Marcus D Knudson

List of Publications by Year
in descending order

53 papers	3,503 citations	186265 28 h-index	182427 51 g-index
54 all docs	54 docs citations	54 times ranked	1661 citing authors

#	Article	IF	Citations
1	A compact x-ray diffraction system for dynamic compression experiments on pulsed-power generators. Review of Scientific Instruments, 2022, 93, .	1.3	2
2	Platinum equationÂof state to greater than two terapascals: Experimental data and analytical models. Physical Review B, 2022, 105, .	3.2	8
3	Techniques for studying materials under extreme states of high energy density compression. Physics of Plasmas, 2021, 28, 060901.	1.9	3
4	Interplay of high-precision shock wave experiments with first-principles theory to explore molecular systems at extreme conditions: A perspective. Journal of Applied Physics, 2021, 129, .	2.5	3
5	Review of pulsed power-driven high energy density physics research on Z at Sandia. Physics of Plasmas, 2020, 27, .	1.9	140
6	Shock compression response of diamond single crystals at multimegabar stresses. Physical Review B, 2020, 101, .	3.2	9
7	Thermodynamics of the insulator-metal transition in dense liquid deuterium. Physical Review B, 2020, 101, .	3.2	6
8	Sound velocity, shear modulus, and shock melting of beryllium along the Hugoniot. Physical Review B, 2019, 100, .	3.2	17
9	Mechanical and optical response of polymethylpentene under dynamic compression. Journal of Applied Physics, 2019, 126, .	2.5	5
10	Shock compression of fused silica: An impedance matching standard. Journal of Applied Physics, 2019, 126, .	2.5	13
11	Comment on â€œInsulator-metal transition in dense fluid deuteriumâ€• Science, 2019, 363, .	12.6	5
12	Equation of state and optical properties of warm dense helium. Physics of Plasmas, 2018, 25, .	1.9	18
13	Evaluation of exchange-correlation functionals with multiple-shock conductivity measurements in hydrogen and deuterium at the molecular-to-atomic transition. Physical Review B, 2018, 98, .	3.2	17
14	High-Precision Shock Wave Measurements of Deuterium: Evaluation of Exchange-Correlation Functionals at the Molecular-to-Atomic Transition. Physical Review Letters, 2017, 118, 035501.	7.8	68
15	Lagrangian technique to calculate window interface velocity from shock velocity measurements: Application for quartz windows. Journal of Applied Physics, 2017, 122, 085901.	2.5	2
16	Extension of the Hugoniot and analytical release model of <i>Î±</i>-quartz to 0.2â€"3 TPa. Journal of Applied Physics, 2017, 122, .	2.5	40
17	Absolute measurement of the Hugoniot and sound velocity of liquid copper at multimegabar pressures. Physical Review B, 2017, 96, .	3.2	24
18	Probing off-Hugoniot states in Ta, Cu, and Al to 1000â€‰GPa compression with magnetically driven liner implosions. Journal of Applied Physics, 2016, 119, .	2.5	40

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19	Shock compression experiments on Lithium Deuteride (LiD) single crystals. Journal of Applied Physics, 2016, 120, .	2.5	11
20	Shock compression response of poly(4-methyl-1-pentene) plastic to 985â€‰GPa. Journal of Applied Physics, 2015, 118, .	2.5	19
21	Adiabatic release measurements in aluminum between 400 and 1200 GPa: Characterization of aluminum as a shock standard in the multimegabar regime. Physical Review B, 2015, 91, .	3.2	26
22	Direct observation of an abrupt insulator-to-metal transition in dense liquid deuterium. Science, 2015, 348, 1455-1460.	12.6	241
23	On the scaling of the magnetically accelerated flyer plate technique to currents greater than 20 MA. Journal of Physics: Conference Series, 2014, 500, 152009.	0.4	7
24	Determining the refractive index of shocked [100] lithium fluoride to the limit of transmissibility. Journal of Applied Physics, 2014, 116, .	2.5	109
25	Shock response of low-density silica aerogel in the multi-Mbar regime. Journal of Applied Physics, 2013, 114, .	2.5	32
26	Adiabatic release measurements in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>-quartz between 300 and 1200 GPa: Characterization of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>-quartz as a shock standard in the multimegabar regime. Physical Review B, 2013, 88, .	3.2	105
27	Megaamps, megagauss, and megabars: Using the Sandia Z Machine to perform extreme material dynamics experiments. AIP Conference Proceedings, 2012, , .	0.4	15
28	Probing the Interiors of the Ice Giants: Shock Compression of Water to 700 GPa and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>3.8</mml:mn><mml:mtext>â€‰</mml:mtext><mml:mtext>â€‰</mml:mtext><mml:m mathvariant="bold">g</mml:mi><mml:mo>/</mml:mo><mml:msup><mml:mi>cm</mml:mi><mml:mn>3</mml:mn></mml:msup></mm Physical Review Letters, 2012, 108, 091102.	7.8	130
29	Solid liner implosions on Z for producing multi-megabar, shockless compressions. Physics of Plasmas, 2012, 19, .	1.9	54
30	High accuracy Hugoniot measurements at multi-megabar pressure utilizing the Sandia Z accelerator. Journal of Physics: Conference Series, 2010, 215, 012150.	0.4	1
31	The science, technology, and applications of Terawatt-class pulsed power drivers at Sandia National Laboratories. , 2010, , .		1
32	Strength of lithium fluoride under shockless compression to 114 GPa. Journal of Applied Physics, 2009, 106, .	2.5	46
33	Shock Compression of Quartz to 1.6 TPa: Redefining a Pressure Standard. Physical Review Letters, 2009, 103, 225501.	7.8	190
34	Shock-Wave Exploration of the High-Pressure Phases of Carbon. Science, 2008, 322, 1822-1825.	12.6	224
35	Time-resolved optical spectroscopy measurements of shocked liquid deuterium. Physical Review B, 2008, 78, .	3.2	43
36	Magnetically driven isentropic compression to multimegabar pressures using shaped current pulses on the Z accelerator. Physics of Plasmas, 2005, 12, 056310.	1.9	104

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37	Magnetically accelerated, ultrahigh velocity flyer plates for shock wave experiments. Journal of Applied Physics, 2005, 98, 073530.	2.5	129
38	Adiabatic release measurements in aluminum from 240-to500-GPa states on the principal Hugoniot. Journal of Applied Physics, 2005, 97, 073514.	2.5	57
39	Pulsed-power-driven high energy density physics and inertial confinement fusion research. Physics of Plasmas, 2005, 12, 055503.	1.9	280
40	Principal Hugoniot, reverberating wave, and mechanical reshock measurements of liquid deuterium to 400 GPa using plate impact techniques. Physical Review B, 2004, 69, .	3.2	207
41	Near-absolute Hugoniot measurements in aluminum to 500 GPa using a magnetically accelerated flyer plate technique. Journal of Applied Physics, 2003, 94, 4420-4431.	2.5	134
42	Self-consistent, two-dimensional, magnetohydrodynamic simulations of magnetically driven flyer plates. Physics of Plasmas, 2003, 10, 1867-1874.	1.9	63
43	Characterization of magnetically accelerated flyer plates. Physics of Plasmas, 2003, 10, 1092-1099.	1.9	75
44	Transformation kinetics for the shock wave induced phase transition in cadmium sulfide crystals. Journal of Applied Physics, 2002, 91, 9561.	2.5	25
45	Equation of State Measurements in Liquid Deuterium to 70 GPa. Physical Review Letters, 2001, 87, 225501.	7.8	266
46	Magnetically driven isentropic compression experiments on the Z accelerator. Journal of Applied Physics, 2001, 89, 1625.	2.5	116
47	Experimental configuration for isentropic compression of solids using pulsed magnetic loading. Review of Scientific Instruments, 2001, 72, 3587-3595.	1.3	174
48	Transformation mechanism and kinetics for the pressure-induced phase transition in shocked CdS. AIP Conference Proceedings, 2000, , .	0.4	0
49	Equation of state and temperature measurements for shocked nitromethane. Journal of Chemical Physics, 2000, 113, 7492-7501.	3.0	51
50	Feasibility of stimulated emission to measure R-line shifts in shock compressed ruby. Journal of Applied Physics, 1999, 85, 6425-6429.	2.5	4
51	Picosecond time-resolved electronic spectroscopy in plate impact shock experiments: Experimental development. Review of Scientific Instruments, 1999, 70, 1743-1750.	1.3	12
52	Transformation mechanism for the pressure-induced phase transition in shocked CdS. Physical Review B, 1999, 59, 11704-11715.	3.2	86
53	Real-Time Observation of a Metastable State during the Phase Transition in Shocked Cadmium Sulfide. Physical Review Letters, 1998, 81, 2938-2941.	7.8	46