i> , 2002 , 106, 9837-9844	2.8	194
348	Electron and X-ray methods of ultrafast structural dynamics: advances and applications. <i>ChemPhysChem</i> , 2009 , 10, 28-43	3.2	189
347	Nonequilibrium phase transitions in cuprates observed by ultrafast electron crystallography. <i>Science</i> , 2007 , 316, 425-9	33.3	189
346	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	3.9	172
345	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		171
344	4D electron microscopy: principles and applications. <i>Accounts of Chemical Research</i> , 2012 , 45, 1828-39	24.3	168
343	Femtosecond real-time dynamics of photofragment-trapping resonances on dissociative potential energy surfaces. <i>Chemical Physics Letters</i> , 1988 , 146, 175-179	2.5	168
342	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, 13-8	11.5	167
341	Real-time picosecond clocking of the collision complex in a bimolecular reaction: The birth of OH from H+CO ₂ . <i>Journal of Chemical Physics</i> , 1987 , 87, 1451-1453	3.9	157

340	Femtosecond real-time probing of reactions. II. The dissociation reaction of ICN. <i>Journal of Chemical Physics</i> , 1988 , 89, 6128-6140	3.9	157
339	Dynamics of chemical bonding mapped by energy-resolved 4D electron microscopy. <i>Science</i> , 2009 , 325, 181-4	33.3	153
338	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, 16105-10	11.5	153
337	Dynamics of intramolecular vibrational-energy redistribution (IVR). II. Excess energy dependence. <i>Journal of Chemical Physics</i> , 1985 , 82, 2975-2993	3.9	151
336	Photon-induced near-field electron microscopy (PINEM): theoretical and experimental. <i>New Journal of Physics</i> , 2010 , 12, 123028	2.9	150
335	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, 8703-8	11.5	145
334	Femtosecond activation of reactions and the concept of nonergodic molecules. <i>Science</i> , 1998 , 279, 847-51	5.3	140
333	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, 10964-9	11.5	140
332	Femtosecond transition-state dynamics. <i>Faraday Discussions of the Chemical Society</i> , 1991 , 91, 207		140
331	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, 13979-84	11.5	139
330	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, 18409-14	11.5	137
329	Ultrafast solvation dynamics of human serum albumin: correlations with conformational transitions and site-selected recognition. <i>Journal of Physical Chemistry B</i> , 2006 , 110, 10540-9	3.4	136
328	Dynamics of intramolecular vibrational-energy redistribution (IVR). I. Coherence effects. <i>Journal of Chemical Physics</i> , 1985 , 82, 2961-2974	3.9	133
327	Subparticle ultrafast spectrum imaging in 4D electron microscopy. <i>Science</i> , 2012 , 335, 59-64	33.3	130
326	Femtosecond dynamics of dissociation and recombination in solvent cages. <i>Nature</i> , 1993 , 364, 427-430	50.4	130
325	Dark structures in molecular radiationless transitions determined by ultrafast diffraction. <i>Science</i> , 2005 , 307, 558-63	33.3	129
324	Ultrafast dynamics in DNA-mediated electron transfer: base gating and the role of temperature. <i>Angewandte Chemie - International Edition</i> , 2003 , 42, 5896-900	16.4	127
323	Direct femtosecond observation of the transient intermediate in the cleavage reaction of (CH ₃) ₂ CO to 2CH ₃ +CO: Resolving the issue of concertedness. <i>Journal of Chemical Physics</i> , 1995 , 103, 477-480	3.9	124

322	Laser selective chemistry: is it possible?. <i>Physics Today</i> , 1980 , 33, 27-33	0.9	123
321	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	2.8	122
320	Structural preablation dynamics of graphite observed by ultrafast electron crystallography. <i>Physical Review Letters</i> , 2008 , 100, 035501	7.4	121
319	Femtochemistry of norrish type-I reactions: I. Experimental and theoretical studies of acetone and related ketones on the S1 surface. <i>ChemPhysChem</i> , 2001 , 2, 273-93	3.2	119
318	Ultrafast Electron Diffraction. 5. Experimental Time Resolution and Applications. <i>The Journal of Physical Chemistry</i> , 1994 , 98, 2782-2796		117
317	Molecular state evolution after excitation with an ultra-short laser pulse: A quantum analysis of NaI and NaBr dissociation. <i>Chemical Physics Letters</i> , 1988 , 152, 1-7	2.5	116
316	Single-nanoparticle phase transitions visualized by four-dimensional electron microscopy. <i>Nature Chemistry</i> , 2013 , 5, 395-402	17.6	112
315	Femtochemistry. <i>World Scientific Series in 20th Century Chemistry</i> , 1994 , 3-22		112
314	4D electron tomography. <i>Science</i> , 2010 , 328, 1668-73	33.3	107
313	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, 13746-51	11.5	107
312	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, 13411-6	11.5	107
311	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, 1123-8	11.5	106
310	Dynamics of intramolecular vibrational-energy redistribution (IVR). IV. Excess energy dependence, t-stilbene. <i>Journal of Chemical Physics</i> , 1985 , 82, 3003-3010	3.9	104
309	Dynamics of intramolecular vibrational-energy redistribution (IVR). III. Role of molecular rotations. <i>Journal of Chemical Physics</i> , 1985 , 82, 2994-3002	3.9	103
308	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	3.9	101
307	Ultrashort electron pulses for diffraction, crystallography and microscopy: theoretical and experimental resolutions. <i>Physical Chemistry Chemical Physics</i> , 2008 , 10, 2894-909	3.6	99
306	Femtosecond charge transfer dynamics of a modified DNA base: 2-aminopurine in complexes with nucleotides. <i>ChemPhysChem</i> , 2002 , 3, 781-8	3.2	99
305	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, 2266-7	16.4	99

304	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	3.9	98
303	Ultrafast surface hydration dynamics and expression of protein functionality: alpha -Chymotrypsin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 15297-302	11.5	96
302	4D Electron Microscopy 2009 ,		96
301	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, 18427-31	11.5	93
300	Scanning ultrafast electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 14993-8	11.5	92
299	Multiple phase-coherent laser pulses in optical spectroscopy. I. The technique and experimental applications. <i>Journal of Chemical Physics</i> , 1983 , 78, 2279-2297	3.9	92
298	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, 712-6	11.5	91
297	Femtosecond Dynamics of Pyridine in the Condensed Phase: Valence Isomerization by Conical Intersections. <i>Journal of Physical Chemistry A</i> , 1999 , 103, 7408-7418	2.8	91
296	Kinetic-energy, femtosecond resolved reaction dynamics. Modes of dissociation (in iodobenzene) from time-velocity correlations. <i>Chemical Physics Letters</i> , 1995 , 237, 399-405	2.5	87
295	Dynamics of Water near a Protein Surface. <i>Journal of Physical Chemistry B</i> , 2003 , 107, 13218-13228	3.4	86
294	Ultrafast electron diffraction. Velocity mismatch and temporal resolution in crossed-beam experiments. <i>Chemical Physics Letters</i> , 1993 , 209, 10-16	2.5	86
293	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	3.9	85
292	Femtosecond studies of protein-DNA binding and dynamics: histone I. <i>ChemPhysChem</i> , 2001 , 2, 219-27	3.2	81
291	Ultrafast Electron Diffraction of Transient [Fe(CO)]: Determination of Molecular Structure and Reaction Pathway. <i>Angewandte Chemie - International Edition</i> , 2001 , 40, 1532-1536	16.4	80
290	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		80
289	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	2.5	79
288	Atomic-scale imaging in real and energy space developed in ultrafast electron microscopy. <i>Nano Letters</i> , 2007 , 7, 2545-51	11.5	78
287	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		78

286	Picosecond photofragment spectroscopy. I. Microcanonical state-to-state rates of the reaction NCNO- $\text{N}+\text{NO}$. <i>Journal of Chemical Physics</i> , 1987 , 87, 77-96	3.9	78
285	4D nanoscale diffraction observed by convergent-beam ultrafast electron microscopy. <i>Science</i> , 2009 , 326, 708-12	33.3	76
284	Picosecond photofragment spectroscopy. II. The overtone initiated unimolecular reaction $\text{H}_2\text{O}_2(\nu_{\text{OH}}=5)-\text{ROH}$. <i>Journal of Chemical Physics</i> , 1987 , 87, 97-114	3.9	76
283	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, 4122-6	11.5	75
282	Nanoscale mechanical drumming visualized by 4D electron microscopy. <i>Nano Letters</i> , 2008 , 8, 3557-62	11.5	75
281	Ultrafast Electron Diffraction. 4. Molecular Structures and Coherent Dynamics. <i>The Journal of Physical Chemistry</i> , 1994 , 98, 2766-2781		75
280	Femtosecond chemical dynamics in solution. Wavepacket evolution and caging of I2. <i>Chemical Physics Letters</i> , 1992 , 193, 402-412	2.5	75
279	Direct Observation of Nonchaotic Multilevel Vibrational Energy Flow in Isolated Polyatomic Molecules. <i>Physical Review Letters</i> , 1984 , 53, 501-504	7.4	75
278	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, 258-62	11.5	72
277	Femtochemistry of Norrish type-I reactions: III. Highly excited ketones--theoretical. <i>ChemPhysChem</i> , 2002 , 3, 57-78	3.2	72
276	Femtochemistry. Past, present, and future. <i>Pure and Applied Chemistry</i> , 2000 , 72, 2219-2231	2.1	72
275	Picosecond photofragment spectroscopy. III. Vibrational predissociation of van der Waals clusters. <i>Journal of Chemical Physics</i> , 1987 , 87, 115-127	3.9	72
274	4D scanning ultrafast electron microscopy: visualization of materials surface dynamics. <i>Journal of the American Chemical Society</i> , 2011 , 133, 7708-11	16.4	71
273	Biological imaging with 4D ultrafast electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 9933-7	11.5	70
272	Femtochemistry of organometallics: dynamics of metal-metal and metal-ligand bond cleavage in $\text{M}_2(\text{CO})_{10}$. <i>Chemical Physics Letters</i> , 1995 , 233, 500-508	2.5	70
271	The Birth of Molecules. <i>Scientific American</i> , 1990 , 263, 76-82	0.5	70
270	Femtochemistry of Norrish type-I reactions: IV. Highly excited ketones--experimental. <i>ChemPhysChem</i> , 2002 , 3, 79-97	3.2	68
269	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, 10976-81	11.5	67

268	4D electron diffraction reveals correlated unidirectional behavior in zinc oxide nanowires. <i>Science</i> , 2008 , 321, 1660-4	33.3	67
267	Picosecond Time-Resolved Dynamics of Vibrational-Energy Redistribution and Coherence in Beam-Isolated Molecules. <i>Advances in Chemical Physics</i> , 2007 , 265-364		66
266	Ultrafast unequilibrated charge transfer: A new channel in the quenching of fluorescent biological probes. <i>Chemical Physics Letters</i> , 2005 , 412, 158-163	2.5	66
265	Direct picosecond time resolution of dissipative intramolecular vibrational-energy redistribution (IVR) in isolated molecules. <i>Chemical Physics Letters</i> , 1984 , 108, 303-310	2.5	66
264	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, 20161-6	11.5	65
263	Bimolecular reactions observed by femtosecond detachment to aligned transition states: Inelastic and reactive dynamics. <i>Journal of Chemical Physics</i> , 1996 , 105, 7864-7867	3.9	65
262	Femtochemistry: Ultrafast Dynamics of the Chemical Bond. <i>World Scientific Series in 20th Century Chemistry</i> , 1994 ,		65
261	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, 10558-63	11.5	64
260	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, 17261-5	11.5	63
259	Picosecond MPI mass spectrometry of CH ₃ I in the process of dissociation. <i>Chemical Physics Letters</i> , 1987 , 142, 426-432	2.5	63
258	Imaging rotational dynamics of nanoparticles in liquid by 4D electron microscopy. <i>Science</i> , 2017 , 355, 494-498	33.3	61
257	Nanomechanical motions of cantilevers: direct imaging in real space and time with 4D electron microscopy. <i>Nano Letters</i> , 2009 , 9, 875-81	11.5	61
256	Femtosecond dynamics of retro Diels-Alder reactions: the concept of concertedness. <i>Chemical Physics Letters</i> , 1999 , 304, 134-144	2.5	61
255	Exciton and vibronic effects in the spectroscopy of bianthracene in supersonic beams. <i>Journal of Chemical Physics</i> , 1986 , 84, 1302-1311	3.9	61
254	Ultrafast Electron Crystallography. 1. Nonequilibrium Dynamics of Nanometer-Scale Structures. <i>Journal of Physical Chemistry C</i> , 2007 , 111, 4889-4919	3.8	60
253	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		59
252	Ultrafast decay and hydration dynamics of DNA bases and mimics. <i>Chemical Physics Letters</i> , 2002 , 363, 57-63	2.5	59
251	Hydration dynamics at fluorinated protein surfaces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 17101-6	11.5	58

250	EELS femtosecond resolved in 4D ultrafast electron microscopy. <i>Chemical Physics Letters</i> , 2009 , 468, 107-111	2.5	58
249	Ultrafast photoisomerization of photoactive yellow protein chromophore analogues in solution: influence of the protonation state. <i>ChemPhysChem</i> , 2006 , 7, 1717-26	3.2	58
248	Determination of excited-state rotational constants and structures by Doppler-free picosecond spectroscopy. <i>The Journal of Physical Chemistry</i> , 1989 , 93, 5701-5717		58
247	Stepwise Solvation of the Intramolecular-Charge-Transfer Molecule p-(Dimethylamino)benzonitrile. <i>The Journal of Physical Chemistry</i> , 1987 , 91, 6162-6167		58
246	Ultrafast electron diffraction: excited state structures and chemistries of aromatic carbonyls. <i>Journal of Chemical Physics</i> , 2006 , 124, 174707	3.9	57
245	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		56
244	Picosecond real-time studies of mode-specific vibrational predissociation. <i>Journal of Chemical Physics</i> , 1990 , 92, 3359-3376	3.9	56
243	4D ultrafast electron microscopy: imaging of atomic motions, acoustic resonances, and moiré fringe dynamics. <i>Ultramicroscopy</i> , 2009 , 110, 7-19	3.1	55
242	4D electron imaging: principles and perspectives. <i>Physical Chemistry Chemical Physics</i> , 2008 , 10, 2879-93	3.6	55
241	Multiple phase-coherent laser pulses in optical spectroscopy. II. Applications to multilevel systems. <i>Journal of Chemical Physics</i> , 1983 , 78, 2298-2311	3.9	55
240	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		54
239	Femtosecond dynamics of valence-bond isomers of azines: transition states and conical intersections. <i>Chemical Physics Letters</i> , 1998 , 298, 129-140	2.5	53
238	Ultrafast electron microscopy (UEM): four-dimensional imaging and diffraction of nanostructures during phase transitions. <i>Nano Letters</i> , 2007 , 7, 2552-8	11.5	53
237	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	3.9	53
236	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, 315-29	3	52
235	Photonics and Plasmonics in 4D Ultrafast Electron Microscopy. <i>ACS Photonics</i> , 2015 , 2, 1391-1402	6.3	49
234	Direct visualization of near-fields in nanoplasmonics and nanophotonics. <i>Nano Letters</i> , 2012 , 12, 3334-8	11.5	49
233	4D Lorentz electron microscopy imaging: magnetic domain wall nucleation, reversal, and wave velocity. <i>Nano Letters</i> , 2010 , 10, 3796-803	11.5	49

232	Charge transfer assisted by collective hydrogen-bonding dynamics. <i>Angewandte Chemie - International Edition</i> , 2009 , 48, 6251-6	16.4	49
231	Ultrafast Electron Diffraction and Structural Dynamics: Transient Intermediates in the Elimination Reaction of C ₂ F ₄ I ₂ . <i>Journal of Physical Chemistry A</i> , 2002 , 106, 4087-4103	2.8	49
230	Entangled nanoparticles: discovery by visualization in 4D electron microscopy. <i>Nano Letters</i> , 2012 , 12, 5027-32	11.5	48
229	Femtochemistry of Norrish type-I reactions: II. The anomalous predissociation dynamics of cyclobutanone on the S ₁ surface. <i>ChemPhysChem</i> , 2001 , 2, 294-309	3.2	47
228	Femtosecond Dynamics of Norrish Type-II Reactions: Nonconcerted Hydrogen-Transfer and Diradical Intermediacy. <i>Angewandte Chemie - International Edition</i> , 2000 , 39, 260-263	16.4	47
227	Femtosecond pH jump: dynamics of acidBase reactions in solvent cages. <i>Chemical Physics Letters</i> , 1994 , 228, 369-378	2.5	47
226	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		47
225	4D attosecond imaging with free electrons: Diffraction methods and potential applications. <i>Chemical Physics</i> , 2009 , 366, 2-8	2.3	46
224	Femtosecond Real-Time Probing of Reactions. 15. Time-Dependent Coherent Alignment. <i>The Journal of Physical Chemistry</i> , 1994 , 98, 3337-3351		46
223	Ultrafast core-loss spectroscopy in four-dimensional electron microscopy. <i>Structural Dynamics</i> , 2015 , 2, 024302	3.2	45
222	Primary structural dynamics in graphite. <i>New Journal of Physics</i> , 2011 , 13, 063030	2.9	45
221	Solvation Ultrafast Dynamics of Reactions. 10. Molecular Dynamics Studies of Dissociation, Recombination, and Coherence. <i>The Journal of Physical Chemistry</i> , 1995 , 99, 11321-11332		45
220	Femtosecond Chemically Activated Reactions: Concept of Nonstatistical Activation at High Thermal Energies. <i>The Journal of Physical Chemistry</i> , 1996 , 100, 9202-9205		45
219	Optical molecular dephasing: principles of and probings by coherent laser spectroscopy. <i>Accounts of Chemical Research</i> , 1980 , 13, 360-368	24.3	45
218	Direct observation of martensitic phase-transformation dynamics in iron by 4D single-pulse electron microscopy. <i>Nano Letters</i> , 2009 , 9, 3954-62	11.5	43
217	Conformations and Barriers of Haloethyl Radicals (CH ₂ XCH ₂ , X = F, Cl, Br, I): Ab Initio Studies. <i>Journal of Physical Chemistry A</i> , 1999 , 103, 6638-6649	2.8	43
216	Femtochemistry: the role of alignment and orientation. <i>Journal of the Chemical Society, Faraday Transactions 2</i> , 1989 , 85, 1221		43
215	Optical, magnetic resonance, and ENDOR studies of the n π triplet state of benzophenone in mixed crystals. <i>Journal of Chemical Physics</i> , 1973 , 58, 393-395	3.9	43

214	Nanofluidics. Observing liquid flow in nanotubes by 4D electron microscopy. <i>Science</i> , 2014 , 344, 1496-509,3	9.3	42
213	Solvation in protein (un) folding of melittin tetramer-monomer transition. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 12593-8	11.5	42
212	Ultrafast Diffraction of Transient Molecular Structures in Radiationless Transitions. <i>Journal of Physical Chemistry A</i> , 2001 , 105, 11159-11164	2.8	42
211	Molecular Structure and Orientation: Concepts from Femtosecond Dynamics. <i>Journal of Physical Chemistry A</i> , 2001 , 105, 3680-3692	2.8	42
210	Picosecond photofragment spectroscopy. IV. Dynamics of consecutive bond breakage in the reaction C ₂ F ₄ I ₂ ->C ₂ F ₄ + 2I. <i>Journal of Chemical Physics</i> , 1990 , 92, 231-242	3.9	41
209	Optical and magnetic resonance spectra of linear chain excitons. <i>Chemical Physics</i> , 1974 , 4, 142-150	2.3	41
208	Perspective: 4D ultrafast electron microscopy--Evolutions and revolutions. <i>Journal of Chemical Physics</i> , 2016 , 144, 080901	3.9	41
207	Spatial-Temporal Imaging of Anisotropic Photocarrier Dynamics in Black Phosphorus. <i>Nano Letters</i> , 2017 , 17, 3675-3680	11.5	40
206	Femtosecond Dynamics of Transition States and the Concept of Concertedness: Nitrogen Extrusion of Azomethane Reactions. <i>Journal of the American Chemical Society</i> , 1998 , 120, 3245-3246	16.4	40
205	Optical multiple pulse sequences for multiphoton selective excitation and enhancement of forbidden transitions. <i>Journal of Chemical Physics</i> , 1983 , 78, 3583-3592	3.9	40
204	Ultrafast electron diffraction: oriented molecular structures in space and time. <i>ChemPhysChem</i> , 2005 , 6, 2261-76	3.2	39
203	Chemistry at the Uncertainty Limit This contribution is an extended version of a recent commentary published in Nature, in the new section Concepts. ([1]) The invitation by the Editor of Angewandte Chemie made me steer the piece towards chemistry questions and provide the	16.4	39
202	Solvation Ultrafast Dynamics of Reactions. 14. Molecular Dynamics and ab Initio Studies of Charge-Transfer Reactions of Iodine in Benzene Clusters. <i>Journal of Physical Chemistry A</i> , 1998 , 102, 4082-4099	2.8	39
201	Femtosecond dynamics of diradicals: transition states, entropic configurations and stereochemistry. <i>Chemical Physics Letters</i> , 1999 , 303, 249-260	2.5	39
200	Femtochemistry of ICN in liquids: dynamics of dissociation, recombination and abstraction. <i>Chemical Physics Letters</i> , 1996 , 256, 279-287	2.5	39
199	Jet spectroscopy of isoquinoline. <i>Chemical Physics Letters</i> , 1983 , 94, 448-453	2.5	39
198	Visualization of carrier dynamics in p(n)-type GaAs by scanning ultrafast electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 2094-9	11.5	38
197	Macromolecular structural dynamics visualized by pulsed dose control in 4D electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 6026-31	11.5	38

196	Controlled nanoscale mechanical phenomena discovered with ultrafast electron microscopy. <i>Angewandte Chemie - International Edition</i> , 2007 , 46, 9206-10	16.4	38
195	Ultrafast electron diffraction: structural dynamics of molecular rearrangement in the NO release from nitrobenzene. <i>Chemistry - an Asian Journal</i> , 2006 , 1, 56-63	4.5	38
194	Ultrafast electron crystallography of surface structural dynamics with atomic-scale resolution. <i>Angewandte Chemie - International Edition</i> , 2004 , 43, 2705-9	16.4	37
193	Nanomechanics and intermolecular forces of amyloid revealed by four-dimensional electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 3380-5	11.5	36
192	Primary peptide folding dynamics observed with ultrafast temperature jump. <i>Angewandte Chemie - International Edition</i> , 2009 , 48, 5628-32	16.4	36
191	Kikuchi ultrafast nanodiffraction in four-dimensional electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 3152-6	11.5	36
190	Speed limit of protein folding evidenced in secondary structure dynamics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 16622-7	11.5	36
189	Structural dynamics and transient electric-field effects in ultrafast electron diffraction from surfaces. <i>Chemical Physics Letters</i> , 2010 , 493, 11-18	2.5	36
188	CF ₂ XCF ₂ X and CF ₂ XCF ₂ Radicals (X = Cl, Br, I): Ab Initio and DFT Studies and Comparison with Experiments. <i>Journal of Physical Chemistry A</i> , 2001 , 105, 3623-3632	2.8	36
187	Structural dynamics effects on the ultrafast chemical bond cleavage of a photodissociation reaction. <i>Physical Chemistry Chemical Physics</i> , 2014 , 16, 8812-8	3.6	35
186	4D scanning transmission ultrafast electron microscopy: Single-particle imaging and spectroscopy. <i>Journal of the American Chemical Society</i> , 2011 , 133, 10732-5	16.4	35
185	Ultrafast electron diffraction reveals dark structures of the biological chromophore indole. <i>Angewandte Chemie - International Edition</i> , 2008 , 47, 9496-9	16.4	35
184	Ultrafast Electron Diffraction: Structural Dynamics of the Elimination Reaction of Acetylacetone. <i>Journal of Physical Chemistry A</i> , 2004 , 108, 6650-6655	2.8	35
183	Picosecond IVR dynamics of p-difluorobenzene and p-fluorotoluene in a molecular beam: Comparison with chemical timing data. <i>Journal of Chemical Physics</i> , 1988 , 88, 1458-1459	3.9	35
182	Rotational band contour analysis of symmetries and interactions of vibrational levels in anthracene S ₁ . <i>Journal of Chemical Physics</i> , 1985 , 82, 3011-3019	3.9	35
181	Photo-excited hot carrier dynamics in hydrogenated amorphous silicon imaged by 4D electron microscopy. <i>Nature Nanotechnology</i> , 2017 , 12, 871-876	28.7	34
180	Structure of isolated biomolecules by electron diffraction-laser desorption: uracil and guanine. <i>Journal of the American Chemical Society</i> , 2009 , 131, 2806-8	16.4	34
179	4D visualization of embryonic, structural crystallization by single-pulse microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 8519-24	11.5	34

178	Ultrafast T-jump in water: studies of conformation and reaction dynamics at the thermal limit. <i>Journal of the American Chemical Society</i> , 2006 , 128, 6338-40	16.4	34
177	Dynamics of ordered water in interfacial enzyme recognition: bovine pancreatic phospholipase A2. <i>Angewandte Chemie - International Edition</i> , 2004 , 43, 60-3	16.4	34
176	Coherent Processes in Molecular Crystals. <i>Advances in Chemical Physics</i> , 2007 , 369-484		33
175	Femtosecond Dynamics of Dioxygen Π Picket-Fence Cobalt Porphyrins: Ultrafast Release of O ₂ and the Nature of Dative Bonding. <i>Angewandte Chemie - International Edition</i> , 2000 , 39, 257-260	16.4	33
174	On the role of coherence in the transition from kinetics to dynamics: Theory and application to femtosecond unimolecular reactions. <i>Journal of Chemical Physics</i> , 2000 , 113, 10477-10485	3.9	33
173	Relativistic effects in photon-induced near field electron microscopy. <i>Journal of Physical Chemistry A</i> , 2012 , 116, 11128-33	2.8	32
172	The RNA-protein complex: direct probing of the interfacial recognition dynamics and its correlation with biological functions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 8119-23	11.5	32
171	RNA-protein recognition: single-residue ultrafast dynamical control of structural specificity and function. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005 , 102, 13013-8	11.5	32
170	Atomic-scale dynamical structures of fatty acid bilayers observed by ultrafast electron crystallography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005 , 102, 8854-9	11.5	32
169	Direct observation of a mode-selective (non-RRKM) van der Waals reaction by picosecond photofragment spectroscopy. <i>Journal of the American Chemical Society</i> , 1987 , 109, 4104-4106	16.4	32
168	Transition states of charge-transfer reactions: Femtosecond dynamics and the concept of harpooning in the bimolecular reaction of benzene with iodine. <i>Journal of Chemical Physics</i> , 1995 , 103, 5153-5156	3.9	31
167	Transient Structures and Possible Limits of Data Recording in Phase-Change Materials. <i>ACS Nano</i> , 2015 , 9, 6728-37	16.7	30
166	Biomechanics of DNA structures visualized by 4D electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 2822-7	11.5	30
165	Dynamics of electrons in ammonia cages: the discovery system of solvation. <i>ChemPhysChem</i> , 2008 , 9, 83-8	3.2	29
164	Femtosecond Real-Time Probing of Reactions. 24. Time, Velocity, and Orientation Mapping of the Dynamics of Dative Bonding in Bimolecular Electron Transfer Reactions \square <i>Journal of Physical Chemistry A</i> , 1999 , 103, 10093-10117	2.8	29
163	4D cryo-electron microscopy of proteins. <i>Journal of the American Chemical Society</i> , 2013 , 135, 19123-6	16.4	28
162	Unfolding and melting of DNA (RNA) hairpins: the concept of structure-specific 2D dynamic landscapes. <i>Physical Chemistry Chemical Physics</i> , 2008 , 10, 4227-39	3.6	28
161	Oriented ensembles in ultrafast electron diffraction. <i>ChemPhysChem</i> , 2006 , 7, 1562-74	3.2	28

160	Excited state molecular structures and reactions directly determined by ultrafast electron diffraction. <i>Journal of Chemical Physics</i> , 2005 , 123, 221104	3.9	28
159	Real-time dynamics of vibrational predissociation in anthracene-Arn ($n = 1, 2, 3$). <i>Chemical Physics</i> , 1991 , 156, 231-250	2.3	28
158	Photodissociation of partially solvated molecules in beams by the picosecond-jet technique: Hydrogen bond breakage. <i>Journal of Chemical Physics</i> , 1983 , 78, 5266-5268	3.9	28
157	On the dynamical nature of the active center in a single-site photocatalyst visualized by 4D ultrafast electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 503-8	11.5	27
156	Photoinduced nanobubble-driven superfast diffusion of nanoparticles imaged by 4D electron microscopy. <i>Science Advances</i> , 2017 , 3, e1701160	14.3	27
155	Characterization of fast photoelectron packets in weak and strong laser fields in ultrafast electron microscopy. <i>Ultramicroscopy</i> , 2014 , 146, 97-102	3.1	27
154	Optomechanical and crystallization phenomena visualized with 4D electron microscopy: interfacial carbon nanotubes on silicon nitride. <i>Nano Letters</i> , 2010 , 10, 1892-9	11.5	27
153	Ultrafast light-induced response of photoactive yellow protein chromophore analogues. <i>Photochemical and Photobiological Sciences</i> , 2007 , 6, 780-7	4.2	27
152	Ultrafast electron diffraction: dynamical structures on complex energy landscapes. <i>ChemPhysChem</i> , 2005 , 6, 2228-50	3.2	27
151	Femtosecond real-time probing of reactions. XIV. Rydberg states of methyl iodide. <i>Canadian Journal of Chemistry</i> , 1994 , 72, 947-957	0.9	27
150	From femtosecond temporal spectroscopy to the potential by a direct classical inversion method. <i>Chemical Physics Letters</i> , 1990 , 170, 321-328	2.5	27
149	Intramolecular dephasing in pyrazine: deuterium isotope effect and further tests of theory. <i>Chemical Physics Letters</i> , 1986 , 128, 221-230	2.5	27
148	Optically detected E.P.R. and low-field ENDOR of triplet benzophenone. <i>Molecular Physics</i> , 1978 , 36, 475-499	1.7	27
147	Rippling ultrafast dynamics of suspended 2D monolayers, graphene. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, E6555-E6561	11.5	27
146	Photon gating in four-dimensional ultrafast electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 12944-9	11.5	26
145	Human myoglobin recognition of oxygen: dynamics of the energy landscape. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 18000-5	11.5	26
144	Femtosecond Dynamics and Electrocatalysis of the Reduction of O ₂ : Tetra-ruthenated Cobalt Porphyrins. <i>Journal of the American Chemical Society</i> , 1999 , 121, 484-485	16.4	26
143	Observing (non)linear lattice dynamics in graphite by ultrafast Kikuchi diffraction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 5491-6	11.5	25

142	Diffraction of quantum dots reveals nanoscale ultrafast energy localization. <i>Nano Letters</i> , 2014 , 14, 6148-54	16.4	25
141	4D electron microscopy visualization of anisotropic atomic motions in carbon nanotubes. <i>Journal of the American Chemical Society</i> , 2012 , 134, 9146-9	16.4	25
140	Structural dynamics of surfaces by ultrafast electron crystallography: experimental and multiple scattering theory. <i>Journal of Chemical Physics</i> , 2011 , 135, 214201	3.9	25
139	The fog that was not. <i>Nature</i> , 2001 , 412, 279	50.4	25
138	Freezing Atoms in Motion: Principles of Femtochemistry and Demonstration by Laser Stroboscopy. <i>Journal of Chemical Education</i> , 2001 , 78, 737	2.4	25
137	Femtosecond elementary dynamics of transition states and asymmetric cleavage in Norrish reactions. <i>Chemical Physics Letters</i> , 1996 , 250, 279-286	2.5	25
136	Graphene-layered steps and their fields visualized by 4D electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 9277-82	11.5	24
135	Enzyme functionality and solvation of Subtilisin Carlsberg: from hours to femtoseconds. <i>Chemical Physics Letters</i> , 2004 , 387, 209-215	2.5	24
134	Structures and dynamics of self-assembled surface monolayers observed by ultrafast electron crystallography. <i>Journal of the American Chemical Society</i> , 2004 , 126, 12797-9	16.4	24
133	Ultrafast electron diffraction of transient cyclopentadienyl radical: A dynamic pseudorotary structure. <i>Chemical Physics Letters</i> , 2002 , 353, 325-334	2.5	24
132	Femtochemistry of trans-azomethane: a combined experimental and theoretical study. <i>ChemPhysChem</i> , 2003 , 4, 445-56	3.2	24
131	Ultrafast Dynamics in DNA-Mediated Electron Transfer: Base Gating and the Role of Temperature. <i>Angewandte Chemie</i> , 2003 , 115, 6076-6080	3.6	24
130	Picosecond dynamics of n-hexane solvated trans-stilbene. <i>Chemical Physics</i> , 1993 , 175, 171-191	2.3	24
129	Ultrafast Elemental and Oxidation-State Mapping of Hematite by 4D Electron Microscopy. <i>Journal of the American Chemical Society</i> , 2017 , 139, 4916-4922	16.4	23
128	Environmental scanning ultrafast electron microscopy: structural dynamics of solvation at interfaces. <i>Angewandte Chemie - International Edition</i> , 2013 , 52, 2897-901	16.4	23
127	Nanomusical systems visualized and controlled in 4D electron microscopy. <i>Nano Letters</i> , 2011 , 11, 2183-91.5	11.5	23
126	Structural dynamics of nanoscale gold by ultrafast electron crystallography. <i>Chemical Physics Letters</i> , 2011 , 515, 278-282	2.5	23
125	Irreversible chemical reactions visualized in space and time with 4D electron microscopy. <i>Journal of the American Chemical Society</i> , 2011 , 133, 1730-3	16.4	23

124	Dynamics of Molecules near Ionization. <i>Journal of Physical Chemistry A</i> , 2003 , 107, 10872-10887	2.8	23
123	Femtosecond dynamics of solvated oxygen anions. I. Bifurcated electron transfer dynamics probed by photoelectron spectroscopy. <i>Journal of Chemical Physics</i> , 2003 , 118, 6923-6929	3.9	23
122	Femtosecond real-time probing of reactions. 7. A quantum- and classical-mechanical study of the cyanogen iodide dissociation experiment. <i>The Journal of Physical Chemistry</i> , 1991 , 95, 7973-7993		23
121	Stepwise solvation of molecules as studied by picosecond-jet spectroscopy: dynamics and spectra. <i>Chemical Physics Letters</i> , 1983 , 94, 454-460	2.5	23
120	Chirped imaging pulses in four-dimensional electron microscopy: femtosecond pulsed hole burning. <i>New Journal of Physics</i> , 2012 , 14, 053046	2.9	22
119	Direct structural determination of conformations of photoswitchable molecules by laser desorption-electron diffraction. <i>Angewandte Chemie - International Edition</i> , 2010 , 49, 6524-7	16.4	22
118	Femtosecond dynamics of transition states: the classical saddle-point barrier reactions. <i>Chemical Physics Letters</i> , 1998 , 295, 1-10	2.5	22
117	Dynamics of ligand substitution in labile cobalt complexes resolved by ultrafast T-jump. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 12754-7	11.5	22
116	Infrared PINEM developed by diffraction in 4D UEM. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 2041-6	11.5	21
115	4D imaging and diffraction dynamics of single-particle phase transition in heterogeneous ensembles. <i>Nano Letters</i> , 2014 , 14, 946-54	11.5	21
114	Seeing in 4D with electrons: Development of ultrafast electron microscopy at Caltech. <i>Comptes Rendus Physique</i> , 2014 , 15, 176-189	1.4	21
113	Enhancing image contrast and slicing electron pulses in 4D near field electron microscopy. <i>Chemical Physics Letters</i> , 2012 , 521, 1-6	2.5	21
112	Ultrafast Kikuchi diffraction: nanoscale stress-strain dynamics of wave-guiding structures. <i>Nano Letters</i> , 2012 , 12, 3772-7	11.5	21
111	Micrographia of the twenty-first century: from camera obscura to 4D microscopy. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2010 , 368, 1191-204	3	21
110	Molecular recognition of oxygen by protein mimics: dynamics on the femtosecond to microsecond time scale. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 9625-30	11.5	21
109	IVR: Its Coherent and Incoherent Dynamics. <i>Zeitschrift Fur Elektrotechnik Und Elektrochemie</i> , 1985 , 89, 264-270		21
108	Femtochemistry: Ultrafast Dynamics of the Chemical Bond. <i>World Scientific Series in 20th Century Chemistry</i> , 1994 ,		21
107	Origin of axial and radial expansions in carbon nanotubes revealed by ultrafast diffraction and spectroscopy. <i>ACS Nano</i> , 2015 , 9, 1721-9	16.7	20

106	Ultrafast electron crystallography of phospholipids. <i>Angewandte Chemie - International Edition</i> , 2006 , 45, 5154-8	16.4	20
105	Femtochemistry of mass-selected negative-ion clusters of dioxygen: Charge-transfer and solvation dynamics. <i>Journal of Chemical Physics</i> , 2001 , 115, 612-616	3.9	20
104	Nonchaotic nonlinear motion visualized in complex nanostructures by stereographic 4D electron microscopy. <i>Nano Letters</i> , 2010 , 10, 3190-8	11.5	19
103	Dynamics of intramolecular vibrational energy redistribution in deuteriated anthracenes: rotational band contour analysis and time-resolved measurements. <i>The Journal of Physical Chemistry</i> , 1988 , 92, 5540-5549		19
102	Ultrafast Electron Crystallography. 3. Theoretical Modeling of Structural Dynamics□ <i>Journal of Physical Chemistry C</i> , 2007 , 111, 8957-8970	3.8	18
101	Helix-to-coil transitions in proteins: Helicity resonance in ultrafast electron diffraction. <i>Chemical Physics Letters</i> , 2006 , 420, 1-7	2.5	18
100	Are the homogeneous linewidths of spin resonance (ODMR) and optical transitions related?. <i>Journal of Chemical Physics</i> , 1979 , 70, 5759-5766	3.9	18
99	Physical Biology 2008 ,		18
98	Ultrafast electron crystallography of the cooperative reaction path in vanadium dioxide. <i>Structural Dynamics</i> , 2016 , 3, 034304	3.2	18
97	Observing in space and time the ephemeral nucleation of liquid-to-crystal phase transitions. <i>Nature Communications</i> , 2015 , 6, 8639	17.4	17
96	New light on molecular and materials complexity: 4D electron imaging. <i>Journal of the American Chemical Society</i> , 2009 , 131, 17998-8015	16.4	17
95	The Presolvated Electron in Water: Can It Be Scavenged at Long Range?□ <i>Journal of Physical Chemistry B</i> , 2004 , 108, 10509-10514	3.4	17
94	Ultrafast electron diffraction: complex landscapes of molecular structures in thermal and light-mediated reactions. <i>Chemical Physics Letters</i> , 2003 , 374, 417-424	2.5	17
93	Femtosecond real-time probing of reactions. 10. Reaction times and model potentials. <i>The Journal of Physical Chemistry</i> , 1993 , 97, 2209-2220		17
92	Filming the invisible in 4-D. <i>Scientific American</i> , 2010 , 303, 74-81	0.5	16
91	Ultrafast Electron Crystallography. 2. Surface Adsorbates of Crystalline Fatty Acids and Phospholipids. <i>Journal of Physical Chemistry C</i> , 2007 , 111, 4920-4938	3.8	16
90	Coherent Dynamics in Complex Elimination Reactions: Experimental and Theoretical Femtochemistry of 1,3-Dibromopropane and Related Systems□□ <i>Journal of Physical Chemistry A</i> , 2002 , 106, 7530-7546	2.8	16
89	Classical theory of ultrafast pump-probe spectroscopy: Applications to I2 photodissociation in Ar solution. <i>Journal of Molecular Liquids</i> , 1994 , 61, 153-165	6	16

88	Photon-induced near-field electron microscopy: Mathematical formulation of the relation between the experimental observables and the optically driven charge density of nanoparticles. <i>Physical Review A</i> , 2014 , 89,	2.6	15
87	Conformations and coherences in structure determination by ultrafast electron diffraction. <i>Journal of Physical Chemistry A</i> , 2009 , 113, 4075-93	2.8	15
86	Heating and cooling dynamics of carbon nanotubes observed by temperature-jump spectroscopy and electron microscopy. <i>Journal of the American Chemical Society</i> , 2009 , 131, 16010-1	16.4	15
85	Coherence in the excited states of multidimensional systems: Dimer and exciton dynamics in crystalline phenazine. <i>Chemical Physics Letters</i> , 1975 , 33, 46-52	2.5	15
84	Optical Spectroscopic Determination of the Zero-Field Splitting in Vibronic Levels of the Triplet State of Nitrite. <i>Journal of Chemical Physics</i> , 1971 , 54, 2979-2981	3.9	15
83	Mixed Magnetic and Electric Dipole Transition in s-Triazine. <i>Journal of Chemical Physics</i> , 1972 , 56, 637-639	3.9	15
82	Dominance of misfolded intermediates in the dynamics of helix folding. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 14424-9	11.5	14
81	Femtosecond Dynamics of Norrish Type-II Reactions: Nonconcerted Hydrogen-Transfer and Diradical Intermediacy. <i>Angewandte Chemie</i> , 2000 , 112, 266-269	3.6	14
80	Femtosecond Velocity-Gating of Complex Structures in Solvent Cages. <i>The Journal of Physical Chemistry</i> , 1995 , 99, 15733-15737		14
79	Studies of the 3455- Triplet State of s-Triazine. <i>Journal of Chemical Physics</i> , 1971 , 55, 5291-5294	3.9	14
78	Femtochemistry: Ultrafast Dynamics of the Chemical Bond. <i>World Scientific Series in 20th Century Chemistry</i> , 1994 ,		14
77	4D Visualization of Matter 2014 ,		14
76	Ultrafast electron crystallography of monolayer adsorbates on clean surfaces: Structural dynamics. <i>Chemical Physics Letters</i> , 2012 , 542, 1-7	2.5	13
75	Carbone et al. Reply:. <i>Physical Review Letters</i> , 2010 , 105,	7.4	13
74	Nanofriction visualized in space and time by 4D electron microscopy. <i>Nano Letters</i> , 2010 , 10, 4767-73	11.5	13
73	Dynamics of clusters: from elementary to biological structures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 10570-6	11.5	13
72	The transition state of thermal organic reactions: direct observation in real time. <i>Angewandte Chemie - International Edition</i> , 2004 , 43, 2830-4	16.4	13
71	Femtosecond dynamics of solvated oxygen anions. II. Nature of dissociation and caging in finite-sized clusters. <i>Journal of Chemical Physics</i> , 2003 , 118, 6930-6940	3.9	13

70	Ultrafast Electron Diffraction of Transient [Fe(CO) ₄]: Determination of Molecular Structure and Reaction Pathway. <i>Angewandte Chemie</i> , 2001 , 113, 1580-1584	3.6	13
69	Observation of large splittings, narrow resonances, and polarization extinction in the high-energy overtone spectra of large molecules. Experimental tests of locality of excitation in bonds. <i>The Journal of Physical Chemistry</i> , 1981 , 85, 933-936		13
68	Dynamics and control of gold-encapped gallium arsenide nanowires imaged by 4D electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 12876-12881	11.5	12
67	Determining molecular structures and conformations directly from electron diffraction using a genetic algorithm. <i>ChemPhysChem</i> , 2006 , 7, 353-62	3.2	12
66	Unusual molecular material formed through irreversible transformation and revealed by 4D electron microscopy. <i>Physical Chemistry Chemical Physics</i> , 2013 , 15, 7831-8	3.6	11
65	Ultrafast electron crystallography of heterogeneous structures: Gold-graphene bilayer and ligand-encapsulated nanogold on graphene. <i>Chemical Physics Letters</i> , 2012 , 542, 8-12	2.5	11
64	Kinetics modeling of dynamics: the case of femtosecond-activated direct reactions. <i>Chemical Physics Letters</i> , 2002 , 351, 281-288	2.5	11
63	Phase- and energy-changing collisions in iodine gas: Studies by optical multiple-pulse spectroscopy. <i>Chemical Physics Letters</i> , 1984 , 110, 582-587	2.5	11
62	Picosecond photofragmentation of tri- and tetraatomic molecules: measurement of "state-to-state" reaction rates. <i>The Journal of Physical Chemistry</i> , 1985 , 89, 4659-4663		11
61	Ultrafast molecular relaxation of isolated stilbene: measurements by picosecond pump-probe techniques. <i>The Journal of Physical Chemistry</i> , 1985 , 89, 894-896		11
60	Zeeman Effect Studies of the Triplet States of Benzene. <i>Journal of Chemical Physics</i> , 1971 , 55, 3596-3597	3.9	11
59	Photon-Induced Near-Field Electron Microscopy of Eukaryotic Cells. <i>Angewandte Chemie - International Edition</i> , 2017 , 56, 11498-11501	16.4	10
58	4D multiple-cathode ultrafast electron microscopy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 10479-84	11.5	10
57	Structural ultrafast dynamics of macromolecules: diffraction of free DNA and effect of hydration. <i>Physical Chemistry Chemical Physics</i> , 2009 , 11, 10619-32	3.6	10
56	Direct observation of the primary bond-twisting dynamics of stilbene anion radical. <i>Journal of the American Chemical Society</i> , 2008 , 130, 6708-9	16.4	10
55	Molecular Structures from Ultrafast Coherence Spectroscopy	193-260	10
54	Triplet exciton band structure of crystalline phenazine. <i>Chemical Physics Letters</i> , 1974 , 29, 630-632	2.5	10
53	Ultrafast lattice dynamics of single crystal and polycrystalline gold nanofilms?. <i>Chemical Physics Letters</i> , 2017 , 683, 258-261	2.5	9

52	The new age of structural dynamics. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2010 , 66, 135-6		9
51	Ultrafast vectorial and scalar dynamics of ionic clusters: azobenzene solvated by oxygen. <i>Journal of Chemical Physics</i> , 2006 , 125, 133408	3.9	9
50	Direct Observation of Resonance Motion in Complex Elimination Reactions: Femtosecond Coherent Dynamics in Reduced Space. <i>Journal of Physical Chemistry A</i> , 2001 , 105, 1677-1682	2.8	9
49	Femtosecond reaction dynamics in the gas-to-liquid transition region: Observation of a three-phase density dependence. <i>Journal of Chemical Physics</i> , 1996 , 105, 5294-5297	3.9	9
48	Picosecond Laser Chemistry in Supersonic Jet Beams. <i>Laser Chemistry</i> , 1983 , 2, 55-76		9
47	Rotational band contour studies of single vibronic levels in jet cooled stilbene. <i>The Journal of Physical Chemistry</i> , 1985 , 89, 4939-4945		8
46	Chemical reaction dynamics and Marcus' contributions. <i>The Journal of Physical Chemistry</i> , 1986 , 90, 3467-3469		8
45	Direct Visualization of Photomorphing Reaction Dynamics of Plasmonic Nanoparticles in Liquid by Four-Dimensional Electron Microscopy. <i>Journal of Physical Chemistry Letters</i> , 2018 , 9, 4045-4052	6.4	7
44	Non-equilibrium dynamics and structure of interfacial ice. <i>Chemical Physics Letters</i> , 2006 , 426, 115-119	2.5	7
43	Femtosecond Activation of Reactions: The Concepts of Nonergodic Behavior and Reduced-Space Dynamics	157-188	
42	Chemie am Unschärfelimit. <i>Angewandte Chemie</i> , 2001 , 113, 4501-4506	3.6	7
41	Ultrafast atomic-scale visualization of acoustic phonons generated by optically excited quantum dots. <i>Structural Dynamics</i> , 2017 , 4, 044034	3.2	6
40	Femtosecond dynamics of hydrogen elimination: benzene formation from cyclohexadiene. <i>Physical Chemistry Chemical Physics</i> , 2000 , 2, 877-883	3.6	6
39	F. Laser Control and Femtosecond Dynamics. Femtosecond Dynamics of Reactions: Elementary Processes of Controlled Solvation. <i>Zeitschrift Fur Elektrotechnik Und Elektrochemie</i> , 1995 , 99, 474-477		6
38	Picosecond studies of jet-cooled chromyl chloride. <i>Chemical Physics Letters</i> , 1989 , 155, 243-250	2.5	6
37	4D electron microscopy of T cell activation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 22014-22019	11.5	5
36	The future of chemical physics. <i>Chemical Physics</i> , 2010 , 378, 1-3	2.3	5
35	Phase Coherence in Multiple Pulse Optical Spectroscopy. <i>Laser Chemistry</i> , 1983 , 2, 37-51		5

34	Practical Broad-Band Tuning of Dye Lasers by Solvent Shifting. <i>Laser Chemistry</i> , 1986 , 6, 361-371		5
33	Laser-selective chemistry and vibrational energy redistribution in molecules. <i>Journal of Photochemistry and Photobiology</i> , 1981 , 17, 269-279		5
32	Ultrafast Electron Diffraction. <i>Springer Series in Optical Sciences</i> , 2004 , 419-435	0.5	5
31	Structural dynamics of free amino acids in diffraction. <i>Angewandte Chemie - International Edition</i> , 2012 , 51, 99-102	16.4	4
30	Structural dynamics of free proteins in diffraction. <i>Journal of the American Chemical Society</i> , 2011 , 133, 17072-86	16.4	4
29	Physical Biology: 4D Visualization of Complexity 2008 , 23-49		4
28	Ultrafast Electron Crystallography of Surface Structural Dynamics with Atomic-Scale Resolution. <i>Angewandte Chemie</i> , 2004 , 116, 2759-2763	3.6	4
27	Science for the have-nots. <i>Nature</i> , 2001 , 410, 741	50.4	4
26	Femtosecond Dynamics of Dioxygen in Picket-Fence Cobalt Porphyrins: Ultrafast Release of O ₂ and the Nature of Dative Bonding. <i>Angewandte Chemie</i> , 2000 , 112, 263-266	3.6	4
25	Observation of dynamical crater-shaped charge distribution in the space-time imaging of monolayer graphene. <i>Nanoscale</i> , 2018 , 10, 10343-10350	7.7	3
24	Photon-induced near field electron microscopy 2013 ,		3
23	The Transition State of Thermal Organic Reactions: Direct Observation in Real Time. <i>Angewandte Chemie</i> , 2004 , 116, 2890-2894	3.6	3
22	The concept of coherent resonances in the nuclear motion of bimolecular collisions: femtosecond probing and the classical picture. <i>Chemical Physics Letters</i> , 1999 , 309, 1-13	2.5	3
21	Picosecond Photo-Chemistry and Spectroscopy in Supersonic Beams 1984 , 273-291		3
20	Spatiotemporal Imaging of Thickness-Induced Band-Bending Junctions. <i>Nano Letters</i> , 2021 , 21, 5745-5753	11.5	3
19	Dire need for a Middle Eastern science spring. <i>Nature Materials</i> , 2014 , 13, 318-20	27	2
18	Ultrafast Reaction Dynamics. <i>Zeitschrift Fur Elektrotechnik Und Elektrochemie</i> , 1990 , 94, 1210-1218		2
17	Molecular clusters. <i>Advances in Molecular Vibrations and Collision Dynamics</i> , 1998 , 1-60		2

16	Environmental Scanning Ultrafast Electron Microscopy: Structural Dynamics of Solvation at Interfaces. <i>Angewandte Chemie</i> , 2013 , 125, 2969-2973	3.6	1
15	Four-dimensional Visualization of Transitional Structures in Phase Transformations by Electron Diffraction. <i>Springer Series in Chemical Physics</i> , 2009 , 116-118	0.3	1
14	Ultrafast Electron Crystallography of Phospholipids. <i>Angewandte Chemie</i> , 2006 , 118, 5278-5282	3.6	1
13	Titelbild: Ultrafast Electron Crystallography of Surface Structural Dynamics with Atomic-Scale Resolution (Angew. Chem. 20/2004). <i>Angewandte Chemie</i> , 2004 , 116, 2639-2639	3.6	1
12	Femtochemistry: Recent Progress in Studies of Dynamics and Control of Reactions and Their Transition States 1996 , 415-476		1
11	Attosecond Free Electron Pulses for Diffraction and Microscopy. <i>Springer Series in Chemical Physics</i> , 2009 , 155-157	0.3	0
10	Structural Dynamics of Free Amino Acids in Diffraction. <i>Angewandte Chemie</i> , 2012 , 124, 103-106	3.6	
9	Photon-Induced Near-Field Electron Microscopy of Eukaryotic Cells. <i>Angewandte Chemie</i> , 2017 , 129, 11656-11659	3.6	
8	Observing Liquid Flow in Nanotubes. <i>Microscopy and Microanalysis</i> , 2015 , 21, 1205-1206	0.5	
7	Ultrafast Electron Diffraction and Transient Complex Structures [From Gas Phase to Crystallography 2004 , 3-17		
6	Femtosecond dynamics of dissociation and recombination in solvent cages. <i>World Scientific Series in 20th Century Chemistry</i> , 1994 , 387-390		
5	Wolf Prize Acceptance Address The Knesset, 16 May 1993. <i>Israel Journal of Chemistry</i> , 1994 , 34, 3-3	3.4	
4	4D Structural Dynamics 2006 , 3-13		
3	Energy and Phase Randomization in Large Molecules as Probed by Laser Spectroscopy 1983 , 17-34		
2	Ultrafast Light and Electrons: Imaging the Invisible 2016 , 43-68		
1	Exciton Dynamics in Quasi-One-Dimensional Molecular Systems. <i>Springer Series in Solid-state Sciences</i> , 1981 , 351-362	0.4	