

Yu-Lin Shen

List of Publications by Year in descending order

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Version: 2024-02-01

61
papers

1,644
citations

331670

21
h-index

302126

39
g-index

63
all docs

63
docs citations

63
times ranked

1691
citing authors

#	ARTICLE	IF	CITATIONS
1	Indentation across size scales and disciplines: Recent developments in experimentation and modeling. <i>Acta Materialia</i> , 2007, 55, 4015-4039.	7.9	403
2	High-throughput stochastic tensile performance of additively manufactured stainless steel. <i>Journal of Materials Processing Technology</i> , 2017, 241, 1-12.	6.3	118
3	Micropillar compression of Al/SiC nanolaminates. <i>Acta Materialia</i> , 2010, 58, 6628-6636.	7.9	84
4	Anisotropy, size, and aspect ratio effects on micropillar compression of Al SiC nanolaminate composites. <i>Acta Materialia</i> , 2016, 114, 25-32.	7.9	75
5	Indentation behavior of metal-ceramic multilayers at the nanoscale: Numerical analysis and experimental verification. <i>Acta Materialia</i> , 2010, 58, 2033-2044.	7.9	72
6	Bendable bulk metallic glass: Effects of a thin, adhesive, strong, and ductile coating. <i>Acta Materialia</i> , 2012, 60, 3226-3238.	7.9	67
7	Extreme Value Statistics Reveal Rare Failure-Critical Defects in Additive Manufacturing. <i>Advanced Engineering Materials</i> , 2017, 19, 1700102.	3.5	65
8	Non-stick syringe needles: Beneficial effects of thin film metallic glass coating. <i>Scientific Reports</i> , 2016, 6, 31847.	3.3	49
9	On the Mechanical Stresses of Cu Through-Silicon Via (TSV) Samples Fabricated by SK Hynix vs. SEMATECH - Enabling Robust and Reliable 3-D Interconnect/Integrated Circuit (IC) Technology. <i>Procedia Engineering</i> , 2016, 139, 101-111.	1.2	40
10	Instabilities of Thin Films on a Compliant Substrate: Direct Numerical Simulations from Surface Wrinkling to Global Buckling. <i>Scientific Reports</i> , 2020, 10, 5728.	3.3	39
11	Externally constrained plastic flow in miniaturized metallic structures: A continuum-based approach to thin films, lines, and joints. <i>Progress in Materials Science</i> , 2008, 53, 838-891.	32.8	38
12	Focused Ion Beam (FIB) tomography of nanoindentation damage in nanoscale metal/ceramic multilayers. <i>Materials Characterization</i> , 2010, 61, 481-488.	4.4	33
13	Thermo-mechanical stresses in copper interconnects - A modeling analysis. <i>Microelectronic Engineering</i> , 2006, 83, 446-459.	2.4	30
14	Elastic properties of metal-ceramic nanolaminates measured by nanoindentation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 502, 79-84.	5.6	30
15	Dynamic simulations of the interaction between dislocations and dilute particle concentrations in metal-matrix composites (MMCs). <i>International Journal of Plasticity</i> , 2004, 20, 1039-1057.	8.8	29
16	Biomechanical Heterogeneity of Living Cells: Comparison between Atomic Force Microscopy and Finite Element Simulation. <i>Langmuir</i> , 2019, 35, 7578-7587.	3.5	29
17	Analysis of indentation-derived effective elastic modulus of metal-ceramic multilayers. <i>International Journal of Mechanics and Materials in Design</i> , 2008, 4, 391-398.	3.0	25
18	A distributed-dislocation method for treating free-surface image stresses in three-dimensional dislocation dynamics simulations. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2004, 12, S289-S301.	2.0	24

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19	Residual stress characterization of Al/SiC nanoscale multilayers using X-ray synchrotron radiation. <i>Thin Solid Films</i> , 2010, 519, 759-765.	1.8	23
20	Influence of thin-film metallic glass coating on fatigue behavior of bulk metallic glass: Experiments and finite element modeling. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 692, 146-155.	5.6	23
21	Laser linking of metal interconnects: analysis and design considerations. <i>IEEE Transactions on Electron Devices</i> , 1996, 43, 402-410.	3.0	21
22	Cyclic indentation behavior of metal-ceramic nanolayered composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012, 557, 119-125.	5.6	21
23	Indentation versus uniaxial power-law creep: a numerical assessment. <i>Journal of Materials Science</i> , 2015, 50, 1394-1400.	3.7	21
24	Direct numerical simulation of buckling instability of thin films on a compliant substrate. <i>Advances in Mechanical Engineering</i> , 2019, 11, 168781401984047.	1.6	19
25	Void growth and interaction experiments: Implications to the optimal straining rate in superplastic forming. <i>International Journal of Plasticity</i> , 2006, 22, 1728-1744.	8.8	18
26	On the failure path in shear-tested solder joints. <i>Microelectronics Reliability</i> , 2007, 47, 1300-1305.	1.7	18
27	Numerical study of ductile failure morphology in solder joints under fast loading conditions. <i>Microelectronics Reliability</i> , 2010, 50, 2059-2070.	1.7	17
28	Analysis of Indentation-Derived Power-Law Creep Response. <i>Journal of Materials Engineering and Performance</i> , 2016, 25, 1109-1116.	2.5	16
29	Direct simulation of fatigue failure in solder joints during cyclic shear. <i>Materials & Design</i> , 2011, 32, 1940-1947.	5.1	14
30	Orientation dependence of indentation behavior in Al-SiC nanolaminate composites. <i>Materials Letters</i> , 2016, 168, 129-133.	2.6	14
31	Effects of pre-existing interfacial defects on the stress profile in aluminum interconnection lines. <i>IEEE Transactions on Components and Packaging Technologies</i> , 1998, 21, 127-131.	0.7	13
32	Parametric computational analysis of indentation-induced shear band formation in metal-ceramic multilayer coatings. <i>Surface and Coatings Technology</i> , 2018, 350, 779-787.	4.8	12
33	Delamination analysis of metal-ceramic multilayer coatings subject to nanoindentation. <i>Surface and Coatings Technology</i> , 2016, 303, 3-11.	4.8	11
34	Surface Instability of Composite Thin Films on Compliant Substrates: Direct Simulation Approach. <i>Frontiers in Materials</i> , 2019, 6, .	2.4	11
35	Instability driven surface patterns: Insights from direct three-dimensional finite element simulations. <i>Extreme Mechanics Letters</i> , 2020, 39, 100779.	4.1	10
36	Modeling the effects of particles, interstitials, vacancies and tip geometry on indentation-induced plasticity. <i>Molecular Simulation</i> , 2006, 32, 651-656.	2.0	9

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37	Metallic glass coating for improving diamond dicing performance. Scientific Reports, 2020, 10, 12432.	3.3	9
38	On the Elastic Assumption for Copper Lines in Interconnect Stress Modeling. IEEE Transactions on Device and Materials Reliability, 2008, 8, 600-607.	2.0	8
39	Indentation behavior of multilayered thin films: Effects of layer undulation. Thin Solid Films, 2014, 570, 235-242.	1.8	8
40	Anomalous viscoplasticity during nanoindentation of Al/SiC nanolaminated composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 4608-4614.	5.6	7
41	Indentation and overall compression behavior of multilayered thin-film composites: Effect of undulating layer geometry. Journal of Composite Materials, 2016, 50, 507-521.	2.4	7
42	Modeling of Solder Fatigue Failure due to Ductile Damage. Journal of Mechanics, 2010, 26, N23-N27.	1.4	6
43	Predicting the Effect of Underfill Filler Volume Fraction on Solder Fatigue Life and Residual Stress for Surface Mount Components Using Nonlinear Viscoelastic Analyses. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2012, 2, 1492-1500.	2.5	6
44	Indentation-derived elastic modulus of multilayer thin films: Effect of unloading-induced plasticity. Journal of Materials Research, 2015, 30, 2279-2290.	2.6	6
45	Critical temperature shift for Stress Induced Voiding in advanced Cu interconnects for 32 nm and beyond. , 2012, , .		5
46	Direct numerical simulations of three-dimensional surface instability patterns in thin film-compliant substrate structures. Scientific Reports, 2021, 11, 16449.	3.3	5
47	Elastic fields of 2D and 3D misfit particles in an infinite medium. Mechanics Research Communications, 2007, 34, 31-43.	1.8	4
48	Plastic deformation in multilayered thin films during indentation unloading: a modeling analysis incorporating viscoplastic response. Mechanics of Time-Dependent Materials, 2011, 15, 277-291.	4.4	4
49	Indentation-Induced Shear Band Formation in Thin-Film Multilayers. Frontiers in Materials, 2017, 4, .	2.4	4
50	Nanoindentation for Testing Material Properties. , 2019, , 1981-2012.		3
51	Numerical Study of Effective Thermal Conductivity for Periodic Closed-Cell Porous Media. Transport in Porous Media, 2022, 143, 245-269.	2.6	3
52	Parametric variations of the interatomic potential in atomistic analysis of nano-scale metal plasticity. International Journal of Mechanics and Materials in Design, 2008, 4, 361-374.	3.0	2
53	Deformation localization in constrained layers of metallic glasses: A parametric modeling analysis. Thin Solid Films, 2014, 561, 108-113.	1.8	2
54	Effects of Dielectric Thermal Expansion and Elastic Modulus on the Stress and Deformation Fields in Copper Interconnects. Materials Research Society Symposia Proceedings, 2006, 914, 1.	0.1	1

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55	Critical Temperature Shift for Stress Induced Voiding in Advanced Cu Interconnects for 32 nm and Beyond. <i>Procedia Engineering</i> , 2016, 139, 32-40.	1.2	1
56	On the Viscoelastic Drift Behavior During Nanoindentation. <i>Frontiers in Materials</i> , 2022, 9, .	2.4	1
57	Micromechanical Analysis of Discontinuously Reinforced Aluminum during Strength and Hardness Testing. , 2006, , .		0
58	Razorback “ A reactor transient analysis code for large rapid reactivity additions in a natural circulation research reactor. <i>Annals of Nuclear Energy</i> , 2020, 138, 107153.	1.8	0
59	Material Properties of Electronic Packages, Thermal Stresses in On-Chip Metal Interconnects. , 2014, , 2891-2898.		0
60	Nanoindentation for Testing Material Properties. , 2018, , 1-32.		0
61	Thermal conductivity of crack-containing media: A numerical study. <i>Journal of Composite Materials</i> , 0, , 002199832210955.	2.4	0