Daniel S Gianola

List of Publications by Year
in descending order

54 papers	3,853 citations	201674 27 h-index	161849 54 g-index
54 all docs	54 docs citations	54 times ranked	4427 citing authors

#	Article	IF	Citations
1	Experimental Observations of Stress-Driven Grain Boundary Migration. Science, 2009, 326, 1686-1690.	12.6	536
2	Ultrahigh Strength Single Crystalline Nanowhiskers Grown by Physical Vapor Deposition. Nano Letters, 2009, 9, 3048-3052.	9.1	406
3	In situ TEM observations of fast grain-boundary motion in stressed nanocrystalline aluminum films. Acta Materialia, 2008, 56, 3380-3393.	7.9	372
4	A Robust Smart Window: Reversibly Switching from High Transparency to Angleâ€Independent Structural Color Display. Advanced Materials, 2015, 27, 2489-2495.	21.0	371
5	Structure-property relationships from universal signatures of plasticity in disordered solids. Science, 2017, 358, 1033-1037.	12.6	218
6	Multiplicity of dislocation pathways in a refractory multiprincipal element alloy. Science, 2020, 370, 95-101.	12.6	159
7	Measuring surface dislocation nucleation in defect-scarce nanostructures. Nature Materials, 2015, 14, 707-713.	27.5	155
8	Existence of two twinning-mediated plastic deformation modes in Au nanowhiskers. Acta Materialia, 2012, 60, 3985-3993.	7.9	127
9	Strain Measurements of Silicon Dioxide Microspecimens by Digital Imaging Processing. Experimental Mechanics, 2007, 47, 649-658.	2.0	120
10	Tunable Tensile Ductility in Metallic Glasses. Scientific Reports, 2013, 3, .	3.3	118
11	Bridging functional nanocomposites to robust macroscale devices. Science, 2019, 364, .	12.6	118
12	Extremely low drift of resistance and threshold voltage in amorphous phase change nanowire devices. Applied Physics Letters, 2010, 96, .	3.3	91
13	In situ nanomechanical testing in focused ion beam and scanning electron microscopes. Review of Scientific Instruments, 2011, 82, 063901.	1.3	88
14	Source-based strengthening of sub-micrometer Al fibers. Acta Materialia, 2012, 60, 977-983.	7.9	77
15	High-strength magnetically switchable plasmonic nanorods assembled from a binary nanocrystal mixture. Nature Nanotechnology, 2017, 12, 228-232.	31.5	75
16	Mechanical Characterization of Coatings Using Microbeam Bending and Digital Image Correlation Techniques. Experimental Mechanics, 2010, 50, 85-97.	2.0	72
17	Lattice Anharmonicity in Defect-Free Pd Nanowhiskers. Physical Review Letters, 2012, 109, 125503.	7.8	52
18	Size Independent Shape Memory Behavior of Nickelâ€“Titanium. Advanced Engineering Materials, 2010, 12, 808-815.	3.5	46

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19	Dislocation dynamics in a nickel-based superalloy via in-situ transmission scanning electron microscopy. Acta Materialia, 2019, 168, 152-166.	7.9	46
20	Transmission scanning electron microscopy: Defect observations and image simulations. Ultramicroscopy, 2018, 186, 49-61.	1.9	42
21	In situ deformation of thin films on substrates. Microscopy Research and Technique, 2009, 72, 270-283.	2.2	40
22	Controlling dislocation nucleation-mediated plasticity in nanostructures via surface modification. Acta Materialia, 2019, 166, 572-586.	7.9	40
23	Orthogonal Control of Stability and Tunable Dry Adhesion by Tailoring the Shape of Tapered Nanopillar Arrays. Advanced Materials, 2015, 27, 7788-7793.	21.0	35
24	Linking stress-driven microstructural evolution in nanocrystalline aluminium with grain boundary doping of oxygen. Nature Communications, 2016, 7, 11225.	12.8	33
25	Effect of organometallic clamp properties on the apparent diversity of tensile response of nanowires. Nanotechnology, 2013, 24, 235704.	2.6	31
26	Flexible Conductive Composites with Programmed Electrical Anisotropy Using Acoustophoresis. Advanced Materials Technologies, 2019, 4, 1900586.	5.8	30
27	Disordered interfaces enable high temperature thermal stability and strength in a nanocrystalline aluminum alloy. Acta Materialia, 2021, 215, 116973.	7.9	27
28	The role of confinement on stress-driven grain boundary motion in nanocrystalline aluminum thin films. Journal of Applied Physics, 2012, 112, .	2.5	24
29	Compression and recovery of carbon nanotube forests described as a phase transition. International Journal of Solids and Structures, 2017, 122-123, 196-209.	2.7	24
30	In Situ Measurement of the Toughness of the Interface Between a Thermal Barrier Coating and a Ni Alloy. Journal of the American Ceramic Society, 2011, 94, s120.	3.8	22
31	Bulk nanocrystalline Al alloys with hierarchical reinforcement structures via grain boundary segregation and complexion formation. Acta Materialia, 2021, 221, 117394.	7.9	22
32	Electron backscattered diffraction using a new monolithic direct detector: High resolution and fast acquisition. Ultramicroscopy, 2021, 220, 113160.	1.9	20
33	Suppression of shear localization in nanocrystalline Alâ€“Niâ€“Ce via segregation engineering. Acta Materialia, 2020, 188, 63-78.	7.9	18
34	Thermomechanical Behavior of Molded Metallic Glass Nanowires. Scientific Reports, 2016, 6, 19530.	3.3	17
35	Temperature controlled tensile testing of individual nanowires. Review of Scientific Instruments, 2014, 85, 013901.	1.3	15
36	Origins of strengthening and failure in twinned Au nanowires: Insights from inâ˜situ experiments and atomistic simulations. Acta Materialia, 2020, 187, 166-175.	7.9	15

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37	Isochemical control over structural state and mechanical properties in Pd-based metallic glass by sputter deposition at elevated temperatures. APL Materials, 2016, 4, 086104.	5.1	14
38	Femtosecond laser rejuvenation of nanocrystalline metals. Acta Materialia, 2018, 156, 183-195.	7.9	14
39	Synthesis and mechanical response of disordered colloidal micropillars. Physical Chemistry Chemical Physics, 2014, 16, 10274-10285.	2.8	11
40	Understanding the mechanical behavior of nanocrystalline Alâ€“O thin films with complex microstructures. Acta Materialia, 2014, 77, 269-283.	7.9	11
41	Mapping the kinetic evolution of metastable grain boundaries under non-equilibrium processing. Acta Materialia, 2020, 200, 328-337.	7.9	11
42	Recent progress in acoustic field-assisted 3D-printing of functional composite materials. MRS Advances, 2021, 6, 636-643.	0.9	11
43	Interplay between grain boundary segregation and electrical resistivity in dilute nanocrystalline Cu alloys. Scripta Materialia, 2016, 123, 113-117.	5.2	10
44	Full recovery takes time. Nature Nanotechnology, 2015, 10, 659-660.	31.5	9
45	New techniques for imaging and identifying defects in electron microscopy. MRS Bulletin, 2019, 44, 450-458.	3.5	9
46	Suppressing instabilities in defect-scarce nanowires by controlling the energy release rate during incipient plasticity. Materials and Design, 2020, 189, 108460.	7.0	9
47	Robust scaling of strength and elastic constants and universal cooperativity in disordered colloidal micropillars. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 18167-18172.	7.1	8
48	Modeling meso- and microstructure in materials patterned with acoustic focusing. Materials and Design, 2021, 202, 109512.	7.0	8
49	Growth and structural transitions of core-shell nanorods in nanocrystalline Al-Ni-Y. Scripta Materialia, 2022, 211, 114502.	5.2	6
50	Crack propagation in low dislocation density quantum dot lasers epitaxially grown on Si. APL Materials, 2022, 10, .	5.1	6
51	Anisotropic Thermally Conductive Composites Enabled by Acoustophoresis and Stereolithography. Advanced Functional Materials, 2022, 32, .	14.9	6
52	Interfacial structure and strain accommodation in two-phase NbCo1.2Sn Heusler intermetallics. Physical Review Materials, 2020, 4, .	2.4	4
53	Influence of plastic deformation on the magnetic properties of Heusler MnAu2Al. Physical Review Materials, 2021, 5, .	2.4	3
54	Microscopic origin of shear banding as a localized driven glass transition in compressed colloidal pillars. Physical Review E, 2020, 102, 032605.	2.1	1