

Erica T Lilleodden

List of Publications by Year in descending order

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Version: 2024-02-01

55
papers

3,205
citations

186265

28
h-index

168389

53
g-index

57
all docs

57
docs citations

57
times ranked

2984
citing authors

#	ARTICLE	IF	CITATIONS
1	Indentation induced dislocation nucleation: The initial yield point. <i>Acta Materialia</i> , 1996, 44, 3585-3598.	7.9	389
2	Anomalous plastic deformation at surfaces: Nanoindentation of gold single crystals. <i>Physical Review B</i> , 1997, 55, R16057-R16060.	3.2	309
3	Atomistic simulations of elastic deformation and dislocation nucleation during nanoindentation. <i>Journal of the Mechanics and Physics of Solids</i> , 2003, 51, 901-920.	4.8	258
4	Deformation at the nanometer and micrometer length scales: Effects of strain gradients and dislocation starvation. <i>Thin Solid Films</i> , 2007, 515, 3152-3157.	1.8	256
5	Microcompression study of Mg (0001) single crystal. <i>Scripta Materialia</i> , 2010, 62, 532-535.	5.2	182
6	Nanoporous Gold—Testing Macro-scale Samples to Probe Small-scale Mechanical Behavior. <i>Materials Research Letters</i> , 2016, 4, 27-36.	8.7	121
7	Microstructural length-scale effects in the nanoindentation behavior of thin gold films. <i>Acta Materialia</i> , 2006, 54, 1583-1593.	7.9	110
8	Complex Dental Structure and Wear Biomechanics in Hadrosaurid Dinosaurs. <i>Science</i> , 2012, 338, 98-101.	12.6	99
9	The coordinated buckling of carbon nanotube turfs under uniform compression. <i>Nanotechnology</i> , 2008, 19, 175704.	2.6	97
10	Study of slip activity in a Mg-Y alloy by in situ high energy X-ray diffraction microscopy and elastic viscoplastic self-consistent modeling. <i>Acta Materialia</i> , 2018, 155, 138-152.	7.9	90
11	Nanoporous gold: 3D structural analyses of representative volumes and their implications on scaling relations of mechanical behaviour. <i>Philosophical Magazine</i> , 2016, 96, 3322-3335.	1.6	88
12	Mechanical behavior of nanoscale Cu/PdSi multilayers. <i>Acta Materialia</i> , 2013, 61, 4984-4995.	7.9	83
13	Defect structure in micropillars using x-ray microdiffraction. <i>Applied Physics Letters</i> , 2006, 89, 151905.	3.3	74
14	In situ imaging of $\frac{1}{4}$ N load indents into GaAs. <i>Journal of Materials Research</i> , 1995, 10, 2162-2165.	2.6	73
15	On the topological, morphological, and microstructural characterization of nanoporous metals. <i>MRS Bulletin</i> , 2018, 43, 20-26.	3.5	71
16	New insights into plastic instability in precipitation strengthened Al—Li alloys. <i>Acta Materialia</i> , 2015, 89, 88-97.	7.9	67
17	The solvent induced interfiber adhesion and its influence on the mechanical and filtration properties of polyethersulfone electrospun nanofibrous microfiltration membranes. <i>Separation and Purification Technology</i> , 2012, 98, 456-463.	7.9	61
18	On a novel strain indicator based on uncorrelated misorientation angles for correlating dislocation density to local strength. <i>Acta Materialia</i> , 2018, 150, 195-205.	7.9	60

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19	Compressive failure of UD-CFRP containing void defects: In situ SEM microanalysis. <i>Composites Science and Technology</i> , 2011, 71, 1242-1249.	7.8	58
20	The influence of focused-ion beam preparation technique on microcompression investigations: Lathe vs. annular milling. <i>Scripta Materialia</i> , 2014, 77, 49-51.	5.2	57
21	Hierarchical flexural strength of enamel: transition from brittle to damage-tolerant behaviour. <i>Journal of the Royal Society Interface</i> , 2012, 9, 1265-1274.	3.4	55
22	A principle curvatures analysis of the isothermal evolution of nanoporous gold: Quantifying the characteristic length-scales. <i>Acta Materialia</i> , 2016, 120, 24-31.	7.9	52
23	Self-Assembled Ultra High Strength, Ultra Stiff Mechanical Metamaterials Based on Inverse Opals. <i>Advanced Engineering Materials</i> , 2015, 17, 1420-1424.	3.5	48
24	In-situ transmission electron microscopy study of the nanoindentation behavior of Al. <i>Journal of Electronic Materials</i> , 2002, 31, 958-964.	2.2	47
25	The stiffness and strength of metamaterials based on the inverse opal architecture. <i>Extreme Mechanics Letters</i> , 2017, 12, 86-96.	4.1	41
26	A combined experimental-numerical approach for elasto-plastic fracture of individual grain boundaries. <i>Journal of the Mechanics and Physics of Solids</i> , 2014, 64, 455-467.	4.8	36
27	Mechanical Testing of Solid-Solid Interfaces at the Microscale. <i>Experimental Mechanics</i> , 2012, 52, 649-658.	2.0	35
28	Kink formation and concomitant twin nucleation in Mg-Y. <i>Scripta Materialia</i> , 2016, 111, 68-71.	5.2	33
29	Orientation Distribution of Vertically Aligned Multiwalled Carbon Nanotubes. <i>Journal of Physical Chemistry C</i> , 2014, 118, 9507-9513.	3.1	29
30	Microstructural influences on strengthening in a naturally aged and overaged Al-Cu-Li-Mg based alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2015, 637, 162-169.	5.6	27
31	Computational modeling of intrinsically induced strain gradients during compression of c-axis-oriented magnesium single crystal. <i>Acta Materialia</i> , 2014, 71, 206-219.	7.9	20
32	A method to determine site-specific, anisotropic fracture toughness in biological materials. <i>Scripta Materialia</i> , 2012, 66, 515-518.	5.2	19
33	Nanoporous gold: a hierarchical and multiscale 3D test pattern for characterizing X-ray nano-tomography systems. <i>Journal of Synchrotron Radiation</i> , 2019, 26, 194-204.	2.4	16
34	Indentation of Silicate-Glass Films on Al ₂ O ₃ Substrates. <i>Journal of the American Ceramic Society</i> , 1999, 82, 1803-1808.	3.8	15
35	Mechanical characterization of oligo(ethylene glycol)-based hydrogels by dynamic nanoindentation experiments. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2015, 46, 1-10.	3.1	12
36	Modeling of DMOS subjected to fast temperature cycle stress and improvement by a novel metallization concept. , 2008, , .		11

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37	Nanostructured MWCNT/Polypyrrole Actuators with Anisotropic Strain Response. <i>Advanced Engineering Materials</i> , 2016, 18, 597-607.	3.5	11
38	Grain-scale investigation of the anisotropy of Portevin-Le Chatelier effect in Mg AZ91 alloy. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 740-741, 226-234.	5.6	11
39	Twining and Slip Activity in Magnesium <11-20> Single Crystal. <i>Materials Research Society Symposia Proceedings</i> , 2009, 1224, 1.	0.1	10
40	Electro-chemo-mechanical coupling of nanoporous gold at the microscale. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	9
41	A combined compression and indentation study of mechanical metamaterials based on inverse opal coatings. <i>Acta Materialia</i> , 2020, 195, 98-108.	7.9	9
42	Recent trends on studies of nanostructured metals. <i>MRS Bulletin</i> , 2021, 46, 217-224.	3.5	9
43	An Experimental and Computational Study of the Elastic-Plastic Transition in Thin Films. <i>Materials Research Society Symposia Proceedings</i> , 2001, 673, 1.	0.1	7
44	Grain boundary formation through particle detachment during coarsening of nanoporous metals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	7
45	The isothermal evolution of nanoporous gold from the ring perspective - an application of graph theory. <i>Acta Materialia</i> , 2020, 199, 669-679.	7.9	6
46	Temperature dependence of plastic instability in Al alloys: A nanoindentation study. <i>Materials and Design</i> , 2017, 125, 69-75.	7.0	5
47	Full-Field Hard X-Ray Microscope Designed for Materials Science Applications. <i>Microscopy and Microanalysis</i> , 2018, 24, 228-229.	0.4	5
48	Influence of Y ₂ O ₃ nanoparticles on the twinning of single crystalline magnesium. <i>Scripta Materialia</i> , 2017, 138, 79-82.	5.2	3
49	On the Estimation of Thermal Activation Parameters for Portevin-Le Chatelier Effect from Nanoindentation Data. <i>Jom</i> , 2019, 71, 3343-3349.	1.9	3
50	On measuring the independent mechanical response of the polymer phase from nanoporous gold polymer composites. <i>Scripta Materialia</i> , 2019, 170, 67-70.	5.2	3
51	Detwinning-mediated hardening in Mg: A microcompression study of a single twin boundary. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 772, 138747.	5.6	3
52	Image segmentation and analysis for densification mapping of nanoporous gold after nanoindentation. <i>MRS Advances</i> , 2021, 6, 519-523.	0.9	3
53	Alumina-Silicate Glass Interfacial Properties Probed by Micromechanical Testing Techniques. <i>Materials Research Society Symposia Proceedings</i> , 1995, 401, 103.	0.1	1
54	Effect of Glass Composition on Mechanical Properties of Interfaces Between Alumina and Silicate Glass. <i>Materials Research Society Symposia Proceedings</i> , 1996, 458, 179.	0.1	1

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55	Novel techniques for nanomechanical characterization. Jom, 2009, 61, 13-13.	1.9	0