

Daniel E Eakins

List of Publications by Year in descending order

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70
papers

1,009
citations

430874

18
h-index

454955

30
g-index

72
all docs

72
docs citations

72
times ranked

1079
citing authors

#	ARTICLE	IF	CITATIONS
1	The elastic-plastic response of aluminum films to ultrafast laser-generated shocks. <i>Journal of Applied Physics</i> , 2011, 109, .	2.5	123
2	Shock compression of reactive powder mixtures. <i>International Materials Reviews</i> , 2009, 54, 181-213.	19.3	95
3	Attenuation of the Dynamic Yield Point of Shocked Aluminum Using Elastodynamic Simulations of Dislocation Dynamics. <i>Physical Review Letters</i> , 2015, 114, 174301.	7.8	62
4	On the formation of adiabatic shear bands in textured HCP polycrystals. <i>International Journal of Plasticity</i> , 2016, 79, 196-216.	8.8	54
5	Probing local and electronic structure in Warm Dense Matter: single pulse synchrotron x-ray absorption spectroscopy on shocked Fe. <i>Scientific Reports</i> , 2016, 6, 26402.	3.3	50
6	A dynamic discrete dislocation plasticity method for the simulation of plastic relaxation under shock loading. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2013, 469, 20130141.	2.1	48
7	Ultrafast Imaging of Laser Driven Shock Waves using Betatron X-rays from a Laser Wakefield Accelerator. <i>Scientific Reports</i> , 2018, 8, 11010.	3.3	40
8	Evaluating scintillator performance in time-resolved hard X-ray studies at synchrotron light sources. <i>Journal of Synchrotron Radiation</i> , 2016, 23, 685-693.	2.4	31
9	The shock-densification behavior of three distinct Ni+Al powder mixtures. <i>Applied Physics Letters</i> , 2008, 92, .	3.3	28
10	Plate-impact loading of cellular structures formed by selective laser melting. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2014, 22, 025021.	2.0	28
11	Ultra-high-speed indirect x-ray imaging system with versatile spatiotemporal sampling capabilities. <i>Applied Optics</i> , 2018, 57, 5004.	1.8	26
12	Index of refraction measurements and window corrections for PMMA under shock compression. <i>AIP Conference Proceedings</i> , 2012, , .	0.4	24
13	Structural and Mechanical Characteristics of Anodic Oxide Films on Titanium. <i>Corrosion</i> , 2001, 57, 523-531.	1.1	23
14	Dynamic densification behavior of nanoiron powders under shock compression. <i>Journal of Applied Physics</i> , 2008, 103, .	2.5	23
15	Instrumented Taylor anvil-on-rod impact tests for validating applicability of standard strength models to transient deformation states. <i>Journal of Applied Physics</i> , 2006, 100, 073503.	2.5	22
16	A single camera three-dimensional digital image correlation system for the study of adiabatic shear bands. <i>Strain</i> , 2017, 53, e12226.	2.4	21
17	Probing the early stages of shock-induced chondritic meteorite formation at the mesoscale. <i>Scientific Reports</i> , 2017, 7, 45206.	3.3	21
18	X-ray imaging of subsurface dynamics in high-Z materials at the Diamond Light Source. <i>Review of Scientific Instruments</i> , 2014, 85, 123708.	1.3	20

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19	Collapse dynamics of spherical cavities in a solid under shock loading. <i>Scientific Reports</i> , 2020, 10, 8455.	3.3	19
20	Mechanics of shock induced pore collapse in poly(methyl methacrylate) (PMMA): Comparison of simulations and experiments. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 143, 104075.	4.8	19
21	The Role of Homogeneous Nucleation in Planar Dynamic Discrete Dislocation Plasticity. <i>Journal of Applied Mechanics</i> , <i>Transactions ASME</i> , 2015, 82, .	2.2	16
22	An in situ TEM study of phase formation in gold-aluminum couples. <i>Journal of Materials Science</i> , 2004, 39, 165-171.	3.7	14
23	Picosecond dynamics of a shock-driven displacive phase transformation in Zr. <i>Physical Review B</i> , 2016, 93, .	3.2	14
24	Observations on the nucleation of ice VII in compressed water. <i>AIP Conference Proceedings</i> , 2017, , .	0.4	14
25	Shock compression response of nanoiron powder compact. <i>Applied Physics Letters</i> , 2007, 90, 071911.	3.3	13
26	A gas gun based technique for studying the role of temperature in dynamic fracture and fragmentation. <i>Journal of Applied Physics</i> , 2013, 114, 173508.	2.5	12
27	Impact-induced compaction of primitive solar system solids: The need for mesoscale modelling and experiments. <i>Procedia Engineering</i> , 2017, 204, 405-412.	1.2	12
28	Investigation of Shock-Induced Reactions in a Ni+Al Powder Mixture. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	10
29	Dynamic Discrete Dislocation Plasticity. <i>Advances in Applied Mechanics</i> , 2014, , 93-224.	2.3	10
30	The mechanical response of commercially pure copper under multiaxial loading at low and high strain rates. <i>International Journal of Mechanical Sciences</i> , 2022, 224, 107340.	6.7	10
31	Comparison of Simultaneous Shock Temperature Measurements from Three Different Pyrometry Systems. <i>Journal of Dynamic Behavior of Materials</i> , 2019, 5, 396-408.	1.7	9
32	Role of Constituent Configuration on Shock-Induced Reactions in a Ni+Al Powder Mixture. <i>Materials Research Society Symposia Proceedings</i> , 2005, 896, 41.	0.1	8
33	Hugoniot Measurements Utilizing In Situ Synchrotron X-ray Radiation. <i>Journal of Dynamic Behavior of Materials</i> , 2019, 5, 93-104.	1.7	7
34	In-situ visualisation of dynamic fracture and fragmentation of an L-type ordinary chondrite by combined synchrotron X-ray radiography and microtomography. <i>Icarus</i> , 2021, 359, 114346.	2.5	7
35	Strength enhancement of single crystal laser components. <i>Journal of Materials Research</i> , 2003, 18, 2537-2539.	2.6	6
36	Insights into local shockwave behavior and thermodynamics in granular materials from tomography-initialized mesoscale simulations. <i>Journal of Applied Physics</i> , 2019, 125, .	2.5	6

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37	Development of the gas gun driven expanding cylinder technique. AIP Conference Proceedings, 2012, , .	0.4	5
38	Introduction. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130220.	3.4	5
39	High resolution simulations of energy absorption in dynamically loaded cellular structures. Shock Waves, 2017, 27, 221-236.	1.9	5
40	MOLECULAR SHOCK RESPONSE OF EXPLOSIVES: ELECTRONIC ABSORPTION SPECTROSCOPY. , 2009, , .		4
41	The influence of particle morphology on the dynamic densification of metal powders. AIP Conference Proceedings, 2012, , .	0.4	3
42	The fracture and fragmentation behaviour of additively manufactured stainless steel 316L. AIP Conference Proceedings, 2017, , .	0.4	3
43	Birefringence measurements in single crystal sapphire and calcite shocked along the a axis. AIP Conference Proceedings, 2017, , .	0.4	3
44	Investigating shock processes in bimodal powder compaction through modelling and experiment at the mesoscale. International Journal of Solids and Structures, 2019, 163, 211-219.	2.7	3
45	Ultra-high speed X-ray imaging of dynamic fracturing in cementitious materials under impact. EPJ Web of Conferences, 2021, 250, 01014.	0.3	3
46	Relationships between Film Chemistry, Structure, and Mechanical Properties in Titanium Oxide. Materials Research Society Symposia Proceedings, 2000, 654, 3411.	0.1	2
47	VISAR 'cross-hairs': Simultaneous perpendicular line-imaging VISAR. Journal of Physics: Conference Series, 2014, 500, 182044.	0.4	2
48	Technique to measure change in birefringence under shock compression. Journal of Physics: Conference Series, 2014, 500, 192020.	0.4	2
49	Gas gun driven dynamic fracture and fragmentation of Ti-6Al-4V cylinders. Journal of Physics: Conference Series, 2014, 500, 112037.	0.4	2
50	Dynamic behavior of a Ce-Al bulk metallic glass. Journal of Physics: Conference Series, 2014, 500, 112016.	0.4	2
51	The stress and ballistic properties of granular materials. AIP Conference Proceedings, 2017, , .	0.4	2
52	Monte-Carlo modelling to determine optimum filter choices for sub-microsecond optical pyrometry. Review of Scientific Instruments, 2017, 88, 044902.	1.3	2
53	Influence of Structure and Chemistry on Piezoelectric Properties of Pzt in a Mems Power Generation Application. Materials Research Society Symposia Proceedings, 2002, 751, 1.	0.1	1
54	Electron microscopy of compound oxide laser materials. , 2003, , .		1

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55	Application of Electron Microscopy to Problems in the Growth of Laser Crystals. Microscopy and Microanalysis, 2003, 9, 1014-1015.	0.4	1
56	SINGLE SHOT HUGONIOTS OF TOLUENE AND METHANOL. , 2009, , .		1
57	On the residual yield stress of shocked metals. Journal of Physics: Conference Series, 2014, 500, 112015.	0.4	1
58	Spatially resolved measurements of grain size effects on the shock and spall response of quasi-Taylor wave loaded pure copper. Journal of Applied Physics, 2017, 122, .	2.5	1
59	Initial results from a simultaneous pyrometry and reflectivity diagnostic. AIP Conference Proceedings, 2018, , .	0.4	1
60	Ultra-high-speed x-ray imaging of shock-induced cavity collapse in a solid medium. AIP Conference Proceedings, 2020, , .	0.4	1
61	Effect of texture on elastic precursor decay in magnesium alloy AZ31B. AIP Conference Proceedings, 2020, , .	0.4	1
62	Defect Characterization in Next Generation Laser Crystals. Microscopy and Microanalysis, 2003, 9, 1016-1017.	0.4	0
63	MECHANISTIC ASPECTS OF SHOCK-INDUCED REACTIONS IN NI+AL POWDER MIXTURES. , 2008, , .		0
64	ON THE APPLICABILITY OF ANALYTICAL MODELS TO PREDICT HUGONIOT OF NANO-SIZED POWDER COMPACTS. , 2008, , .		0
65	Towards the role of interfacial shear in shock-induced intermetallic reactions. , 2012, , .		0
66	Spatially resolved shock response at dry metallic multi-material interfaces. Journal of Physics: Conference Series, 2014, 500, 112019.	0.4	0
67	A Method for Studying the Temperature Dependence of Dynamic Fracture and Fragmentation. Journal of Visualized Experiments, 2015, , e52463.	0.3	0
68	Gas gun driven dynamic fracture and fragmentation of Ti-6Al-4V cylinders at initial temperatures between 150â€¦K and 750â€¦K. AIP Conference Proceedings, 2017, , .	0.4	0
69	On the dynamic response of additively manufactured 316L. AIP Conference Proceedings, 2018, , .	0.4	0
70	Interrogating heterogeneous compaction of analogue materials at the mesoscale through numerical modeling and experiments. AIP Conference Proceedings, 2018, , .	0.4	0