

Eric B Herbold

List of Publications by Year in descending order

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60
papers

2,191
citations

331670

21
h-index

214800

47
g-index

62
all docs

62
docs citations

62
times ranked

1062
citing authors

#	ARTICLE	IF	CITATIONS
1	Beam elements with frictional contact in the material point method. <i>International Journal for Numerical Methods in Engineering</i> , 2022, 123, 1013-1035.	2.8	1
2	Quantifying the hierarchy of structural and mechanical length scales in granular systems. <i>Extreme Mechanics Letters</i> , 2022, 51, 101590.	4.1	6
3	Quantifying local rearrangements in three-dimensional granular materials: Rearrangement measures, correlations, and relationship to stresses. <i>Physical Review E</i> , 2022, 105, 014904.	2.1	10
4	Mesoscale model and X-ray computed micro-tomographic imaging of damage progression in ultra-high-performance concrete. <i>Cement and Concrete Research</i> , 2022, 157, 106799.	11.0	15
5	Borehole breakout modeling in arkose and granite rocks. <i>Geomechanics and Geophysics for Geo-Energy and Geo-Resources</i> , 2021, 7, 1.	2.9	4
6	Erratum to "An analytical expression for temperature in a thermodynamically consistent model with a Mie-Grüneisen equation for pressure" <i>Int. J. Impact Eng.</i> 143 (2020) 103612. <i>International Journal of Impact Engineering</i> , 2021, 154, 103885.	5.0	0
7	A thermomechanical breakage model for shock-loaded granular media. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 137, 103813.	4.8	9
8	Mesoscale study of rate effects in shear strength of powders during compaction. <i>AIP Conference Proceedings</i> , 2020, , .	0.4	0
9	A description of structured waves in shock compressed particulate composites. <i>Journal of Applied Physics</i> , 2020, 127, .	2.5	8
10	The influence of packing structure and interparticle forces on ultrasound transmission in granular media. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 16234-16242.	7.1	13
11	Finite element analyses of a granular assembly under projectile loading incorporating computed tomography imaging and damage mechanics. <i>AIP Conference Proceedings</i> , 2020, , .	0.4	0
12	An analytical expression for temperature in a thermodynamically consistent model with a Mie-Grüneisen equation for pressure. <i>International Journal of Impact Engineering</i> , 2020, 143, 103612.	5.0	3
13	Finite element analyses of single particle crushing tests incorporating computed tomography imaging and damage mechanics. <i>Computers and Geotechnics</i> , 2019, 115, 103158.	4.7	14
14	Particle rotations and energy dissipation during mechanical compression of granular materials. <i>Journal of the Mechanics and Physics of Solids</i> , 2019, 129, 19-38.	4.8	30
15	Hugoniot Measurements Utilizing In Situ Synchrotron X-ray Radiation. <i>Journal of Dynamic Behavior of Materials</i> , 2019, 5, 93-104.	1.7	7
16	<i>In situ</i> X-ray imaging of heterogeneity in dynamic compaction of granular media. <i>Journal of Applied Physics</i> , 2019, 125, .	2.5	11
17	A continuum model for concrete informed by mesoscale studies. <i>International Journal of Damage Mechanics</i> , 2018, 27, 1451-1481.	4.2	8
18	In situ grain fracture mechanics during uniaxial compaction of granular solids. <i>Journal of the Mechanics and Physics of Solids</i> , 2018, 112, 273-290.	4.8	57

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19	Microscale investigation of dynamic impact of dry and saturated glass powder. AIP Conference Proceedings, 2018, , .	0.4	1
20	Simulations and experiments of dynamic granular compaction in non-ideal geometries. AIP Conference Proceedings, 2018, , .	0.4	0
21	Characterization of the crystal structure, kinematics, stresses and rotations in angular granular quartz during compaction. Journal of Applied Crystallography, 2018, 51, 1021-1034.	4.5	26
22	Mesoscale Modeling of Porous Materials Using New Methodology for Fracture and Frictional Contact in the Material Point Method. Conference Proceedings of the Society for Experimental Mechanics, 2018, , 97-102.	0.5	2
23	Fracture and Contact in the Material Point Method: New Approaches and Applications. Computational and Experimental Methods in Structures, 2018, , 289-326.	0.3	0
24	Field-Gradient partitioning for fracture and frictional contact in the material point method. International Journal for Numerical Methods in Engineering, 2017, 109, 1013-1044.	2.8	58
25	Stationary rarefaction waves in discrete materials with strain-softening behavior. International Journal of Modern Physics B, 2017, 31, 1742005.	2.0	0
26	Linking initial microstructure and local response during quasistatic granular compaction. Physical Review E, 2017, 96, 012905.	2.1	18
27	On mesoscale methods to enhance full-stress continuum modeling of porous compaction. AIP Conference Proceedings, 2017, , .	0.4	0
28	Meso-scale framework for modeling granular material using computed tomography. Computers and Geotechnics, 2016, 76, 140-146.	4.7	24
29	A weighted Nitsche stabilized method for small-sliding contact on frictional surfaces. Computer Methods in Applied Mechanics and Engineering, 2015, 283, 763-781.	6.6	24
30	Simulations of Defense Strategies for Bennu: Material Characterization and Impulse Delivery. Procedia Engineering, 2015, 103, 173-180.	1.2	7
31	Asteroid Diversion Considerations and Comparisons of Diversion Techniques. Procedia Engineering, 2015, 103, 466-474.	1.2	10
32	Influence of Mechanical Properties Relevant to Standoff Deflection of Hazardous Asteroids. Procedia Engineering, 2013, 58, 251-259.	1.2	9
33	Propagation of Rarefaction Pulses in Discrete Materials with Strain-Softening Behavior. Physical Review Letters, 2013, 110, 144101.	7.8	41
34	Mesoscale studies of mixing in reactive materials during shock loading. , 2012, , .		1
35	Propagation of rarefaction pulses in particulate materials with strain-softening behavior. , 2012, , .		5
36	Observation of a minimum reaction initiation threshold in ball-milled Ni+Al under high-rate mechanical loading. Journal of Applied Physics, 2011, 109, .	2.5	24

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37	Effects of processing and powder size on microstructure and reactivity in arrested reactive milled Al+Ni. Acta Materialia, 2011, 59, 6717-6728.	7.9	25
38	Shock equation of state of multi-constituent epoxy-metal particulate composites. Journal of Applied Physics, 2011, 109, .	2.5	22
39	Periodic waves in a Hertzian chain. Physics Procedia, 2010, 3, 457-463.	1.2	6
40	The role of dissipation on wave shape and attenuation in granular chains. Physics Procedia, 2010, 3, 465-471.	1.2	10
41	Wave Propagation In Strongly Nonlinear Two-Mass Chains. , 2010, , .		1
42	Pulse propagation in a linear and nonlinear diatomic periodic chain: effects of acoustic frequency band-gap. Acta Mechanica, 2009, 205, 85-103.	2.1	137
43	Highly nonlinear solitary waves in heterogeneous periodic granular media. Physica D: Nonlinear Phenomena, 2009, 238, 666-676.	2.8	105
44	MODELING AND CHARACTERIZATION OF PMMA FOR HIGH STRAIN-RATE AND FINITE DEFORMATIONS. , 2009, , .		0
45	PARTICLE SIZE EFFECT IN GRANULAR COMPOSITE ALUMINUM-TUNGSTEN. , 2009, , .		3
46	EXPLOSIVE COMPATIONS OF INTERMETALLIC-FORMING POWDER MIXTURES FOR FABRICATING STRUCTURAL ENERGETIC MATERIALS. AIP Conference Proceedings, 2009, , .	0.4	7
47	Particle size effect on strength, failure, and shock behavior in polytetrafluoroethylene-Al-W granular composite materials. Journal of Applied Physics, 2008, 104, .	2.5	113
48	The influence of metallic particle size on the mechanical properties of polytetrafluoroethylene-Al-W powder composites. Applied Physics Letters, 2008, 92, .	3.3	42
49	Highly nonlinear solitary waves in periodic dimer granular chains. Physical Review E, 2008, 77, 015601.	2.1	103
50	SIMULATION OF PARTICLE SIZE EFFECT ON DYNAMIC PROPERTIES AND FRACTURE OF PTFE-W-Al COMPOSITES. AIP Conference Proceedings, 2008, , .	0.4	5
51	SOLITARY AND SHOCK WAVES IN STRONGLY NONLINEAR METAMATERIALS. , 2008, , .		4
52	Solitary and shock waves in discrete strongly nonlinear double power-law materials. Applied Physics Letters, 2007, 90, 261902.	3.3	36
53	Shock wave structure in a strongly nonlinear lattice with viscous dissipation. Physical Review E, 2007, 75, 021304.	2.1	79
54	Tunability of solitary wave properties in one-dimensional strongly nonlinear phononic crystals. Physical Review E, 2006, 73, 026610.	2.1	272

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55	Energy Trapping and Shock Disintegration in a Composite Granular Medium. Physical Review Letters, 2006, 96, 058002.	7.8	242
56	Influence of Controlled Viscous Dissipation on the Propagation of Strongly Nonlinear Waves in Stainless Steel Based Phononic Crystals. AIP Conference Proceedings, 2006, , .	0.4	12
57	Strongly Nonlinear Waves in Polymer Based Phononic Crystals. AIP Conference Proceedings, 2006, , .	0.4	2
58	Pulse mitigation by a composite discrete medium. European Physical Journal Special Topics, 2006, 134, 473-479.	0.2	4
59	Anomalous Wave Reflection at the Interface of Two Strongly Nonlinear Granular Media. Physical Review Letters, 2005, 95, 158702.	7.8	260
60	Strongly nonlinear waves in a chain of Teflon beads. Physical Review E, 2005, 72, 016603.	2.1	255