

Daniel Rolles

List of Publications by Year in descending order

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154
papers

9,719
citations

53794

45
h-index

37204

96
g-index

155
all docs

155
docs citations

155
times ranked

6788
citing authors

#	ARTICLE	IF	CITATIONS
1	Femtosecond X-ray protein nanocrystallography. <i>Nature</i> , 2011, 470, 73-77.	27.8	1,771
2	Single mimivirus particles intercepted and imaged with an X-ray laser. <i>Nature</i> , 2011, 470, 78-81.	27.8	790
3	Self-terminating diffraction gates femtosecond X-ray nanocrystallography measurements. <i>Nature Photonics</i> , 2012, 6, 35-40.	31.4	292
4	Large-format, high-speed, X-ray pnCCDs combined with electron and ion imaging spectrometers in a multipurpose chamber for experiments at 4th generation light sources. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2010, 614, 483-496.	1.6	275
5	Nanoscale spin reversal by non-local angular momentum transfer following ultrafast laser excitation in ferrimagnetic GdFeCo. <i>Nature Materials</i> , 2013, 12, 293-298.	27.5	267
6	Roadmap of ultrafast x-ray atomic and molecular physics. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018, 51, 032003.	1.5	240
7	Time-resolved protein nanocrystallography using an X-ray free-electron laser. <i>Optics Express</i> , 2012, 20, 2706.	3.4	219
8	Ultra-efficient ionization of heavy atoms by intense X-ray free-electron laser pulses. <i>Nature Photonics</i> , 2012, 6, 858-865.	31.4	218
9	X-Ray Diffraction from Isolated and Strongly Aligned Gas-Phase Molecules with a Free-Electron Laser. <i>Physical Review Letters</i> , 2014, 112, .	7.8	217
10	Shapes and vorticities of superfluid helium nanodroplets. <i>Science</i> , 2014, 345, 906-909.	12.6	197
11	In vivo protein crystallization opens new routes in structural biology. <i>Nature Methods</i> , 2012, 9, 259-262.	19.0	193
12	Imaging charge transfer in iodomethane upon x-ray photoabsorption. <i>Science</i> , 2014, 345, 288-291.	12.6	183
13	Ultraintense X-Ray Induced Ionization, Dissociation, and Frustrated Absorption in Molecular Nitrogen. <i>Physical Review Letters</i> , 2010, 104, 253002.	7.8	182
14	Fractal morphology, imaging and mass spectrometry of single aerosol particles in flight. <i>Nature</i> , 2012, 486, 513-517.	27.8	170
15	Isotope-induced partial localization of core electrons in the homonuclear molecule N ₂ . <i>Nature</i> , 2005, 437, 711-715.	27.8	157
16	Radiation damage in protein serial femtosecond crystallography using an x-ray free-electron laser. <i>Physical Review B</i> , 2011, 84, 214111.	3.2	156
17	High-throughput imaging of heterogeneous cell organelles with an X-ray laser. <i>Nature Photonics</i> , 2014, 8, 943-949.	31.4	156
18	Femtosecond response of polyatomic molecules to ultra-intense hard X-rays. <i>Nature</i> , 2017, 546, 129-132.	27.8	139

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19	Lipidic phase membrane protein serial femtosecond crystallography. <i>Nature Methods</i> , 2012, 9, 263-265.	19.0	135
20	Nanoplasma Dynamics of Single Large Xenon Clusters Irradiated with Superintense X-Ray Pulses from the Linac Coherent Light Source Free-Electron Laser. <i>Physical Review Letters</i> , 2012, 108, 245005.	7.8	129
21	Circular Dichroism in K-Shell Ionization from Fixed-in-Space CO and N ₂ Molecules. <i>Physical Review Letters</i> , 2002, 88, 073002.	7.8	126
22	Time-Resolved Measurement of Interatomic Coulombic Decay in $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"> \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle \text{Ne} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:math} \rangle$. <i>Physical Review Letters</i> , 2013, 111, 093402.	7.8	117
23	K-shell photoionization of CO and N ₂ : is there a link between the photoelectron angular distribution and the molecular decay dynamics?. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2001, 34, 3669-3678.	1.5	111
24	Localization and loss of coherence in molecular double-slit experiments. <i>Nature Physics</i> , 2008, 4, 649-655.	16.7	111
25	Ultrafast Charge Rearrangement and Nuclear Dynamics upon Inner-Shell Multiple Ionization of Small Polyatomic Molecules. <i>Physical Review Letters</i> , 2013, 110, 053003.	7.8	98
26	Ultrafast isomerization initiated by X-ray core ionization. <i>Nature Communications</i> , 2015, 6, 8199.	12.8	92
27	Unsupervised classification of single-particle X-ray diffraction snapshots by spectral clustering. <i>Optics Express</i> , 2011, 19, 16542.	3.4	91
28	Femtosecond and nanometre visualization of structural dynamics in superheated nanoparticles. <i>Nature Photonics</i> , 2016, 10, 93-97.	31.4	89
29	Imaging molecules from within: Ultrafast angstrom-scale structure determination of molecules via photoelectron holography using free-electron lasers. <i>Physical Review A</i> , 2010, 81, .	2.5	80
30	X-ray "optical cross-correlator for gas-phase experiments at the Linac Coherent Light Source free-electron laser. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	76
31	Femtosecond photoelectron diffraction on laser-aligned molecules: Towards time-resolved imaging of molecular structure. <i>Physical Review A</i> , 2013, 88, .	2.5	76
32	Noise-robust coherent diffractive imaging with a single diffraction pattern. <i>Optics Express</i> , 2012, 20, 16650.	3.4	73
33	H ₂ roaming chemistry and the formation of H ₃ ⁺ from organic molecules in strong laser fields. <i>Nature Communications</i> , 2018, 9, 5186.	12.8	73
34	Hetero-site-specific X-ray pump-probe spectroscopy for femtosecond intramolecular dynamics. <i>Nature Communications</i> , 2016, 7, 11652.	12.8	70
35	Mechanisms and time-resolved dynamics for trihydrogen cation (H ₃ ⁺) formation from organic molecules in strong laser fields. <i>Scientific Reports</i> , 2017, 7, 4703.	3.3	62
36	Ultrafast Transitions from Solid to Liquid and Plasma States of Graphite Induced by X-Ray Free-Electron Laser Pulses. <i>Physical Review Letters</i> , 2012, 108, 217402.	7.8	60

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37	High-repetition-rate and high-photon-flux 70 eV high-harmonic source for coincidence ion imaging of gas-phase molecules. <i>Optics Express</i> , 2016, 24, 18133.	3.4	60
38	Charge transfer in dissociating iodomethane and fluoromethane molecules ionized by intense femtosecond X-ray pulses. <i>Structural Dynamics</i> , 2016, 3, 043207.	2.3	59
39	Resonance-enhanced multiple ionization of krypton at an x-ray free-electron laser. <i>Physical Review A</i> , 2013, 87, .	2.5	57
40	Femtosecond free-electron laser x-ray diffraction data sets for algorithm development. <i>Optics Express</i> , 2012, 20, 4149.	3.4	56
41	Native Frames: Disentangling Sequential from Concerted Three-Body Fragmentation. <i>Physical Review Letters</i> , 2018, 120, 103001.	7.8	56
42	Imaging molecular structure through femtosecond photoelectron diffraction on aligned and oriented gas-phase molecules. <i>Faraday Discussions</i> , 2014, 171, 57-80.	3.2	55
43	Auger cascades versus direct double Auger: relaxation processes following photoionization of the Kr 3d and Xe 4d, 3d inner shells. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2005, 38, 3885-3903.	1.5	53
44	Coulomb-explosion imaging of concurrent CH^2 photodissociation dynamics. <i>Physical Review A</i> , 2017, 96, .	2.5	50
45	Anomalous signal from S atoms in protein crystallographic data from an X-ray free-electron laser. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2013, 69, 838-842.	2.5	48
46	X-ray multiphoton-induced Coulomb explosion images complex single molecules. <i>Nature Physics</i> , 2022, 18, 423-428.	16.7	48
47	Coulomb explosion imaging of CH_3I and CH_2ClI photodissociation dynamics. <i>Journal of Chemical Physics</i> , 2018, 149, 204313.	3.0	46
48	Femtosecond x-ray photoelectron diffraction on gas-phase dibromobenzene molecules. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014, 47, 124035.	1.5	46
49	Automated identification and classification of single particle serial femtosecond X-ray diffraction data. <i>Optics Express</i> , 2014, 22, 2497.	3.4	45
50	Tracking the ultraviolet-induced photochemistry of thiophenone during and after ultrafast ring opening. <i>Nature Chemistry</i> , 2020, 12, 795-800.	13.6	44
51	A velocity map imaging spectrometer for electron-ion and ion-ion coincidence experiments with synchrotron radiation. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2007, 261, 170-174.	1.4	41
52	Photodissociation of aligned CH_3I and $\text{C}_6\text{H}_3\text{F}_2\text{I}$ molecules probed with time-resolved Coulomb explosion imaging by site-selective extreme ultraviolet ionization. <i>Structural Dynamics</i> , 2018, 5, 014301.	2.3	40
53	Time-resolved inner-shell photoelectron spectroscopy: From a bound molecule to an isolated atom. <i>Physical Review A</i> , 2018, 97, .	2.5	40
54	Femtosecond dark-field imaging with an X-ray free electron laser. <i>Optics Express</i> , 2012, 20, 13501.	3.4	38

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55	Communication: X-ray coherent diffractive imaging by immersion in nanodroplets. Structural Dynamics, 2015, 2, 051102.	2.3	38
56	CAMP@FLASH: an end-station for imaging, electron- and ion-spectroscopy, and pump-probe experiments at the FLASH free-electron laser. Journal of Synchrotron Radiation, 2018, 25, 1529-1540.	2.4	37
57	Ultrafast dynamics in acetylene clocked in a femtosecond XUV stopwatch. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 164027.	1.5	34
58	Probing ultrafast electronic and molecular dynamics with free-electron lasers. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 124006.	1.5	34
59	Jitter-correction for IR/UV-XUV pump-probe experiments at the FLASH free-electron laser. New Journal of Physics, 2017, 19, 043009.	2.9	34
60	Identification of absolute geometries of cis and trans molecular isomers by Coulomb Explosion Imaging. Scientific Reports, 2016, 6, 38202.	3.3	32
61	Coupled motion of Xe clusters and quantum vortices in He nanodroplets. Physical Review B, 2016, 93, .	3.2	31
62	Toward atomic resolution diffractive imaging of isolated molecules with X-ray free-electron lasers. Faraday Discussions, 2014, 171, 393-418.	3.2	29
63	Relativistic and resonant effects in the ionization of heavy atoms by ultra-intense hard X-rays. Nature Communications, 2018, 9, 4200.	12.8	29
64	Sensing the wavefront of x-ray free-electron lasers using aerosol spheres. Optics Express, 2013, 21, 12385.	3.4	28
65	Strongly aligned gas-phase molecules at free-electron lasers. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015, 48, 204002.	1.5	28
66	Emergence of valence band structure in rare-gas clusters. Chemical Physics Letters, 2009, 468, 148-152.	2.6	27
67	Inner-shell multiple ionization of polyatomic molecules with an intense x-ray free-electron laser studied by coincident ion momentum imaging. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 164031.	1.5	27
68	Size effects in angle-resolved photoelectron spectroscopy of free rare-gas clusters. Physical Review A, 2007, 75, .	2.5	26
69	Three-body fragmentation of C_2O_2 upon K -shell photoionization. Physical Review A, 2008, 78, .	2.5	26
70	Alignment, orientation, and Coulomb explosion of difluoroiodobenzene studied with the pixel imaging mass spectrometry (PlmMS) camera. Journal of Chemical Physics, 2017, 147, 013933.	3.0	26
71	Ultrafast x-ray-induced nuclear dynamics in diatomic molecules using femtosecond x-ray-pump-probe spectroscopy. Physical Review A, 2016, 94, .	2.5	24
72	The LAMP instrument at the Linac Coherent Light Source free-electron laser. Review of Scientific Instruments, 2018, 89, 035112.	1.3	24

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91	Molecular-Frame Angular Distributions of Resonant Auger Electron Emission from CO. $K\text{-}V\text{-}V$ Auger Electron Emission Affected by the Photoelectron?. Physical Review Letters, 2008, 101, 233202.	7.8	16
92	ixcalibur: a focal spot calibrator for intense X-ray free-electron laser pulses based on the charge state distributions of light atoms. Journal of Synchrotron Radiation, 2019, 26, 1017-1030.	2.4	16
93	Angle-dependent strong-field ionization and fragmentation of carbon dioxide measured using rotational wave packets. Physical Review A, 2020, 102, .	2.5	16
94	Time-resolved ion imaging at free-electron lasers using TimepixCam. Journal of Synchrotron Radiation, 2018, 25, 336-345.	2.4	15
95	Angular distributions of electrons photoemitted from core levels of oriented diatomic molecules: multiple scattering theory in non-spherical potentials. Journal of Physics B: Atomic, Molecular and Optical Physics, 2002, 35, L359-L365.	1.5	14
96	Nondipole Effects in the Photoionization of Xe4d5/2 and 4d3/2: Evidence for Quadrupole Satellites. Physical Review Letters, 2004, 93, 113001.	7.8	14
97	Is CO Carbon $K\text{-}V\text{-}V$ Auger Electron Emission Affected by the Photoelectron?. Physical Review Letters, 2008, 101, 233202.	7.8	14
98	Time-resolved study of ICD in Ne dimers using FEL radiation. Journal of Electron Spectroscopy and Related Phenomena, 2015, 204, 245-256.	1.7	14
99	A coincidence velocity map imaging spectrometer for ions and high-energy electrons to study inner-shell photoionization of gas-phase molecules. Review of Scientific Instruments, 2019, 90, 055103.	1.3	14
100	Time-resolved site-selective imaging of predissociation and charge transfer dynamics: the CH3I B-band. Journal of Physics B: Atomic, Molecular and Optical Physics, 2020, 53, 224001.	1.5	14
101	Low-Energy Nondipole Effects in Molecular Nitrogen Valence-Shell Photoionization. Physical Review Letters, 2006, 97, 103006.	7.8	13
102	Partial photoionization cross sections of C60 and C70: A gas versus adsorbed phase comparison. Surface Science, 2010, 604, 1940-1944.	1.9	13
103	Photoionization of the iodine 3d, 4s, and 4p orbitals in methyl iodide. Journal of Chemical Physics, 2018, 149, 144302.	3.0	13
104	Nearest-Neighbor-Atom Core-Hole Transfer in Isolated Molecules. Physical Review Letters, 2004, 92, 223002.	7.8	12
105	Mesoscale morphology of airborne core-shell nanoparticle clusters: x-ray laser coherent diffraction imaging. Journal of Physics B: Atomic, Molecular and Optical Physics, 2013, 46, 164033.	1.5	12
106	Detecting coherent core-hole wave-packet dynamics in N2 by time- and angle-resolved inner-shell photoelectron spectroscopy. Journal of Chemical Physics, 2019, 151, .	3.0	12
107	Measurements of molecular-frame Auger electron angular distributions at the CO C 1s ² resonance with high energy resolution. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 215101.	1.5	11
108	Soft-x-ray-induced ionization and fragmentation dynamics of Sc_3 investigated using an ion-ion-coincidence momentum-imaging technique. Physical Review A, 2017, 96, .	2.5	11

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109	Auger electron angular distributions following excitation or ionization of the I 3d level in methyl iodide. Journal of Chemical Physics, 2018, 149, 094304.	3.0	11
110	Electron-ion coincidence measurements of molecular dynamics with intense X-ray pulses. Scientific Reports, 2021, 11, 505.	3.3	11
111	Fragmentation dynamics of gas-phase furan following K -shell ionization. Physical Review A, 2010, 82, .	2.5	10
112	Inner-shell photodetachment from Fe K . Physical Review A, 2010, 81, .	2.5	10
113	Strong-field induced fragmentation and isomerization of toluene probed by ultrafast femtosecond electron diffraction and mass spectrometry. Faraday Discussions, 2021, 228, 39-59.	3.2	10
114	A localized view on molecular dissociation via electron-ion partial covariance. Communications Chemistry, 2022, 5, .	4.5	10
115	Inner-Shell-Ionization-Induced Femtosecond Structural Dynamics of Water Molecules Imaged at an X-Ray Free-Electron Laser. Physical Review X, 2021, 11, .	8.9	10
116	Two-body dissociation of formic acid following double ionization by ultrafast laser pulses. Physical Review A, 2022, 105, .	2.5	10
117	An Experimental Protocol for Femtosecond NIR/UV - XUV Pump-Probe Experiments with Free-Electron Lasers. Journal of Visualized Experiments, 2018, , .	0.3	9
118	Photophysics of indole upon X-ray absorption. Physical Chemistry Chemical Physics, 2018, 20, 20205-20216.	2.8	9
119	Strong-Field-Induced Coulomb Explosion Imaging of Tribromomethane. Journal of Physical Chemistry Letters, 2022, 13, 5845-5853.	4.6	9
120	Photoionization of the I 4d and valence orbitals of methyl iodide. Journal of Physics B: Atomic, Molecular and Optical Physics, 2020, 53, 155101.	1.5	8
121	Highly efficient nanoscale X-ray sources. Nature Photonics, 2018, 12, 62-63.	31.4	7
122	UV-induced dissociation of CH_2BrI probed by intense femtosecond XUV pulses. Journal of Physics B: Atomic, Molecular and Optical Physics, 2022, 55, 014001.	1.5	7
123	Few-femtosecond resolved imaging of laser-driven nanoplasma expansion. New Journal of Physics, 2022, 24, 043024.	2.9	7
124	A superconfiguration approach to multi-electron ionization of Xe under strong x-ray irradiation. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 011001.	1.5	6
125	Amplified spontaneous emission in the extreme ultraviolet by expanding xenon clusters. Physical Review A, 2020, 101, .	2.5	6
126	Pulse Energy and Pulse Duration Effects in the Ionization and Fragmentation of Iodomethane by Ultraintense Hard X Rays. Physical Review Letters, 2021, 127, 093202.	7.8	6

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127	XUV double-pulses with femtosecond to 650â€¦ps separation from a multilayer-mirror-based split-and-delay unit at FLASH. <i>Journal of Synchrotron Radiation</i> , 2018, 25, 1517-1528.	2.4	6
128	Photoionization of argon clusters in the Ar 3s \hat{t}' Rydberg resonance region. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2009, 42, 105103.	1.5	5
129	Inner-shell photodetachment from Ru \hat{t} . <i>Physical Review A</i> , 2010, 82, .	2.5	5
130	Simple model for sequential multiphoton ionization by ultraintense x rays. <i>Physical Review A</i> , 2021, 104, .	2.5	5
131	Resonance-enhanced x-ray multiple ionization of a polyatomic molecule. <i>Physical Review A</i> , 2022, 105, .	2.5	5
132	The Small Quantum System (SQS) Instrument at European XFEL: Results of commissioning and first experiments. <i>Journal of Physics: Conference Series</i> , 2020, 1412, 112005.	0.4	3
133	Imaging multiphoton ionization dynamics of CH ₃ I at a high repetition rate XUV free-electron laser. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2021, 54, 014001.	1.5	3
134	Sizes of pure and doped helium droplets from single shot x-ray imaging. <i>Journal of Chemical Physics</i> , 2022, 156, 041102.	3.0	3
135	High-resolution electron time-of-flight spectrometers for angle-resolved measurements at the SQS Instrument at the European XFEL. <i>Journal of Synchrotron Radiation</i> , 2022, 29, 755-764.	2.4	3
136	Probing free xenon clusters from within. <i>European Physical Journal: Special Topics</i> , 2009, 169, 59-65.	2.6	2
137	CAMP â€“ A new endstation for simultaneous detection of photons and charged particles in free electron lasers experiments. <i>Journal of Physics: Conference Series</i> , 2009, 194, 142017.	0.4	2
138	Next Generation Endstation for Concurrent Measurements of Charged Products and Photons in LCLS FEL Experiments. <i>Journal of Physics: Conference Series</i> , 2012, 388, 142025.	0.4	2
139	Inner-shell photodetachment from Ni \hat{t} : A giant Feshbach resonance. <i>Physical Review A</i> , 2017, 96, .	2.5	2
140	Ultrafast Structural Changes in Chiral Molecules Measured with Free-Electron Lasers. <i>Journal of Physics: Conference Series</i> , 2020, 1412, 112009.	0.4	2
141	Time-resolved diffraction: general discussion. <i>Faraday Discussions</i> , 2021, 228, 161-190.	3.2	2
142	High harmonic generation in mixed XUV and NIR fields at a free-electron laser. <i>Journal of Optics (United Kingdom)</i> , 2022, 24, 025502.	2.2	2
143	Fragmentation Dynamics of Fluorene Explored Using Ultrafast XUV-Vis Pump-Probe Spectroscopy. <i>Frontiers in Physics</i> , 2022, 10, .	2.1	2
144	Chemical reaction dynamics I and electron dynamics in molecules: general discussion. <i>Faraday Discussions</i> , 2014, 171, 145-168.	3.2	1

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145	Diffraction effects in the Recoil-Frame Photoelectron Angular Distributions of Halomethanes. Journal of Physics: Conference Series, 2015, 635, 112020.	0.4	1
146	The effect of elliptical polarization in $MSX\hat{I}\pm$ calculations of the molecular-frame photoelectron angular distributions of CO C(1s) ionization. European Physical Journal D, 2019, 73, 1.	1.3	1
147	ALS User Meeting and Workshops. Synchrotron Radiation News, 2014, 27, 5-9.	0.8	0
148	Auf der Jagd nach Quantentornados. Physik in Unserer Zeit, 2015, 46, 9-10.	0.0	0
149	Structural dynamics: general discussion. Faraday Discussions, 2016, 194, 583-620.	3.2	0
150	Attosecond processes and X-ray spectroscopy: general discussion. Faraday Discussions, 2016, 194, 427-462.	3.2	0
151	Ultrafast ionization and fragmentation dynamics of polycyclic aromatic hydro-carbons by XUV radiation. Journal of Physics: Conference Series, 2020, 1412, 112008.	0.4	0
152	X-ray spectroscopy on ultrafast-decaying core-excited atomic ions. Journal of Physics: Conference Series, 2020, 1412, 112001.	0.4	0
153	Gently stirred not shaken. Nature Physics, 2021, 17, 165-166.	16.7	0
154	Channel-resolved molecular Auger spectroscopy. Journal of Physics: Conference Series, 2020, 1412, 152075.	0.4	0