R J Dwayne Miller

List of Publications by Year in Descending Order

210 papers	10,476 citations	54 h-index	97 g-index
394 ext. papers	11,741 ext. citations	7.5 avg, IF	6.35 L-index

#	Paper	IF	Citations
210	Automatic quantification and classification of microplastics in scanning electron micrographs via deep learning.. *Science of the Total Environment*, **2022**, 153903	10.2	2
209	Serial femtosecond and serial synchrotron crystallography can yield data of equivalent quality: A systematic comparison. *Science Advances*, **2021**, 7,	14.3	12
208	Utilizing relativistic time dilation for time-resolved studies. *Journal of Chemical Physics*, **2021**, 154, 111107	3.9	0
207	Serial Electron Diffraction Data Processing With diffractem and CrystFEL. *Frontiers in Molecular Biosciences*, **2021**, 8, 624264	5.6	2
206	A simple vapor-diffusion method enables protein crystallization inside the HARE serial crystallography chip. *Acta Crystallographica Section D: Structural Biology*, **2021**, 77, 820-834	5.5	3
205	Ultrafast Charge Transfer and Relaxation at a Donor-Acceptor Interface. *Journal of Physical Chemistry B*, **2021**, 125, 8869-8875	3.4	0
204	Mapping Atomic Motions with Ultrabright Electrons: Fundamental Space-Time Limits to Imaging Chemistry and Biological Processes. *Microscopy and Microanalysis*, **2021**, 27, 2114-2115	0.5	
203	Serial Electron Crystallography: New Developments for Data Collection and Analysis. *Microscopy and Microanalysis*, **2021**, 27, 1286-1289	0.5	
202	Quantum state tomography of molecules by ultrafast diffraction. *Nature Communications*, **2021**, 12, 5441	17.4	2
201	Human S-Crystallin-Copper Binding Helps Buffer against Aggregation Caused by Oxidative Damage. *Biochemistry*, **2020**, 59, 2371-2385	3.2	11
200	Three-dimensional view of ultrafast dynamics in photoexcited bacteriorhodopsin in the multiphoton regime and biological relevance. *Nature Communications*, **2020**, 11, 1240	17.4	16
199	Direct observation of nuclear reorganization driven by ultrafast spin transitions. *Nature Communications*, **2020**, 11, 1530	17.4	10
198	Quantum biology revisited. *Science Advances*, **2020**, 6, eaaz4888	14.3	133
197	Serial protein crystallography in an electron microscope. *Nature Communications*, **2020**, 11, 996	17.4	37
196	Excited-State Vibronic Dynamics of Bacteriorhodopsin from Two-Dimensional Electronic Photon Echo Spectroscopy and Multiconfigurational Quantum Chemistry. *Journal of Physical Chemistry Letters*, **2020**, 11, 3889-3896	6.4	4
195	Intramolecular vibrations enhance the quantum efficiency of excitonic energy transfer. *Photosynthesis Research*, **2020**, 144, 137-145	3.7	7
194	The HARE chip for efficient time-resolved serial synchrotron crystallography. *Journal of Synchrotron Radiation*, **2020**, 27, 360-370	2.4	20

193	Mapping Atomic Motions with Electrons: Toward the Quantum Limit to Imaging Chemistry. *ACS Photonics*, **2020**, 7, 296-320	6.3	8
192	Intermolecular vibrations mediate ultrafast singlet fission. *Science Advances*, **2020**, 6,	14.3	19
191	Determining the radial distribution function of water using electron scattering: A key to solution phase chemistry. *Journal of Chemical Physics*, **2020**, 153, 194504	3.9	2
190	The crystal structures of a chloride-pumping microbial rhodopsin and its proton-pumping mutant illuminate proton transfer determinants. *Journal of Biological Chemistry*, **2020**, 295, 14793-14804	5.4	9
189	Ablation Precision and Thermal Effects of a Picosecond Infrared Laser (PIRL) on Roots of Human Teeth: A Pilot Study. *In Vivo*, **2020**, 34, 2325-2336	2.3	3
188	Photoinduced Vibrations Drive Ultrafast Structural Distortion in Lead Halide Perovskite. *Journal of the American Chemical Society*, **2020**, 142, 16569-16578	16.4	11
187	Optical fiber-driven low-energy electron gun for time-resolved streak diffraction. *EPJ Web of Conferences*, **2019**, 205, 08016	0.3	
186	Towards understanding triiodide photochemistry in the solid state by femtosecond electron diffraction. *EPJ Web of Conferences*, **2019**, 205, 09007	0.3	
185	Time-resolved crystallography reveals allosteric communication aligned with molecular breathing. *Science*, **2019**, 365, 1167-1170	33.3	46
184	Liquid application method for time-resolved analyses by serial synchrotron crystallography. *Nature Methods*, **2019**, 16, 979-982	21.6	41
183	Sampling of Tissues with Laser Ablation for Proteomics: Comparison of Picosecond Infrared Laser and Microsecond Infrared Laser. *Journal of Proteome Research*, **2019**, 18, 1451-1457	5.6	4
182	Relativistic Modeling of Ultra-Short Electron Pulse Propagation. *Journal of Experimental and Theoretical Physics*, **2019**, 128, 333-340	1	2
181	Pyrene, a Test Case for Deep-Ultraviolet Molecular Photophysics. *Journal of Physical Chemistry Letters*, **2019**, 10, 3481-3487	6.4	22
180	Evidence and implications for exciton dissociation in lead halide perovskites. *EPJ Web of Conferences*, **2019**, 205, 06018	0.3	
179	Direct observation of structural dynamics upon photo-excitation in a spin crossover crystal with femtosecond electron diffraction. *EPJ Web of Conferences*, **2019**, 205, 07005	0.3	
178	Ultrafast spin crossover in a single crystal. *EPJ Web of Conferences*, **2019**, 205, 07009	0.3	
177	Mapping Atomic Motions with Ultrabright Electrons: Fundamental Space-Time Limits to Imaging Chemistry and Biological Processes. *Microscopy and Microanalysis*, **2019**, 25, 27-28	0.5	
176	Ultrafast Energy Transfer in Excitonically Coupled Molecules Induced by a Nonlocal Peierls Phonon. *Journal of Physical Chemistry Letters*, **2019**, 10, 1206-1211	6.4	11

175	Towards Ptychography with Structured Illumination, and a Derivative-Based Reconstruction Algorithm. *Microscopy and Microanalysis*, **2019**, 25, 58-59	0.5	3
174	Ultrafast ring-opening and solvent-dependent product relaxation of photochromic spironaphthopyran. *Physical Chemistry Chemical Physics*, **2019**, 21, 18119-18127	3.6	4
173	Rapid mixing of colliding picoliter liquid droplets delivered through-space from piezoelectric-actuated pipettes characterized by time-resolved fluorescence monitoring. *Review of Scientific Instruments*, **2019**, 90, 055109	1.7	3
172	Does electronic coherence enhance anticorrelated pigment vibrations under realistic conditions?. *Journal of Chemical Physics*, **2019**, 151, 114115	3.9	7
171	Electron Ptychography of Single Biological Macromolecules. *Microscopy and Microanalysis*, **2019**, 25, 72-73	0.5	2
170	Fixed-target serial oscillation crystallography at room temperature. *IUCrJ*, **2019**, 6, 305-316	4.7	16
169	The effect of Coulomb repulsion on the space-time resolution limits for ultrafast electron diffraction. *Journal of Chemical Physics*, **2019**, 150, 054201	3.9	6
168	Rapid deconvolution of low-resolution time-of-flight data using Bayesian inference. *Journal of Chemical Physics*, **2019**, 151, 244307	3.9	
167	Highly stable, 100 W average power from fiber-based ultrafast laser system at 1030 nm based on single-pass photonic-crystal rod amplifier. *Optics Communications*, **2019**, 437, 6-10	2	10
166	Soft Picosecond Infrared Laser Extraction of Highly Charged Proteins and Peptides from Bulk Liquid Water for Mass Spectrometry. *Analytical Chemistry*, **2018**, 90, 4422-4428	7.8	11
165	Origin of poor doping efficiency in solution processed organic semiconductors. *Chemical Science*, **2018**, 9, 4468-4476	9.4	13
164	Direct Observation of Ultrafast Exciton Dissociation in Lead Iodide Perovskite by 2D Electronic Spectroscopy. *ACS Photonics*, **2018**, 5, 852-860	6.3	45
163	Ultrafast dissolution and creation of bonds in IrTe induced by photodoping. *Science Advances*, **2018**, 4, eaar3867	14.3	9
162	Transmission low-energy electron diffraction using double-gated single nanotip field emitter. *Applied Physics Letters*, **2018**, 113, 013505	3.4	10
161	Fabrication and characterization of a focused ion beam milled lanthanum hexaboride based cold field electron emitter source. *Applied Physics Letters*, **2018**, 113, 093101	3.4	10
160	Atomically thin monolayers of metal organic frameworks (MOFs) through implementing a Langmuir-Schaefer method **2018**,		1
159	Optical fiber-driven low energy electron gun for ultrafast streak diffraction. *Applied Physics Letters*, **2018**, 113, 133502	3.4	3
158	The hit-and-return system enables efficient time-resolved serial synchrotron crystallography. *Nature Methods*, **2018**, 15, 901-904	21.6	47

157	Digital interference microscopy and density reconstruction of picosecond infrared laser desorption at the water-air interface. *Journal of Applied Physics*, **2018**, 124, 094701	2.5	2
156	Photochromism of Amphiphilic Dithienylethenes as Langmuir-Schaefer Films. *Langmuir*, **2018**, 34, 10905-10912	4	4
155	Visualization of Cellular Components in a Mammalian Cell with Liquid-Cell Transmission Electron Microscopy. *Microscopy and Microanalysis*, **2017**, 23, 46-55	0.5	7
154	Structural Dynamics upon Photoexcitation in a Spin Crossover Crystal Probed with Femtosecond Electron Diffraction. *Angewandte Chemie - International Edition*, **2017**, 56, 7130-7134	16.4	35
153	The photoinduced dynamics of X[M(dmit)2]2salts. *Physica Scripta*, **2017**, 92, 034005	2.6	
152	Capturing Chemistry in Action with Electrons: Realization of Atomically Resolved Reaction Dynamics. *Chemical Reviews*, **2017**, 117, 11066-11124	68.1	72
151	Compression of high-density 0.16 pC electron bunches through high field gradients for ultrafast single shot electron diffraction: The Compact RF Gun. *Structural Dynamics*, **2017**, 4, 044016	3.2	10
150	Structural Dynamics upon Photoexcitation in a Spin Crossover Crystal Probed with Femtosecond Electron Diffraction. *Angewandte Chemie*, **2017**, 129, 7236-7240	3.6	6
149	The Primary Photochemistry of Vision Occurs at the Molecular Speed Limit. *Journal of Physical Chemistry B*, **2017**, 121, 4040-4047	3.4	32
148	Coherent ultrafast lattice-directed reaction dynamics of triiodide anion photodissociation. *Nature Chemistry*, **2017**, 9, 516-522	17.6	15
147	Primary Charge Separation in the Photosystem II Reaction Center Revealed by a Global Analysis of the Two-dimensional Electronic Spectra. *Scientific Reports*, **2017**, 7, 12347	4.9	22
146	Structural Monitoring of the Onset of Excited-State Aromaticity in a Liquid Crystal Phase. *Journal of the American Chemical Society*, **2017**, 139, 15792-15800	16.4	44
145	Robust reconstruction of time-resolved diffraction from ultrafast streak cameras. *Structural Dynamics*, **2017**, 4, 054302	3.2	4
144	Low-dose cryo electron ptychography via non-convex Bayesian optimization. *Scientific Reports*, **2017**, 7, 9883	4.9	34
143	Tracking an electronic wave packet in the vicinity of a conical intersection. *Journal of Chemical Physics*, **2017**, 147, 074101	3.9	13
142	Nature does not rely on long-lived electronic quantum coherence for photosynthetic energy transfer. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 8493-8498	11.5	175
141	Daumenkino der Moleküle. *Physik in Unserer Zeit*, **2017**, 48, 278-285	0.1	
140	Transient structures and chemical reaction dynamics. *Russian Chemical Reviews*, **2017**, 86, 1173-1253	6.8	11

139	Protein crystals IR laser ablated from aqueous solution at high speed retain their diffractive properties: applications in high-speed serial crystallography. *Journal of Applied Crystallography*, **2017**, 50, 1773-1781	3.8	10
138	Low-dose fixed-target serial synchrotron crystallography. *Acta Crystallographica Section D: Structural Biology*, **2017**, 73, 373-378	5.5	68
137	Time zero determination for FEL pump-probe studies based on ultrafast melting of bismuth. *Structural Dynamics*, **2017**, 4, 054308	3.2	9
136	Dynamic-Transmission Electron Microscopy at the Relativistic Electron Gun for Atomic Exploration (REGAE) for live cell imaging **2016**, 354-355		0
135	Impact of Vibrational Coherence on the Quantum Yield at a Conical Intersection. *Journal of Physical Chemistry Letters*, **2016**, 7, 3491-6	6.4	20
134	New Insights into the Photophysics of DNA Nucleobases. *Journal of Physical Chemistry Letters*, **2016** , 7, 4445-4450	6.4	52
133	Fixed target combined with spectral mapping: approaching 100% hit rates for serial crystallography. *Acta Crystallographica Section D: Structural Biology*, **2016**, 72, 944-55	5.5	54
132	Optical fiber-based photocathode. *Applied Physics Letters*, **2016**, 109, 091105	3.4	4
131	Synchronised photoreversion of spirooxazine ring opening in thin crystals to uncover ultrafast dynamics. *CrystEngComm*, **2016**, 18, 7212-7216	3.3	6
130	Homogenization of tissues via picosecond-infrared laser (PIRL) ablation: Giving a closer view on the in-vivo composition of protein species as compared to mechanical homogenization. *Journal of Proteomics*, **2016**, 134, 193-202	3.9	28
129	Laser-Limited Signatures of Quantum Coherence. *Journal of Physical Chemistry A*, **2016**, 120, 3042-8	2.8	17
128	Special issue on imaging the dynamic structure of matter. *Journal of Physics B: Atomic, Molecular and Optical Physics*, **2016**, 49, 150201	1.3	3
127	TakeTwo: an indexing algorithm suited to still images with known crystal parameters. *Acta Crystallographica Section D: Structural Biology*, **2016**, 72, 956-65	5.5	28
126	Spectral Signatures of Ultrafast Spin Crossover in Single Crystal [Fe(II)(bpy)3](PF6)2. *Chemistry - A European Journal*, **2016**, 22, 5118-22	4.8	21
125	Measurement of transverse emittance and coherence of double-gate field emitter array cathodes. *Nature Communications*, **2016**, 7, 13976	17.4	9
124	Ultrafast imaging of photochemical dynamics: roadmap to a new conceptual basis for chemistry. *Faraday Discussions*, **2016**, 194, 777-828	3.6	14
123	Molecular dynamics investigation of desorption and ion separation following picosecond infrared laser (PIRL) ablation of an ionic aqueous protein solution. *Journal of Chemical Physics*, **2016**, 145, 204202	3.9	16
122	Bandgap modulation in photoexcited topological insulator Bi2Te3 via atomic displacements. *Journal of Chemical Physics*, **2016**, 145, 024504	3.9	15

121	Ultrafast electron diffraction optimized for studying structural dynamics in thin films and monolayers. *Structural Dynamics*, **2016**, 3, 034302	3.2	27
120	Synthesis of Bidimensional Prussian Blue Analogue Using an Inverted Langmuir-Schaefer Method. *Langmuir*, **2016**, 32, 9706-13	4	5
119	Comparative study of wound healing in rat skin following incision with a novel picosecond infrared laser (PIRL) and different surgical modalities. *Lasers in Surgery and Medicine*, **2016**, 48, 385-91	3.6	26
118	Mapping atomic motions with ultrabright electrons: towards fundamental limits in space-time resolution. *Faraday Discussions*, **2015**, 177, 467-91	3.6	68
117	Towards instantaneous cellular level bio diagnosis: laser extraction and imaging of biological entities with conserved integrity and activity. *Nanotechnology*, **2015**, 26, 284001	3.4	23
116	Two-Dimensional Electronic Spectroscopy of Light-Harvesting Complex II at Ambient Temperature: A Joint Experimental and Theoretical Study. *Journal of Physical Chemistry B*, **2015**, 119, 12017-27	3.4	45
115	Visualization of multimerization and self-assembly of DNA-functionalized gold nanoparticles using in-liquid transmission electron microscopy. *Journal of Physical Chemistry Letters*, **2015**, 6, 4487-92	6.4	29
114	Local vibrational coherences drive the primary photochemistry of vision. *Nature Chemistry*, **2015**, 7, 980-6	17.6	123
113	Fixed target matrix for femtosecond time-resolved and in situ serial micro-crystallography. *Structural Dynamics*, **2015**, 2, 054302	3.2	83
112	Field emission beam characteristics of single metal nanotip cathodes with on-chip collimation gate electrode. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2015**, 33, 03C111	1.3	6
111	Ultrafast extraction of proteins from tissues using desorption by impulsive vibrational excitation. *Angewandte Chemie - International Edition*, **2015**, 54, 285-8	16.4	36
110	Desorption durch impulsive Anregung intramolekularer Vibrationszustände: eine Methode zur schnellen Extraktion von Proteinen aus intakten Geweben. *Angewandte Chemie*, **2015**, 127, 287-290	3.6	
109	Ambient Mass Spectrometry Imaging with Picosecond Infrared Laser Ablation Electrospray Ionization (PIR-LAESI). *Analytical Chemistry*, **2015**, 87, 12071-9	7.8	40
108	Direct observation of collective modes coupled to molecular orbital-driven charge transfer. *Science*, **2015**, 350, 1501-5	33.3	89
107	Reduction of thermocoagulative injury via use of a picosecond infrared laser (PIRL) in laryngeal tissues. *European Archives of Oto-Rhino-Laryngology*, **2015**, 272, 941-948	3.5	16
106	Early Events in the Nonadiabatic Relaxation Dynamics of 4-(N,N-Dimethylamino)benzonitrile. *Journal of Chemical Theory and Computation*, **2015**, 11, 1118-28	6.4	25
105	Fiber tip-based electron source. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2015**, 33, 03C101	1.3	5
104	A modular and compact portable mini-endstation for high-precision, high-speed fixed target serial crystallography at FEL and synchrotron sources. *Journal of Synchrotron Radiation*, **2015**, 22, 1372-8	2.4	43

103	Broadband Electronic Two-Dimensional Spectroscopy in the Deep UV. *Springer Proceedings in Physics*, **2015**, 432-435	0.2	12
102	Femtosecond crystallography with ultrabright electrons and x-rays: capturing chemistry in action. *Science*, **2014**, 343, 1108-16	33.3	223
101	Mapping atomic motions with ultrabright electrons: the chemists' gedanken experiment enters the lab frame. *Annual Review of Physical Chemistry*, **2014**, 65, 583-604	15.7	94
100	Two-dimensional spectroscopy of a molecular dimer unveils the effects of vibronic coupling on exciton coherences. *Nature Chemistry*, **2014**, 6, 196-201	17.6	185
99	Bone ablation without thermal or acoustic mechanical injury via a novel picosecond infrared laser (PIRL). *Otolaryngology - Head and Neck Surgery*, **2014**, 150, 385-93	5.5	28
98	The photocycle and ultrafast vibrational dynamics of bacteriorhodopsin in lipid nanodiscs. *Physical Chemistry Chemical Physics*, **2014**, 16, 21310-20	3.6	28
97	Cold ablation driven by localized forces in alkali halides. *Nature Communications*, **2014**, 5, 3863	17.4	33
96	Comment on "Engineering coherence among excited states in synthetic heterodimer systems". *Science*, **2014**, 344, 1099	33.3	8
95	Impact of laser on bismuth thin-films. *European Physical Journal: Special Topics*, **2013**, 222, 1277-1285	2.3	11
94	A novel tool in laryngeal surgery: preliminary results of the picosecond infrared laser. *Laryngoscope*, **2013**, 123, 2770-5	3.6	14
93	Mapping molecular motions leading to charge delocalization with ultrabright electrons. *Nature*, **2013**, 496, 343-6	50.4	194
92	Nanofluidic Cells with Controlled Pathlength and Liquid Flow for Rapid, High-Resolution In Situ Imaging with Electrons. *Journal of Physical Chemistry Letters*, **2013**, 4, 2339-2347	6.4	44
91	Ring-closing reaction in diarylethene captured by femtosecond electron crystallography. *Journal of Physical Chemistry B*, **2013**, 117, 15894-902	3.4	68
90	Heat generation during ablation of porcine skin with erbium:YAG laser vs a novel picosecond infrared laser. *JAMA Otolaryngology - Head and Neck Surgery*, **2013**, 139, 828-33	3.9	22
89	Single shot time stamping of ultrabright radio frequency compressed electron pulses. *Applied Physics Letters*, **2013**, 103, 033503	3.4	46
88	Two-Dimensional Electronic Spectroscopy of a Model Dimer System. *EPJ Web of Conferences*, **2013**, 41, 05032	0.3	4
87	Hot electron injection driven phase transitions. *Physical Review B*, **2012**, 86,	3.3	27
86	Femtosecond electron diffraction: Preparation and characterization of (110)-oriented bismuth films. *Journal of Applied Physics*, **2012**, 111, 043504	2.5	19

85	Crystallography on a chip. *Acta Crystallographica Section D: Biological Crystallography*, **2012**, 68, 321-3		66
84	Full characterization of RF compressed femtosecond electron pulses using ponderomotive scattering. *Optics Express*, **2012**, 20, 12048-58	3.3	89
83	Femtosecond electron diffraction: heralding the era of atomically resolved dynamics. *Reports on Progress in Physics*, **2011**, 74, 096101	14.4	326
82	Femtosecond dynamics of the ring closing process of diarylethene: a case study of electrocyclic reactions in photochromic single crystals. *Journal of Physical Chemistry A*, **2011**, 115, 13158-68	2.8	72
81	Enhanced bandwidth noncollinear optical parametric amplification with a narrowband anamorphic pump. *Optics Letters*, **2011**, 36, 2170-2	3	15
80	Coherent control of the isomerization of retinal in bacteriorhodopsin in the high intensity regime. *Journal of Chemical Physics*, **2011**, 134, 085105	3.9	40
79	Self-localizing stabilized mega-pixel picoliter arrays with size-exclusion sorting capabilities. *Analytical Chemistry*, **2011**, 83, 767-73	7.8	12
78	Snapshots of cooperative atomic motions in the optical suppression of charge density waves. *Nature*, **2010**, 468, 799-802	50.4	307
77	Ultrafast mid-IR laser scalpel: protein signals of the fundamental limits to minimally invasive surgery. *PLoS ONE*, **2010**, 5, e13053	3.7	101
76	Vibrationally excited ultrafast thermodynamic phase transitions at the water/air interface. *Physical Chemistry Chemical Physics*, **2010**, 12, 5225-39	3.6	41
75	'Making the molecular movie': first frames. *Acta Crystallographica Section A: Foundations and Advances*, **2010**, 66, 137-56		69
74	Excitation of longitudinal and transverse coherent acoustic phonons in nanometer free-standing films of (001) Si. *Physical Review B*, **2009**, 79,	3.3	65
73	Electronic acceleration of atomic motions and disordering in bismuth. *Nature*, **2009**, 458, 56-9	50.4	215
72	Diffractive optics based four-wave, six-wave, ..., nu-wave nonlinear spectroscopy. *Accounts of Chemical Research*, **2009**, 42, 1442-51	24.3	18
71	Coherently-controlled two-dimensional photon echo electronic spectroscopy. *Optics Express*, **2009**, 17, 9764-79	3.3	65
70	Stable UV to IR supercontinuum generation in calcium fluoride with conserved circular polarization states. *Optics Express*, **2009**, 17, 21488-96	3.3	34
69	Laser selective cutting of biological tissues by impulsive heat deposition through ultrafast vibrational excitations. *Optics Express*, **2009**, 17, 22937-59	3.3	55
68	The formation of warm dense matter: experimental evidence for electronic bond hardening in gold. *Science*, **2009**, 323, 1033-7	33.3	241

67	Atomic View of the Photoinduced Collapse of Gold and Bismuth. *Springer Series in Chemical Physics*, **2009**, 113-115	0.3	
66	Electronically Driven Structural Dynamics of Si Resolved by Femtosecond Electron Diffraction. *Springer Series in Chemical Physics*, **2009**, 158-160	0.3	
65	Two Dimensional Fifth-Order Raman Spectroscopy **2008**, 1-72		1
64	Temperature dependence of the two-dimensional infrared spectrum of liquid H2O. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 437-42	11.5	228
63	Grating enhanced ponderomotive scattering for visualization and full characterization of femtosecond electron pulses. *Optics Express*, **2008**, 16, 3334-41	3.3	81
62	Electronically driven structure changes of Si captured by femtosecond electron diffraction. *Physical Review Letters*, **2008**, 100, 155504	7.4	133
61	Two-dimensional fifth-order Raman spectroscopy of liquid formamide: Experiment and Theory. *Journal of Chemical Physics*, **2008**, 128, 234507	3.9	48
60	Raman gain from waveguides inscribed in KGd(WO4)2 by high repetition rate femtosecond laser. *Applied Physics Letters*, **2008**, 92, 081105	3.4	31
59	Direct visualization of charge distributions during femtosecond laser ablation of a Si (100) surface. *Physical Review B*, **2008**, 78,	3.3	37
58	Effects of femtosecond laser irradiation on osseous tissues. *Lasers in Surgery and Medicine*, **2007**, 39, 273-85	3.6	57
57	Microtomographic analysis of healing of femtosecond laser bone calvarial wounds compared to mechanical instruments in mice with and without application of BMP-7. *Lasers in Surgery and Medicine*, **2007**, 39, 458-67	3.6	17
56	Experimental basics for femtosecond electron diffraction studies. *Journal of Modern Optics*, **2007**, 54, 923-942	1.1	13
55	Femtosecond electron diffraction: an atomic perspective of condensed phase dynamics. *Journal of Modern Optics*, **2007**, 54, 905-922	1.1	25
54	2D-IR Photon Echo Spectroscopy of Liquid H2O Combination of Novel Nanofluidics and Diffractive Optics Deciphers Ultrafast Structural Dynamics. *Springer Series in Chemical Physics*, **2007**, 335-337	0.3	
53	Do we live in a quantum world? Advances in multidimensional coherent spectroscopies refine our understanding of quantum coherences and structural dynamics of biological systems. *Current Opinion in Structural Biology*, **2006**, 16, 654-63	8.1	38
52	Coherent control of retinal isomerization in bacteriorhodopsin. *Science*, **2006**, 313, 1257-61	33.3	305
51	Femtosecond electron diffraction: 'making the molecular movie'. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2006**, 364, 741-78	3	150
50	Fifth-order Raman spectroscopy of liquid benzene: experiment and theory. *Journal of Physical Chemistry B*, **2006**, 110, 19867-76	3.4	24

49	Carrier relaxation and lattice heating dynamics in silicon revealed by femtosecond electron diffraction. *Journal of Physical Chemistry B*, **2006**, 110, 25308-13	3.4	70
48	Femtosecond electron pulse characterization using laser ponderomotive scattering. *Optics Letters*, **2006**, 31, 3517-9	3	58
47	Determination of the Fe-CO bond energy in myoglobin using heterodyne-detected transient thermal phase grating spectroscopy. *Journal of Physical Chemistry B*, **2005**, 109, 20605-11	3.4	18
46	Characterization of ultrashort electron pulses by electron-laser pulse cross correlation. *Optics Letters*, **2005**, 30, 1057-9	3	43
45	Nonlinear optical studies of heme protein dynamics: implications for proteins as hybrid states of matter. *Biochimica Et Biophysica Acta - Proteins and Proteomics*, **2005**, 1749, 148-72	4	29
44	Ultrafast memory loss and energy redistribution in the hydrogen bond network of liquid H2O. *Nature*, **2005**, 434, 199-202	50.4	625
43	Anharmonic couplings underlying the ultrafast vibrational dynamics of hydrogen bonds in liquids. *Physical Review Letters*, **2005**, 95, 147402	7.4	74
42	Heterodyne 2D-IR Photon Echo Spectroscopy of Multi-Level OH Stretching Coherences in Hydrogen Bonds. *Springer Series in Chemical Physics*, **2005**, 407-409	0.3	
41	Two-dimensional spectroscopy using diffractive optics based phased-locked photon echoes. *Chemical Physics Letters*, **2004**, 386, 184-189	2.5	270
40	Observation of the cascaded atomic-to-global length scales driving protein motion. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 4990-4	11.5	50
39	Response to Comment on Ultrafast electron optics: Propagation dynamics of femtosecond electron packets[J. Appl. Phys. 94, 803 (2003)]. *Journal of Applied Physics*, **2003**, 94, 807-808	2.5	12
38	Heterodyne detected fifth-order Raman response of liquid CS2: Dutch Cross-polarization. *Chemical Physics Letters*, **2003**, 369, 635-642	2.5	34
37	An atomic-level view of melting using femtosecond electron diffraction. *Science*, **2003**, 302, 1382-5	33.3	681
36	Fifth-order two-dimensional Raman spectroscopy: A new direct probe of the liquid state. *International Reviews in Physical Chemistry*, **2003**, 22, 497-532	7	59
35	Versatile seven-femtosecond pulse compressor of parametrically amplified pulses using adaptive optics: studies of the primary events in protein dynamics. *Applied Physics B: Lasers and Optics*, **2002**, 74, s127-s132	1.9	3
34	Diffractive optics implementation of time- and frequency-domain heterodyne-detected six-wave mixing. *Applied Physics B: Lasers and Optics*, **2002**, 74, s107-s112	1.9	8
33	Ultrafast electron optics: Propagation dynamics of femtosecond electron packets. *Journal of Applied Physics*, **2002**, 92, 1643-1648	2.5	240
32	Diffractive optics-based six-wave mixing: Heterodyne detection of the full (5) tensor of liquid CS2. *Journal of Chemical Physics*, **2002**, 116, 2016-2042	3.9	93

31	Dynamics of Ligand Escape in Myoglobin: Q-Band Transient Absorption and Four-Wave Mixing Studies. *Journal of Physical Chemistry B*, **2002**, 106, 10460-10467	3.4	27
30	Myoglobin dynamics: evidence for a hybrid solid/fluid state of matter. *Journal of Luminescence*, **2001**, 94-95, 489-492	3.8	2
29	Diffractive optics-based heterodyne-detected four-wave mixing signals of protein motion: from "protein quakes" to ligand escape for myoglobin. *Proceedings of the National Academy of Sciences of the United States of America*, **2001**, 98, 6110-5	11.5	54
28	Versatile 7-fs optical parametric pulse generation and compression by use of adaptive optics. *Optics Letters*, **2001**, 26, 1152-4	3	48
27	Diffractive optics implementation of six-wave mixing. *Optics Letters*, **2000**, 25, 853-5	3	54
26	Diffractive Optics-Based Heterodyne-Detected Grating Spectroscopy: Application to Ultrafast Protein Dynamics. *Journal of Physical Chemistry B*, **1999**, 103, 603-607	3.4	38
25	Femtosecond Heterodyne-Detected Four-Wave-Mixing Studies of Deterministic Protein Motions. 2. Protein Response. *Journal of Physical Chemistry A*, **1999**, 103, 10630-10643	2.8	45
24	Femtosecond Heterodyne-Detected Four-Wave-Mixing Studies of Deterministic Protein Motions. 1. Theory and Experimental Technique of Diffractive Optics-Based Spectroscopy. *Journal of Physical Chemistry A*, **1999**, 103, 10619-10629	2.8	38
23	Ultrafast Phase Grating Studies of Heme Proteins: Observation of the Low-Frequency Modes Directing Functionally Important Protein Motions. *Journal of Physical Chemistry B*, **1998**, 102, 6621-6634	3.4	49
22	Ultrafast heterodyne-detected transient-grating spectroscopy using diffractive optics. *Journal of the Optical Society of America B: Optical Physics*, **1998**, 15, 1791	1.7	223
21	Interrogation of Vibrational Structure and Line Broadening of Liquid Water by Raman-Induced Kerr Effect Measurements within the Multimode Brownian Oscillator Model *The Journal of Physical Chemistry*, **1996**, 100, 10380-10388		88
20	Energy dependence of electron lifetime in graphite observed with femtosecond photoemission spectroscopy. *Physical Review Letters*, **1996**, 76, 483-486	7.4	114
19	Transient grating excitation of interfacial acoustics: Treatment of multilayer structures. *Journal of Chemical Physics*, **1995**, 103, 1191-1199	3.9	12
18	Optical generation of high-frequency acoustic waves in GaAs/AlxGa1As periodic multilayer structures. *Journal of Applied Physics*, **1994**, 75, 2761-2768	2.5	33
17	Energetics and Dynamics of Deterministic Protein Motion. *Accounts of Chemical Research*, **1994**, 27, 145-150	14.3	55
16	Picosecond surface restricted transient grating studies of carrier reaction dynamics at n-GaAs(100) interfaces. *Journal of Chemical Physics*, **1992**, 96, 3981-3994	3.9	18
15	Ultrafast charge-transfer dynamics at tin disulfide surfaces. *The Journal of Physical Chemistry*, **1992**, 96, 2820-2826		55
14	Nonlinear digital filtering of scanning-probe-microscopy images by morphological pseudoconvolutions. *Journal of Applied Physics*, **1992**, 71, 1565-1578	2.5	10

13	Scanning Tunneling Microscopy and Atomic Force Microscopy of Thin Polymer Films. *Molecular Crystals and Liquid Crystals*, **1991**, 194, 305-310		1
12	Vibrational energy relaxation and structural dynamics of heme proteins. *Annual Review of Physical Chemistry*, **1991**, 42, 581-614	15.7	117
11	Subpicosecond reflective electro-optic sampling of electron-hole vertical transport in surface-space-charge fields. *Applied Physics Letters*, **1990**, 56, 524-526	3.4	49
10	Analysis of Surface Wave Generation by Laser Interference. *Journal of Applied Mechanics, Transactions ASME*, **1990**, 57, 415-418	2.7	10
9	Picosecond dynamics of surface electron transfer processes: Surface restricted transient grating studies of the n-TiO2/H2O interface. *Journal of Chemical Physics*, **1989**, 90, 1253-1269	3.9	113
8	Monte Carlo study of photogenerated carrier transport in GaAs surface space-charge fields. *Journal of Applied Physics*, **1989**, 66, 3066-3073	2.5	31
7	Picosecond transient thermal phase grating spectroscopy: A new approach to the study of vibrational energy relaxation processes in proteins. *Chemical Physics*, **1989**, 131, 81-97	2.3	93
6	A coherent photoacoustic approach to excited-state-excited-state absorption spectroscopy: application to the investigation of a near-resonant contribution to ultrasonic diffraction. *The Journal of Physical Chemistry*, **1984**, 88, 3021-3025		17
5	Electronic excited state transport and trapping in disordered systems: Picosecond fluorescence mixing, transient grating, and probe pulse experiments. *Journal of Chemical Physics*, **1983**, 78, 5138-5146	3.9	71
4	Optical generation of tunable ultrasonic waves. *Journal of Applied Physics*, **1982**, 53, 1144-1149	2.5	186
3	Laser-induced excited state and ultrasonic wave gratings: Amplitude and phase grating contributions to diffraction. *Journal of Chemical Physics*, **1982**, 77, 1144-1152	3.9	171
2	Serial protein crystallography in an electron microscope		1
1	Serial femtosecond and serial synchrotron crystallography yield data of equivalent quality: a systematic comparison		1