

Jeffrey W Kysar

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

85
papers

18,617
citations

29
h-index

89
g-index

89
ext. papers

20,567
ext. citations

6.1
avg, IF

6.84
L-index

#	Paper	IF	Citations
85	Measurement of the elastic properties and intrinsic strength of monolayer graphene. <i>Science</i> , 2008 , 321, 385-8	33.3	14811
84	High-strength chemical-vapor-deposited graphene and grain boundaries. <i>Science</i> , 2013 , 340, 1073-6	33.3	661
83	Nonlinear elastic behavior of two-dimensional molybdenum disulfide. <i>Physical Review B</i> , 2013 , 87,	3.3	312
82	Nonlinear elastic behavior of graphene: Ab initio calculations to continuum description. <i>Physical Review B</i> , 2009 , 80,	3.3	303
81	Elastic and frictional properties of graphene. <i>Physica Status Solidi (B): Basic Research</i> , 2009 , 246, 2562-2567		285
80	Nanoporous Metals by Alloy Corrosion: Formation and Mechanical Properties. <i>MRS Bulletin</i> , 2009 , 34, 577-586	3.2	232
79	Experimental lower bounds on geometrically necessary dislocation density. <i>International Journal of Plasticity</i> , 2010 , 26, 1097-1123	7.6	141
78	Microfabrication and mechanical properties of nanoporous gold at the nanoscale. <i>Scripta Materialia</i> , 2007 , 56, 437-440	5.6	111
77	Mechanical properties of thin glassy polymer films filled with spherical polymer-grafted nanoparticles. <i>Nano Letters</i> , 2012 , 12, 3909-14	11.5	108
76	High strain gradient plasticity associated with wedge indentation into face-centered cubic single crystals: Geometrically necessary dislocation densities. <i>Journal of the Mechanics and Physics of Solids</i> , 2007 , 55, 1554-1573	5	101
75	Recoverable Slippage Mechanism in Multilayer Graphene Leads to Repeatable Energy Dissipation. <i>ACS Nano</i> , 2016 , 10, 1820-8	16.7	89
74	Cylindrical void in a rigid-ideally plastic single crystal. Part I: Anisotropic slip line theory solution for face-centered cubic crystals. <i>International Journal of Plasticity</i> , 2005 , 21, 1481-1520	7.6	74
73	Thermal vibration and apparent thermal contraction of single-walled carbon nanotubes. <i>Journal of the Mechanics and Physics of Solids</i> , 2006 , 54, 1206-1236	5	73
72	Size effects on void growth in single crystals with distributed voids. <i>International Journal of Plasticity</i> , 2008 , 24, 688-701	7.6	67
71	Crack tip deformation fields in ductile single crystals. <i>Acta Materialia</i> , 2002 , 50, 2367-2380	8.4	62
70	Imaging strain-localized excitons in nanoscale bubbles of monolayer WSe at room temperature. <i>Nature Nanotechnology</i> , 2020 , 15, 854-860	28.7	57
69	Characterization of Plastic Deformation Induced by Microscale Laser Shock Peening. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2004 , 71, 713-723	2.7	53

68	Continuum simulations of directional dependence of crack growth along a copper/sapphire bicrystal interface. Part I: experiments and crystal plasticity background. <i>Journal of the Mechanics and Physics of Solids</i> , 2001 , 49, 1099-1128	5	51
67	Enhanced Glassy State Mechanical Properties of Polymer Nanocomposites via Supramolecular Interactions. <i>Nano Letters</i> , 2015 , 15, 5465-71	11.5	46
66	Experimental validation of multiscale modeling of indentation of suspended circular graphene membranes. <i>International Journal of Solids and Structures</i> , 2012 , 49, 3201-3209	3.1	41
65	Fabrication of crack-free blanket nanoporous gold thin films by galvanostatic dealloying. <i>Journal of Alloys and Compounds</i> , 2011 , 509, 6374-6381	5.7	39
64	Influence of ultrasonic irradiation on the microstructure of Cu/Al ₂ O ₃ , CeO ₂ nanocomposite thin films during electrocodeposition. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2007 , 447, 209-216	5.3	39
63	Computational strain gradient crystal plasticity. <i>Journal of the Mechanics and Physics of Solids</i> , 2014 , 62, 31-47	5	37
62	In-vitro perforation of the round window membrane via direct 3-D printed microneedles. <i>Biomedical Microdevices</i> , 2018 , 20, 47	3.7	34
61	Energy dissipation mechanisms in ductile fracture. <i>Journal of the Mechanics and Physics of Solids</i> , 2003 , 51, 795-824	5	33
60	Fabrication of crack-free nanoporous gold blanket thin films by potentiostatic dealloying. <i>Scripta Materialia</i> , 2010 , 63, 1005-1008	5.6	32
59	Raman microprobe analysis of elastic strain and fracture in electrophoretically deposited CdSe nanocrystal films. <i>Nano Letters</i> , 2006 , 6, 175-80	11.5	32
58	Microperforations significantly enhance diffusion across round window membrane. <i>Otology and Neurotology</i> , 2015 , 36, 694-700	2.6	31
57	Length-scale effect due to periodic variation of geometrically necessary dislocation densities. <i>International Journal of Plasticity</i> , 2013 , 41, 189-201	7.6	29
56	Directional dependence of fracture in copper/sapphire bicrystal. <i>Acta Materialia</i> , 2000 , 48, 3509-3524	8.4	29
55	Analytical solution of anisotropic plastic deformation induced by micro-scale laser shock peening. <i>Mechanics of Materials</i> , 2008 , 40, 100-114	3.3	28
54	Inner ear delivery: Challenges and opportunities. <i>Laryngoscope Investigative Otolaryngology</i> , 2020 , 5, 122-131	2.8	26
53	Mechanical considerations for polymeric heart valve development: Biomechanics, materials, design and manufacturing. <i>Biomaterials</i> , 2019 , 225, 119493	15.6	25
52	Wedge indentation into elastic-plastic single crystals. 2: Simulations for face-centered cubic crystals. <i>International Journal of Plasticity</i> , 2012 , 28, 70-87	7.6	24
51	Cylindrical void in a rigid-ideally plastic single crystal III: Hexagonal close-packed crystal. <i>International Journal of Plasticity</i> , 2007 , 23, 592-619	7.6	24

50	Spatially Resolved Characterization of Residual Stress Induced by Micro Scale Laser Shock Peening. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2004 , 126, 226-236	3.3	21
49	Continuum simulations of directional dependence of crack growth along a copper/sapphire bicrystal interface. Part II: crack tip stress/deformation analysis. <i>Journal of the Mechanics and Physics of Solids</i> , 2001 , 49, 1129-1153	5	21
48	Residual plastic strain recovery driven by grain boundary diffusion in nanocrystalline thin films. <i>Acta Materialia</i> , 2011 , 59, 3937-3945	8.4	20
47	Strain gradient crystal plasticity analysis of a single crystal containing a cylindrical void. <i>International Journal of Solids and Structures</i> , 2007 , 44, 6382-6397	3.1	19
46	Serrated needle design facilitates precise round window membrane perforation. <i>Journal of Biomedical Materials Research - Part A</i> , 2016 , 104, 1633-7	5.4	18
45	The Functional Response of Mesenchymal Stem Cells to Electron-Beam Patterned Elastomeric Surfaces Presenting Micrometer to Nanoscale Heterogeneous Rigidity. <i>Advanced Materials</i> , 2017 , 29, 1702119	24	18
44	Novel 3D-printed hollow microneedles facilitate safe, reliable, and informative sampling of perilymph from guinea pigs. <i>Hearing Research</i> , 2021 , 400, 108141	3.9	18
43	Fracture in electrophoretically deposited CdSe nanocrystal films. <i>Journal of Applied Physics</i> , 2009 , 105, 103513	2.5	17
42	Grain boundary response of aluminum bicrystal under micro scale laser shock peening. <i>International Journal of Solids and Structures</i> , 2009 , 46, 3323-3335	3.1	17
41	Microanatomic analysis of the round window membrane by white light interferometry and microcomputed tomography for mechanical amplification. <i>Otology and Neurotology</i> , 2014 , 35, 672-8	2.6	16
40	Continuum aspects of directionally dependent cracking of an interface between copper and alumina crystals. <i>Mechanics of Materials</i> , 1996 , 23, 271-286	3.3	16
39	A dual wedge microneedle for sampling of perilymph solution via round window membrane. <i>Biomedical Microdevices</i> , 2016 , 18, 24	3.7	16
38	Silver/silver chloride microneedles can detect penetration through the round window membrane. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2017 , 105, 307-311	3.5	15
37	Monolithic integration of nanoscale tensile specimens and MEMS structures. <i>Nanotechnology</i> , 2013 , 24, 165502	3.4	15
36	3D-Printed Microneedles Create Precise Perforations in Human Round Window Membrane in Situ. <i>Otology and Neurotology</i> , 2020 , 41, 277-284	2.6	15
35	Atomistically derived cohesive zone model of intergranular fracture in polycrystalline graphene. <i>Journal of Applied Physics</i> , 2016 , 119, 245107	2.5	14
34	Drug delivery device for the inner ear: ultra-sharp fully metallic microneedles. <i>Drug Delivery and Translational Research</i> , 2021 , 11, 214-226	6.2	14
33	Facile and quantitative estimation of strain in nanobubbles with arbitrary symmetry in 2D semiconductors verified using hyperspectral nano-optical imaging. <i>Journal of Chemical Physics</i> , 2020 , 153, 024702	3.9	11

32	Microscale laser peen forming of single crystal. <i>Journal of Applied Physics</i> , 2008 , 103, 063525	2.5	11
31	The mean free path of dislocations in nanoparticle and nanorod reinforced metal composites and implication for strengthening mechanisms. <i>Mechanics Research Communications</i> , 2007 , 34, 275-282	2.2	11
30	Deformation and fracture behavior of electrocodeposited alumina nanoparticle/copper composite films. <i>Journal of Materials Science</i> , 2007 , 42, 5256-5263	4.3	11
29	Anatomical and Functional Consequences of Microneedle Perforation of Round Window Membrane. <i>Otology and Neurotology</i> , 2020 , 41, e280-e287	2.6	11
28	Study of anisotropic character induced by microscale laser shock peening on a single crystal aluminum. <i>Journal of Applied Physics</i> , 2007 , 101, 024904	2.5	10
27	Review Article: Case studies in future trends of computational and experimental nanomechanics. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2017 , 35, 060801	2.9	9
26	Dynamic Material Response of Aluminum Single Crystal Under Microscale Laser Shock Peening. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2009 , 131,	3.3	9
25	Numerical analysis of the radial breathing mode of armchair and zigzag single-walled carbon nanotubes under deformation. <i>Journal of Applied Physics</i> , 2006 , 100, 124305	2.5	9
24	Fourier analysis of X-ray micro-diffraction profiles to characterize laser shock peened metals. <i>International Journal of Solids and Structures</i> , 2005 , 42, 3471-3485	3.1	9
23	Effects of strain field on light in crack opening interferometry. <i>International Journal of Solids and Structures</i> , 1998 , 35, 33-49	3.1	8
22	Response of Thin Films and Substrate to Micro-Scale Laser Shock Peening. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2007 , 129, 485-496	3.3	7
21	Inner Ear Gene Delivery: Vectors and Routes. <i>Hearing, Balance and Communication</i> , 2020 , 18, 278-285	0.7	7
20	Order in polycrystalline plasticity deformation fields: Short-range intermittency and long-range persistency. <i>International Journal of Plasticity</i> , 2020 , 128, 102674	7.6	6
19	Comparative study of symmetric and asymmetric deformation of Al single crystal under microscale laser shock peening. <i>Journal of Mechanics of Materials and Structures</i> , 2009 , 4, 89-105	1.2	6
18	Direct comparison between experiments and computations at the atomic length scale: a case study of graphene. <i>Scientific Modeling and Simulation SMNS</i> , 2008 , 15, 143-157		6
17	Experimental validation of plastic constitutive hardening relationship based upon the direction of the Net Burgers Density Vector. <i>Journal of the Mechanics and Physics of Solids</i> , 2018 , 111, 358-374	5	6
16	Spatially Resolved Characterization of Geometrically Necessary Dislocation Dependent Deformation in Microscale Laser Shock Peening. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2009 , 131,	3.3	5
15	Systematical Characterization of Material Response to Microscale Laser Shock Peening. <i>Journal of Manufacturing Science and Engineering, Transactions of the ASME</i> , 2004 , 126, 740-749	3.3	5

14	Observation of plastic deformation in freestanding single crystal Au nanowires. <i>Applied Physics Letters</i> , 2006 , 89, 111916	3.4	4
13	Path of light in near crack tip region in anisotropic medium and under mixed-mode loading. <i>International Journal of Solids and Structures</i> , 2001 , 38, 5963-5973	3.1	3
12	Plane strain deformation by slip in FCC crystals. <i>International Journal of Plasticity</i> , 2020 , 133, 102842	7.6	3
11	Simulation assisted design for microneedle manufacturing: Computational modeling of two-photon templated electrodeposition. <i>Journal of Manufacturing Processes</i> , 2021 , 66, 211-219	5	3
10	Impact of Systemic versus Intratympanic Dexamethasone Administration on the Perilymph Proteome. <i>Journal of Proteome Research</i> , 2021 , 20, 4001-4009	5.6	3
9	Plastic strain recovery in nanocrystalline copper thin films. <i>International Journal of Plasticity</i> , 2018 , 107, 27-53	7.6	2
8	Spatially resolved characterization of residual stress induced by micro scale laser shock Peening 2003 ,		2
7	In Situ NANO-Indentation of Round Window Membrane. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2016 , 17-29	0.3	2
6	Grain size dependence of polycrystalline plasticity modeling in cylindrical indentation. <i>Computational Mechanics</i> , 2021 , 68, 499-543	4	2
5	Design optimization of a cardiovascular stent with application to a balloon expandable prosthetic heart valve. <i>Materials and Design</i> , 2021 , 209,	8.1	2
4	CHAPTER 5:Microfabrication of Nanoporous Gold. <i>RSC Nanoscience and Nanotechnology</i> , 2012 , 69-96		1
3	A Novel 3D-Printed Head Holder for Guinea Pig Ear Surgery. <i>Otology and Neurotology</i> , 2021 , 42, e1197-e1202		1
2	Membrane curvature and connective fiber alignment in guinea pig round window membrane. <i>Acta Biomaterialia</i> , 2021 , 136, 343-362	10.8	1
1	Brittle to Ductile Transition in Intermetallic Alloys. <i>Materials Research Society Symposia Proceedings</i> , 2002 , 753, 1		