

Dayne E Fratanduono

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

73 papers	1,774 citations	25 h-index	38 g-index
80 ext. papers	2,190 ext. citations	6.3 avg, IF	4.39 L-index

#	Paper	IF	Citations
73	Quantitative measurements of density in shock-compressed silver up to 330 GPa using x-ray diffraction. <i>Journal of Applied Physics</i> , 2022 , 131, 015901	2.5	0
72	Measuring the melting curve of iron at super-Earth core conditions.. <i>Science</i> , 2022 , 375, 202-205	33.3	10
71	Shock-compressed silicon: Hugoniot and sound speed up to 2100 GPa. <i>Physical Review B</i> , 2021 , 103,	3.3	4
70	The Principal Hugoniot of Iron-Bearing Olivine to 1465 GPa. <i>Geophysical Research Letters</i> , 2021 , 48, e2021GL092471	4.9	1
69	Melting of Tantalum at Multimegabar Pressures on the Nanosecond Timescale. <i>Physical Review Letters</i> , 2021 , 126, 255701	7.4	4
68	Establishing gold and platinum standards to 1 terapascal using shockless compression. <i>Science</i> , 2021 , 372, 1063-1068	33.3	18
67	Melting of magnesium oxide up to two terapascals using double-shock compression. <i>Physical Review B</i> , 2021 , 104,	3.3	3
66	Metastability of diamond ramp-compressed to 2 terapascals. <i>Nature</i> , 2021 , 589, 532-535	50.4	30
65	Equation-of-state, sound speed, and reshock of shock-compressed fluid carbon dioxide. <i>Physics of Plasmas</i> , 2021 , 28, 022708	2.1	0
64	Metastability of Liquid Water Freezing into Ice VII under Dynamic Compression. <i>Physical Review Letters</i> , 2021 , 127, 135701	7.4	2
63	Measurement of the sound velocity and Grüneisen parameter of polystyrene at inertial confinement fusion conditions. <i>Physical Review B</i> , 2020 , 102,	3.3	4
62	Probing the Solid Phase of Noble Metal Copper at Terapascal Conditions. <i>Physical Review Letters</i> , 2020 , 124, 015701	7.4	23
61	Recreating Giants Impacts in the Laboratory: Shock Compression of Bridgmanite to 14 Mbar. <i>Geophysical Research Letters</i> , 2020 , 47, e2019GL085476	4.9	12
60	X-ray diffraction at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2020 , 91, 043902	1.7	24
59	Equation of State of CO ₂ Shock Compressed to 1 TPa. <i>Physical Review Letters</i> , 2020 , 125, 165701	7.4	7
58	Toward an international practical pressure scale: A proposal for an IPPS ruby gauge (IPPS-Ruby2020). <i>High Pressure Research</i> , 2020 , 40, 299-314	1.6	41
57	Non-iterative characteristics analysis for high-pressure ramp loading. <i>Review of Scientific Instruments</i> , 2019 , 90, 093903	1.7	1

56	Measurement of the sound speed in dense fluid deuterium along the cryogenic liquid Hugoniot. <i>Physics of Plasmas</i> , 2019 , 26, 012710	2.1	7
55	In situ observation of a phase transition in silicon carbide under shock compression using pulsed x-ray diffraction. <i>Physical Review B</i> , 2019 , 99,	3.3	12
54	Developing quartz and molybdenum as impedance-matching standards in the 100-Mbar regime. <i>Physical Review B</i> , 2019 , 99,	3.3	10
53	Refractive index of lithium fluoride to 900 gigapascal and implications for dynamic equation of state measurements. <i>Journal of Applied Physics</i> , 2019 , 125, 175901	2.5	17
52	Response to Comment on "Insulator-metal transition in dense fluid deuterium". <i>Science</i> , 2019 , 363,	33.3	4
51	Recovery of metastable dense Bi synthesized by shock compression. <i>Applied Physics Letters</i> , 2019 , 114, 120601	3.4	9
50	Measurement of Body-Centered Cubic Gold and Melting under Shock Compression. <i>Physical Review Letters</i> , 2019 , 123, 045701	7.4	41
49	Hugoniot, sound velocity, and shock temperature of MgO to 2300 GPa. <i>Physical Review B</i> , 2019 , 100,	3.3	9
48	Identification of Phase Transitions and Metastability in Dynamically Compressed Antimony Using Ultrafast X-Ray Diffraction. <i>Physical Review Letters</i> , 2019 , 122, 255704	7.4	21
47	Shock Compression of Liquid Deuterium up to 1 TPa. <i>Physical Review Letters</i> , 2019 , 122, 255702	7.4	15
46	Coordination changes in liquid tin under shock compression determined using in situ femtosecond x-ray diffraction. <i>Applied Physics Letters</i> , 2019 , 115, 264101	3.4	16
45	Measuring the shock impedance mismatch between high-density carbon and deuterium at the National Ignition Facility. <i>Physical Review B</i> , 2018 , 97,	3.3	16
44	Crystal structure and equation of state of Fe-Si alloys at super-Earth core conditions. <i>Science Advances</i> , 2018 , 4, eaao5864	14.3	33
43	Equation of state of iron under core conditions of large rocky exoplanets. <i>Nature Astronomy</i> , 2018 , 2, 452-458	12.1	36
42	Experimental evidence for superionic water ice using shock compression. <i>Nature Physics</i> , 2018 , 14, 297-302	10.2	112
41	The Principal Hugoniot of Forsterite to 950 GPa. <i>Geophysical Research Letters</i> , 2018 , 45, 3865-3872	4.9	21
40	Thermodynamic properties of MgSiO ₃ at super-Earth mantle conditions. <i>Physical Review B</i> , 2018 , 97,	3.3	20
39	Absolute Equation-of-State Measurement for Polystyrene from 25 to 60 Mbar Using a Spherically Converging Shock Wave. <i>Physical Review Letters</i> , 2018 , 121, 025001	7.4	30

38	X-ray diffraction of ramp-compressed aluminum to 475 GPa. <i>Physics of Plasmas</i> , 2018 , 25, 082709	2.1	9
37	Insulator-metal transition in dense fluid deuterium. <i>Science</i> , 2018 , 361, 677-682	33.3	83
36	Femtosecond diffraction studies of solid and liquid phase changes in shock-compressed bismuth. <i>Scientific Reports</i> , 2018 , 8, 16927	4.9	27
35	Ultrafast X-Ray Diffraction Studies of the Phase Transitions and Equation of State of Scandium Shock Compressed to 82 GPa. <i>Physical Review Letters</i> , 2017 , 118, 025501	7.4	44
34	Examining the radiation drive asymmetries present in the high foot series of implosion experiments at the National Ignition Facility. <i>Physics of Plasmas</i> , 2017 , 24, 056306	2.1	27
33	An iterative forward analysis technique to determine the equation of state of dynamically compressed materials. <i>Journal of Applied Physics</i> , 2017 , 121, 195901	2.5	10
32	Measurement of Body-Centered-Cubic Aluminum at 475 GPa. <i>Physical Review Letters</i> , 2017 , 119, 175702	7.4	19
31	Shock equation of state of LiH ₆ to 1.1 TPa. <i>Physical Review B</i> , 2017 , 96,	3.3	8
30	Properties of B ₄ C in the shocked state for pressures up to 1.5 TPa. <i>Physical Review B</i> , 2017 , 95,	3.3	10
29	Hugoniot and release measurements in diamond shocked up to 26 Mbar. <i>Physical Review B</i> , 2017 , 95,	3.3	27
28	Design of a line-VISAR interferometer system for the Sandia Z Machine 2017 ,		2
27	X-ray diffraction of molybdenum under ramp compression to 1 TPa. <i>Physical Review B</i> , 2016 , 94,	3.3	21
26	Dynamic compression of copper to over 450 GPa: A high-pressure standard. <i>Physical Review B</i> , 2016 , 93,	3.3	32
25	Equations of State for Ablator Materials in Inertial Confinement Fusion Simulations. <i>Journal of Physics: Conference Series</i> , 2016 , 717, 012082	0.3	12
24	Equation of state, adiabatic sound speed, and Grüneisen coefficient of boron carbide along the principal Hugoniot to 700 GPa. <i>Physical Review B</i> , 2016 , 94,	3.3	20
23	Shock-wave equation-of-state measurements in fused silica up to 1600 GPa. <i>Journal of Applied Physics</i> , 2016 , 119, 215901	2.5	23
22	The Hugoniot and chemistry of ablator plastic below 100 GPa. <i>Journal of Applied Physics</i> , 2016 , 119, 045901	2.1	3
21	Absolute calibration of the OMEGA streaked optical pyrometer for temperature measurements of compressed materials. <i>Review of Scientific Instruments</i> , 2016 , 87, 114903	1.7	27

20	Measurements of the sound velocity of shock-compressed liquid silica to 1100 GPa. <i>Journal of Applied Physics</i> , 2016 , 120, 235901	2.5	13
19	The effect of nearly steady shock waves in ramp compression experiments. <i>Journal of Applied Physics</i> , 2015 , 117, 245903	2.5	9
18	Ultrafast visualization of crystallization and grain growth in shock-compressed SiO ₂ . <i>Nature Communications</i> , 2015 , 6, 8191	17.4	85
17	Reply to Comment on Molybdenum sound velocity and shear modulus softening under shock compression. <i>Physical Review B</i> , 2015 , 92,	3.3	5
16	X-ray diffraction of molybdenum under shock compression to 450 GPa. <i>Physical Review B</i> , 2015 , 92,	3.3	32
15	Direct Observation of Melting in Shock-Compressed Bismuth With Femtosecond X-ray Diffraction. <i>Physical Review Letters</i> , 2015 , 115, 095701	7.4	53
14	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, 195901	2.5	55
13	X-ray area backlighter development at the National Ignition Facility (invited). <i>Review of Scientific Instruments</i> , 2014 , 85, 11D502	1.7	19
12	Molybdenum sound velocity and shear modulus softening under shock compression. <i>Physical Review B</i> , 2014 , 89,	3.3	32
11	Internal target reflections and line-imaging velocimetry. <i>High Energy Density Physics</i> , 2014 , 11, 26-29	1.2	4
10	Shock-ignition relevant experiments with planar targets on OMEGA. <i>Physics of Plasmas</i> , 2014 , 21, 022702.1	2.1	37
9	Hugoniot experiments with unsteady waves. <i>Journal of Applied Physics</i> , 2014 , 116, 033517	2.5	21
8	Solid iron compressed up to 560 GPa. <i>Physical Review Letters</i> , 2013 , 111, 065501	7.4	111
7	A novel approach to Hugoniot measurements utilizing transparent crystals. <i>Journal of Applied Physics</i> , 2013 , 114, 043518	2.5	24
6	Precision equation-of-state measurements on National Ignition Facility ablator materials from 1 to 12 Mbar using laser-driven shock waves. <i>Journal of Applied Physics</i> , 2012 , 111, 093515	2.5	33
5	Plasma-accelerated flyer-plates for equation of state studies. <i>Review of Scientific Instruments</i> , 2012 , 83, 073504	1.7	10
4	Index of refraction of shock-released materials. <i>Journal of Applied Physics</i> , 2011 , 110, 083509	2.5	12
3	Refractive index of lithium fluoride ramp compressed to 800 GPa. <i>Journal of Applied Physics</i> , 2011 , 109, 123521	2.5	50

- 2 The direct measurement of ablation pressure driven by 351-nm laser radiation. *Journal of Applied Physics*, **2011**, 110, 073110 2.5 36
- 1 High-precision measurements of the equation of state of hydrocarbons at 100 Mbar using laser-driven shock waves). *Physics of Plasmas*, **2010**, 17, 056307 2.1 102