

# Dayne E Fratanduono

## List of Publications by Citations

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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	Experimental evidence for superionic water ice using shock compression. <i>Nature Physics</i> , <b>2018</b> , 14, 297-302	10.2	112
72	Solid iron compressed up to 560 GPa. <i>Physical Review Letters</i> , <b>2013</b> , 111, 065501	7.4	111
71	High-precision measurements of the equation of state of hydrocarbons at 100 Mbar using laser-driven shock waves. <i>Physics of Plasmas</i> , <b>2010</b> , 17, 056307	2.1	102
70	Ultrafast visualization of crystallization and grain growth in shock-compressed SiO <sub>2</sub> . <i>Nature Communications</i> , <b>2015</b> , 6, 8191	17.4	85
69	Insulator-metal transition in dense fluid deuterium. <i>Science</i> , <b>2018</b> , 361, 677-682	33.3	83
68	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> , <b>2015</b> , 118, 195901	2.5	55
67	Direct Observation of Melting in Shock-Compressed Bismuth With Femtosecond X-ray Diffraction. <i>Physical Review Letters</i> , <b>2015</b> , 115, 095701	7.4	53
66	Refractive index of lithium fluoride ramp compressed to 800 GPa. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 123521	2.5	50
65	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> , <b>2017</b> , 118, 025501	7.4	44
64	Measurement of Body-Centered Cubic Gold and Melting under Shock Compression. <i>Physical Review Letters</i> , <b>2019</b> , 123, 045701	7.4	41
63	Toward an international practical pressure scale: A proposal for an IPPS ruby gauge (IPPS-Ruby2020). <i>High Pressure Research</i> , <b>2020</b> , 40, 299-314	1.6	41
62	Shock-ignition relevant experiments with planar targets on OMEGA. <i>Physics of Plasmas</i> , <b>2014</b> , 21, 022702	2.1	37
61	Equation of state of iron under core conditions of large rocky exoplanets. <i>Nature Astronomy</i> , <b>2018</b> , 2, 452-458	12.1	36
60	The direct measurement of ablation pressure driven by 351-nm laser radiation. <i>Journal of Applied Physics</i> , <b>2011</b> , 110, 073110	2.5	36
59	Crystal structure and equation of state of Fe-Si alloys at super-Earth core conditions. <i>Science Advances</i> , <b>2018</b> , 4, eaao5864	14.3	33
58	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> , <b>2012</b> , 111, 093515	2.5	33
57	Dynamic compression of copper to over 450 GPa: A high-pressure standard. <i>Physical Review B</i> , <b>2016</b> , 93,	3.3	32

56	Molybdenum sound velocity and shear modulus softening under shock compression. <i>Physical Review B</i> , <b>2014</b> , 89,	3.3	32
55	X-ray diffraction of molybdenum under shock compression to 450 GPa. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	32
54	Absolute Equation-of-State Measurement for Polystyrene from 25 to 60 Mbar Using a Spherically Converging Shock Wave. <i>Physical Review Letters</i> , <b>2018</b> , 121, 025001	7.4	30
53	Metastability of diamond ramp-compressed to 2 terapascals. <i>Nature</i> , <b>2021</b> , 589, 532-535	50.4	30
52	Examining the radiation drive asymmetries present in the high foot series of implosion experiments at the National Ignition Facility. <i>Physics of Plasmas</i> , <b>2017</b> , 24, 056306	2.1	27
51	Hugoniot and release measurements in diamond shocked up to 26 Mbar. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	27
50	Absolute calibration of the OMEGA streaked optical pyrometer for temperature measurements of compressed materials. <i>Review of Scientific Instruments</i> , <b>2016</b> , 87, 114903	1.7	27
49	Femtosecond diffraction studies of solid and liquid phase changes in shock-compressed bismuth. <i>Scientific Reports</i> , <b>2018</b> , 8, 16927	4.9	27
48	X-ray diffraction at the National Ignition Facility. <i>Review of Scientific Instruments</i> , <b>2020</b> , 91, 043902	1.7	24
47	A novel approach to Hugoniot measurements utilizing transparent crystals. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 043518	2.5	24
46	Probing the Solid Phase of Noble Metal Copper at Terapascal Conditions. <i>Physical Review Letters</i> , <b>2020</b> , 124, 015701	7.4	23
45	Shock-wave equation-of-state measurements in fused silica up to 1600 GPa. <i>Journal of Applied Physics</i> , <b>2016</b> , 119, 215901	2.5	23
44	The Principal Hugoniot of Forsterite to 950 GPa. <i>Geophysical Research Letters</i> , <b>2018</b> , 45, 3865-3872	4.9	21
43	X-ray diffraction of molybdenum under ramp compression to 1 TPa. <i>Physical Review B</i> , <b>2016</b> , 94,	3.3	21
42	Identification of Phase Transitions and Metastability in Dynamically Compressed Antimony Using Ultrafast X-Ray Diffraction. <i>Physical Review Letters</i> , <b>2019</b> , 122, 255704	7.4	21
41	Hugoniot experiments with unsteady waves. <i>Journal of Applied Physics</i> , <b>2014</b> , 116, 033517	2.5	21
40	Thermodynamic properties of MgSiO <sub>3</sub> at super-Earth mantle conditions. <i>Physical Review B</i> , <b>2018</b> , 97,	3.3	20
39	Equation of state, adiabatic sound speed, and Grüneisen coefficient of boron carbide along the principal Hugoniot to 700 GPa. <i>Physical Review B</i> , <b>2016</b> , 94,	3.3	20

38	Measurement of Body-Centered-Cubic Aluminum at 475 GPa. <i>Physical Review Letters</i> , <b>2017</b> , 119, 175702	7.4	19
37	X-ray area backlighter development at the National Ignition Facility (invited). <i>Review of Scientific Instruments</i> , <b>2014</b> , 85, 11D502	1.7	19
36	Establishing gold and platinum standards to 1 terapascal using shockless compression. <i>Science</i> , <b>2021</b> , 372, 1063-1068	33.3	18
35	Refractive index of lithium fluoride to 900 gigapascal and implications for dynamic equation of state measurements. <i>Journal of Applied Physics</i> , <b>2019</b> , 125, 175901	2.5	17
34	Measuring the shock impedance mismatch between high-density carbon and deuterium at the National Ignition Facility. <i>Physical Review B</i> , <b>2018</b> , 97,	3.3	16
33	Coordination changes in liquid tin under shock compression determined using in situ femtosecond x-ray diffraction. <i>Applied Physics Letters</i> , <b>2019</b> , 115, 264101	3.4	16
32	Shock Compression of Liquid Deuterium up to 1 TPa. <i>Physical Review Letters</i> , <b>2019</b> , 122, 255702	7.4	15
31	Measurements of the sound velocity of shock-compressed liquid silica to 1100 GPa. <i>Journal of Applied Physics</i> , <b>2016</b> , 120, 235901	2.5	13
30	In situ observation of a phase transition in silicon carbide under shock compression using pulsed x-ray diffraction. <i>Physical Review B</i> , <b>2019</b> , 99,	3.3	12
29	Recreating Giants Impacts in the Laboratory: Shock Compression of Bridgmanite to 14 Mbar. <i>Geophysical Research Letters</i> , <b>2020</b> , 47, e2019GL085476	4.9	12
28	Equations of State for Ablator Materials in Inertial Confinement Fusion Simulations. <i>Journal of Physics: Conference Series</i> , <b>2016</b> , 717, 012082	0.3	12
27	Index of refraction of shock-released materials. <i>Journal of Applied Physics</i> , <b>2011</b> , 110, 083509	2.5	12
26	An iterative forward analysis technique to determine the equation of state of dynamically compressed materials. <i>Journal of Applied Physics</i> , <b>2017</b> , 121, 195901	2.5	10
25	Developing quartz and molybdenum as impedance-matching standards in the 100-Mbar regime. <i>Physical Review B</i> , <b>2019</b> , 99,	3.3	10
24	Properties of B4C in the shocked state for pressures up to 1.5 TPa. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	10
23	Plasma-accelerated flyer-plates for equation of state studies. <i>Review of Scientific Instruments</i> , <b>2012</b> , 83, 073504	1.7	10
22	Measuring the melting curve of iron at super-Earth core conditions.. <i>Science</i> , <b>2022</b> , 375, 202-205	33.3	10
21	Recovery of metastable dense Bi synthesized by shock compression. <i>Applied Physics Letters</i> , <b>2019</b> , 114, 120601	3.4	9

20	The effect of nearly steady shock waves in ramp compression experiments. <i>Journal of Applied Physics</i> , <b>2015</b> , 117, 245903	2.5	9
19	X-ray diffraction of ramp-compressed aluminum to 475 GPa. <i>Physics of Plasmas</i> , <b>2018</b> , 25, 082709	2.1	9
18	Hugoniot, sound velocity, and shock temperature of MgO to 2300 GPa. <i>Physical Review B</i> , <b>2019</b> , 100,	3.3	9
17	Shock equation of state of LiH6 to 1.1 TPa. <i>Physical Review B</i> , <b>2017</b> , 96,	3.3	8
16	Measurement of the sound speed in dense fluid deuterium along the cryogenic liquid Hugoniot. <i>Physics of Plasmas</i> , <b>2019</b> , 26, 012710	2.1	7
15	Equation of State of CO <sub>2</sub> Shock Compressed to 1 TPa. <i>Physical Review Letters</i> , <b>2020</b> , 125, 165701	7.4	7
14	Reply to Comment on Molybdenum sound velocity and shear modulus softening under shock compression <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	5
13	Response to Comment on "Insulator-metal transition in dense fluid deuterium". <i>Science</i> , <b>2019</b> , 363,	33.3	4
12	Measurement of the sound velocity and Grüneisen parameter of polystyrene at inertial confinement fusion conditions. <i>Physical Review B</i> , <b>2020</b> , 102,	3.3	4
11	Internal target reflections and line-imaging velocimetry. <i>High Energy Density Physics</i> , <b>2014</b> , 11, 26-29	1.2	4
10	Shock-compressed silicon: Hugoniot and sound speed up to 2100 GPa. <i>Physical Review B</i> , <b>2021</b> , 103,	3.3	4
9	Melting of Tantalum at Multimegabar Pressures on the Nanosecond Timescale. <i>Physical Review Letters</i> , <b>2021</b> , 126, 255701	7.4	4
8	Melting of magnesium oxide up to two terapascals using double-shock compression. <i>Physical Review B</i> , <b>2021</b> , 104,	3.3	3
7	The Hugoniot and chemistry of ablator plastic below 100 GPa. <i>Journal of Applied Physics</i> , <b>2016</b> , 119, 045901	2.5	3
6	Design of a line-VISAR interferometer system for the Sandia Z Machine <b>2017</b> ,		2
5	Metastability of Liquid Water Freezing into Ice VII under Dynamic Compression. <i>Physical Review Letters</i> , <b>2021</b> , 127, 135701	7.4	2
4	Non-iterative characteristics analysis for high-pressure ramp loading. <i>Review of Scientific Instruments</i> , <b>2019</b> , 90, 093903	1.7	1
3	The Principal Hugoniot of Iron-Bearing Olivine to 1465 GPa. <i>Geophysical Research Letters</i> , <b>2021</b> , 48, e2021GL092471	1.6	1

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| 2 | Quantitative measurements of density in shock-compressed silver up to 330 GPa using x-ray diffraction. <i>Journal of Applied Physics</i> , <b>2022</b> , 131, 015901 | 2.5 | ○ |
| 1 | Equation-of-state, sound speed, and reshock of shock-compressed fluid carbon dioxide. <i>Physics of Plasmas</i> , <b>2021</b> , 28, 022708                           | 2.1 | ○ |