

Federica Coppari

List of Publications by Year in descending order

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57
papers

1,859
citations

279701

23
h-index

265120

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59
docs citations

59
times ranked

1739
citing authors

#	ARTICLE	IF	CITATIONS
1	Nanosecond X-ray diffraction of shock-compressed superionic water ice. <i>Nature</i> , 2019, 569, 251-255.	13.7	215
2	Experimental evidence for a phase transition in magnesium oxide at exoplanet pressures. <i>Nature Geoscience</i> , 2013, 6, 926-929.	5.4	170
3	Experimental evidence for superionic water ice using shock compression. <i>Nature Physics</i> , 2018, 14, 297-302.	6.5	165
4	Solid Iron Compressed Up to 560 GPa. <i>Physical Review Letters</i> , 2013, 111, 065501.	2.9	137
5	Powder diffraction from solids in the terapascal regime. <i>Review of Scientific Instruments</i> , 2012, 83, 113904.	0.6	84
6	Metastability of diamond ramp-compressed to 2 terapascals. <i>Nature</i> , 2021, 589, 532-535.	13.7	79
7	Analysis of laser shock experiments on precompressed samples using a quartz reference and application to warm dense hydrogen and helium. <i>Journal of Applied Physics</i> , 2015, 118, .	1.1	69
8	Measurement of Body-Centered Cubic Gold and Melting under Shock Compression. <i>Physical Review Letters</i> , 2019, 123, 045701.	2.9	67
9	Crystal structure and equation of state of Fe-Si alloys at super-Earth core conditions. <i>Science Advances</i> , 2018, 4, eaao5864.	4.7	56
10	X-Ray Diffraction of Solid Tin to 1.2 $\hat{\text{A}}$ TPa. <i>Physical Review Letters</i> , 2015, 115, 075502.	2.9	52
11	Probing the Solid Phase of Noble Metal Copper at Terapascal Conditions. <i>Physical Review Letters</i> , 2020, 124, 015701.	2.9	43
12	Pressure-induced phase transitions in amorphous and metastable crystalline germanium by Raman scattering, x-ray spectroscopy, and <i>ab initio</i> calculations. <i>Physical Review B</i> , 2009, 80, .	1.1	42
13	X-ray diffraction at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2020, 91, 043902.	0.6	42
14	Measuring the melting curve of iron at super-Earth core conditions. <i>Science</i> , 2022, 375, 202-205.	6.0	39
15	X-ray diffraction of molybdenum under shock compression to 450 GPa. <i>Physical Review B</i> , 2015, 92, .	1.1	38
16	Measurement of Body-Centered-Cubic Aluminum at 475 $\hat{\text{A}}$ GPa. <i>Physical Review Letters</i> , 2017, 119, 175702.	2.9	37
17	X-ray diffraction of molybdenum under ramp compression to 1 TPa. <i>Physical Review B</i> , 2016, 94, .	1.1	33
18	Interplay between morphology and metallization in amorphous-amorphous transitions. <i>Physical Review B</i> , 2008, 78, .	1.1	31

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19	Equation of state of boron nitride combining computation, modeling, and experiment. <i>Physical Review B</i> , 2019, 99, .	1.1	28
20	Implications of the iron oxide phase transition on the interiors of rocky exoplanets. <i>Nature Geoscience</i> , 2021, 14, 121-126.	5.4	28
21	Lattice-level observation of the elastic-to-plastic relaxation process with subnanosecond resolution in shock-compressed Ta using time-resolved <i>in situ</i> Laue diffraction. <i>Physical Review B</i> , 2015, 92, .	1.1	27
22	A platform for x-ray absorption fine structure study of dynamically compressed materials above 1 Mbar. <i>Review of Scientific Instruments</i> , 2013, 84, 123105.	0.6	25
23	Optimized x-ray sources for x-ray diffraction measurements at the Omega Laser Facility. <i>Review of Scientific Instruments</i> , 2019, 90, 125113.	0.6	25
24	X-ray source development for EXAFS measurements on the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2017, 88, 083907.	0.6	22
25	Coordination changes in liquid tin under shock compression determined using <i>in situ</i> femtosecond x-ray diffraction. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	22
26	Measuring the shock impedance mismatch between high-density carbon and deuterium at the National Ignition Facility. <i>Physical Review B</i> , 2018, 97, .	1.1	21
27	Developing a high-flux, high-energy continuum backlighter for extended x-ray absorption fine structure measurements at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2018, 89, 10F114.	0.6	20
28	Recreating Giants Impacts in the Laboratory: Shock Compression of Bridgmanite to 14 Mbar. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL085476.	1.5	19
29	X-ray diffraction of ramp-compressed aluminum to 475 GPa. <i>Physics of Plasmas</i> , 2018, 25, .	0.7	17
30	Developing quartz and molybdenum as impedance-matching standards in the 100-Mbar regime. <i>Physical Review B</i> , 2019, 99, .	1.1	15
31	Laser shock XAFS studies at OMEGA facility. <i>High Pressure Research</i> , 2016, 36, 303-314.	0.4	14
32	Structural complexity in ramp-compressed sodium to 480 GPa. <i>Nature Communications</i> , 2022, 13, 2534.	5.8	14
33	X-ray spectrometer throughput model for (selected) flat Bragg crystal spectrometers on laser plasma facilities. <i>Review of Scientific Instruments</i> , 2018, 89, 10F119.	0.6	13
34	Optimized continuum x-ray emission from laser-generated plasma. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	12
35	Single photon energy dispersive x-ray diffraction. <i>Review of Scientific Instruments</i> , 2014, 85, 033906.	0.6	11
36	Shock equation of state of LiH to 1.1 TPa. <i>Physical Review B</i> , 2017, 96, .	1.1	11

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37	Melting of Tantalum at Multimegabar Pressures on the Nanosecond Timescale. <i>Physical Review Letters</i> , 2021, 126, 255701.	2.9	11
38	Structure and density of silicon carbide to 1.5 TPa and implications for extrasolar planets. <i>Nature Communications</i> , 2022, 13, 2260.	5.8	11
39	Combination of optical and X-ray techniques in the study of amorphous semiconductors under high pressure: an upgrade setup for combined XAS and XRD measurements. <i>High Pressure Research</i> , 2010, 30, 28-34.	0.4	10
40	Pressure-induced transformations in amorphous Si-Ge alloy. <i>Physical Review B</i> , 2012, 85, .	1.1	9
41	A new toroidal x-ray crystal spectrometer for the diagnosis of high energy density plasmas at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2018, 89, 10F118.	0.6	9
42	Foil backlighter development at the OMEGA laser facility for extended x-ray absorption fine structure experiments. <i>Review of Scientific Instruments</i> , 2020, 91, 086101.	0.6	7
43	Metastability of Liquid Water Freezing into Ice VII under Dynamic Compression. <i>Physical Review Letters</i> , 2021, 127, 135701.	2.9	7
44	The multi-optics high-resolution absorption x-ray spectrometer (HiRAXS) for studies of materials under extreme conditions. <i>Review of Scientific Instruments</i> , 2021, 92, 053102.	0.6	6
45	Quantitative measurements of density in shock-compressed silver up to 330 GPa using x-ray diffraction. <i>Journal of Applied Physics</i> , 2022, 131, .	1.1	6
46	Amorphous germanium under high-pressure conditions. <i>High Pressure Research</i> , 2009, 29, 103-107.	0.4	5
47	Emission phases of implosion sources for x-ray absorption fine structure spectroscopy. <i>Physics of Plasmas</i> , 2022, 29, .	0.7	5
48	Ramp compression of magnesium oxide to 234 GPa. <i>Journal of Physics: Conference Series</i> , 2014, 500, 062002.	0.3	4
49	A new class of focusing crystal shapes for Bragg spectroscopy of small, point-like, x-ray sources in laser produced plasmas. <i>Review of Scientific Instruments</i> , 2021, 92, 043531.	0.6	4
50	Quantitative analysis of diffraction by liquids using a pink-spectrum X-ray source. <i>Journal of Synchrotron Radiation</i> , 2022, 29, 1033-1042.	1.0	4
51	Local structure of liquid and undercooled liquid Cu probed by x-ray absorption spectroscopy.. <i>Journal of Physics: Conference Series</i> , 2008, 121, 042009.	0.3	3
52	Hydrodynamic growth experiments with the 3-D, "native-roughness" modulations on NIF. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012052.	0.3	3
53	Long duration x-ray source development for x-ray diffraction at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2021, 92, 053904.	0.6	3
54	Techniques for studying materials under extreme states of high energy density compression. <i>Physics of Plasmas</i> , 2021, 28, 060901.	0.7	3

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55	Development of slurry targets for high repetition-rate x-ray free electron laser experiments. Journal of Applied Physics, 2022, 131, .	1.1	3
56	Pressure effects on icosahedral short range order in undercooled copper. Solid State Sciences, 2010, 12, 179-182.	1.5	1
57	Long-Duration X-Ray Source Development for X-Ray Diffraction at The National Ignition Facility. , 2021, , .		0