

# Roger Falcone

## List of Publications by Year in descending order

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60  
papers

2,904  
citations

279798

23  
h-index

161849

54  
g-index

62  
all docs

62  
docs citations

62  
times ranked

2706  
citing authors

#	ARTICLE	IF	CITATIONS
1	Time-Resolved X-Ray Diffraction from Coherent Phonons during a Laser-Induced Phase Transition. Physical Review Letters, 2000, 84, 111-114.	7.8	345
2	High-Order Harmonic Generation in Atom Clusters. Physical Review Letters, 1996, 76, 2472-2475.	7.8	285
3	Strong X-Ray Emission from High-Temperature Plasmas Produced by Intense Irradiation of Clusters. Physical Review Letters, 1995, 75, 3122-3125.	7.8	260
4	Ultrabright X-ray laser scattering for dynamic warm dense matter physics. Nature Photonics, 2015, 9, 274-279.	31.4	208
5	Nanosecond formation of diamond and lonsdaleite by shock compression of graphite. Nature Communications, 2016, 7, 10970.	12.8	167
6	Formation of diamonds in laser-compressed hydrocarbons at planetary interior conditions. Nature Astronomy, 2017, 1, 606-611.	10.1	152
7	X-Ray Thomson-Scattering Measurements of Density and Temperature in Shock-Compressed Beryllium. Physical Review Letters, 2009, 102, 115001.	7.8	147
8	Efficient coupling of high-intensity subpicosecond laser pulses into solids. Applied Physics Letters, 1993, 62, 1068-1070.	3.3	141
9	Observations of Continuum Depression in Warm Dense Matter with X-Ray Thomson Scattering. Physical Review Letters, 2014, 112, 145004.	7.8	105
10	New directions in X-ray microscopy. Contemporary Physics, 2011, 52, 293-318.	1.8	99
11	A setup for ultrafast time-resolved x-ray absorption spectroscopy. Review of Scientific Instruments, 2004, 75, 24-30.	1.3	91
12	Observation of a Short-Wavelength Laser Pumped by Auger Decay. Physical Review Letters, 1986, 57, 2939-2942.	7.8	85
13	X-ray streak camera with 2 ps response. Applied Physics Letters, 1990, 56, 1948-1950.	3.3	77
14	Investigation of femtosecond collisional ionization rates in a solid-density aluminium plasma. Nature Communications, 2015, 6, 6397.	12.8	73
15	X-ray scattering measurements on imploding CH spheres at the National Ignition Facility. Physical Review E, 2016, 94, 011202.	2.1	64
16	Measurement of Electron-Ion Relaxation in Warm Dense Copper. Scientific Reports, 2016, 6, 18843.	3.3	60
17	Generation of efficient ultrafast laser-plasma x-ray sources. Physics of Fluids B, 1991, 3, 2409-2413.	1.7	34
18	Measurement of Velocity Distributions and Recombination Kinetics in Tunnel-Ionized Helium Plasmas. Physical Review Letters, 1995, 75, 445-448.	7.8	31

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19	Observation of Transient Iron(II) Formation in Dye-Sensitized Iron Oxide Nanoparticles by Time-Resolved X-ray Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 1372-1376.	4.6	31
20	Formation of secondary electron cascades in single-crystalline plasma-deposited diamond upon exposure to femtosecond x-ray pulses. <i>Journal of Applied Physics</i> , 2008, 103, .	2.5	28
21	Engineering Nanoscale Thermal Transport: Size- and Spacing-Dependent Cooling of Nanostructures. <i>Physical Review Applied</i> , 2019, 11, .	3.8	28
22	Demonstration of X-ray Thomson scattering as diagnostics for miscibility in warm dense matter. <i>Nature Communications</i> , 2020, 11, 2620.	12.8	27
23	High-pressure chemistry of hydrocarbons relevant to planetary interiors and inertial confinement fusion. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	24
24	Soft x-ray emission from plasmas produced by ultraintense KrF laser pulses in colloidal Al. <i>Applied Physics Letters</i> , 1996, 68, 1338-1340.	3.3	22
25	Qualification of a high-efficiency, gated spectrometer for x-ray Thomson scattering on the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2014, 85, 11D617.	1.3	22
26	Evidence for Crystalline Structure in Dynamically-Compressed Polyethylene up to 200 GPa. <i>Scientific Reports</i> , 2019, 9, 4196.	3.3	22
27	Observation of finite-wavelength screening in high-energy-density matter. <i>Nature Communications</i> , 2015, 6, 6839.	12.8	20
28	X-ray linear dichroic ptychography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	20
29	Characterization of CsI photocathodes at grazing incidence for use in a unit quantum efficiency x-ray streak camera. <i>Review of Scientific Instruments</i> , 2004, 75, 3131-3137.	1.3	19
30	Multimodal x-ray and electron microscopy of the Allende meteorite. <i>Science Advances</i> , 2019, 5, eaax3009.	10.3	17
31	Observations of strong ion-ion correlations in dense plasmas. <i>Physics of Plasmas</i> , 2014, 21, 056302.	1.9	16
32	Using penumbral imaging to measure micrometer size plasma hot spots in Gbar equation of state experiments on the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2014, 85, 11D614.	1.3	16
33	Platform for spectrally resolved x-ray scattering from imploding capsules at the National Ignition Facility. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012067.	0.4	16
34	Liquid Structure of Shock-Compressed Hydrocarbons at Megabar Pressures. <i>Physical Review Letters</i> , 2018, 121, 245501.	7.8	16
35	Rapid lattice expansion and increased x-ray reflectivity of a multilayer structure due to pulsed laser heating. <i>Applied Physics Letters</i> , 1987, 51, 1873-1875.	3.3	14
36	Demonstration of an x-ray Raman spectroscopy setup to study warm dense carbon at the high energy density instrument of European XFEL. <i>Physics of Plasmas</i> , 2021, 28, 082701.	1.9	11

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37	Measurement of diamond nucleation rates from hydrocarbons at conditions comparable to the interiors of icy giant planets. <i>Physical Review B</i> , 2020, 101, .	3.2	10
38	Measuring the structure and equation of state of polyethylene terephthalate at megabar pressures. <i>Scientific Reports</i> , 2021, 11, 12883.	3.3	10
39	Characterizing plasma conditions in radiatively heated solid-density samples with x-ray Thomson scattering. <i>Physical Review E</i> , 2018, 98, .	2.1	9
40	Ultrafast K $\alpha$ x-ray Thomson scattering from shock compressed lithium hydride. <i>Physics of Plasmas</i> , 2009, 16, 056308.	1.9	8
41	Reduction of electron-phonon coupling in warm dense iron. <i>Physical Review B</i> , 2020, 101, .	3.2	8
42	Demonstration of a laser-driven, narrow spectral bandwidth x-ray source for collective x-ray scattering experiments. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	8
43	Picosecond Single-Shot X-ray Absorption Spectroscopy for Warm and Dense Matter. <i>Synchrotron Radiation News</i> , 2012, 25, 12-16.	0.8	6
44	Exploring Mbar shock conditions and isochorically heated aluminum at the Matter in Extreme Conditions end station of the Linac Coherent Light Source (invited). <i>Review of Scientific Instruments</i> , 2014, 85, 11E702.	1.3	6
45	User Workshop on High-Power Lasers at the Linac Coherent Light Source. <i>Synchrotron Radiation News</i> , 2014, 27, 56-58.	0.8	6
46	Improving a high-efficiency, gated spectrometer for x-ray Thomson scattering experiments at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2016, 87, 11E515.	1.3	6
47	Ultrafast X-ray science at the advanced light source. <i>Synchrotron Radiation News</i> , 2001, 14, 20-27.	0.8	5
48	X-ray continuum emission spectroscopy from hot dense matter at Gbar pressures. <i>Review of Scientific Instruments</i> , 2014, 85, 11D606.	1.3	5
49	Using time-resolved penumbral imaging to measure low hot spot x-ray emission signals from capsule implosions at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2018, 89, 10G111.	1.3	5
50	Proposal for a femtosecond X-ray light source. <i>AIP Conference Proceedings</i> , 1986, . .	0.4	4
51	Adiabatic Index in Shock-Compressed Beryllium. <i>Contributions To Plasma Physics</i> , 2012, 52, 186-193.	1.1	4
52	Developing a long-duration Zn K $\alpha$ source for x-ray scattering experiments. <i>Review of Scientific Instruments</i> , 2018, 89, 10F109.	1.3	4
53	Time-resolved x-ray emission spectra from optically ionized helium and neon plasmas. <i>Physical Review E</i> , 1998, 57, 982-993.	2.1	3
54	SQUARREL: Scattering Quotient Analysis to Retrieve the Ratio of Elements in X-ray Ptychography. <i>Microscopy and Microanalysis</i> , 2019, 25, 112-113.	0.4	2

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55	Soft x-ray linear dichroic ptychography: the study of crystal orientation in biominerals. , 2021, , .		2
56	X-rays from high-intensity, short-pulse laser interaction with solids. AIP Conference Proceedings, 1993, , .	0.4	0
57	Intense and ultrashort pulse laser interactions with matter. , 1998, , .		0
58	Time-resolved x-ray photoabsorption and diffraction on timescales from ns to fs. AIP Conference Proceedings, 2000, , .	0.4	0
59	$k^{\pm}$ X-ray Thomson Scattering From Dense Plasmas. , 2009, , .		0
60	Reply to: Reconsidering X-ray plasmons. Nature Photonics, 2019, 13, 751-753.	31.4	0