

Yu-Lin Shen

List of Publications by Year in descending order

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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	Numerical Study of Effective Thermal Conductivity for Periodic Closed-Cell Porous Media. <i>Transport in Porous Media</i> , 2022, 143, 245-269.	2.6	3
2	On the Viscoelastic Drift Behavior During Nanoindentation. <i>Frontiers in Materials</i> , 2022, 9, .	2.4	1
3	Direct numerical simulations of three-dimensional surface instability patterns in thin film-compliant substrate structures. <i>Scientific Reports</i> , 2021, 11, 16449.	3.3	5
4	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
5	Metallic glass coating for improving diamond dicing performance. <i>Scientific Reports</i> , 2020, 10, 12432.	3.3	9
6	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
7	Instability driven surface patterns: Insights from direct three-dimensional finite element simulations. <i>Extreme Mechanics Letters</i> , 2020, 39, 100779.	4.1	10
8	Surface Instability of Composite Thin Films on Compliant Substrates: Direct Simulation Approach. <i>Frontiers in Materials</i> , 2019, 6, .	2.4	11
9	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
10	Biomechanical Heterogeneity of Living Cells: Comparison between Atomic Force Microscopy and Finite Element Simulation. <i>Langmuir</i> , 2019, 35, 7578-7587.	3.5	29
11	Nanoindentation for Testing Material Properties. , 2019, , 1981-2012.		3
12	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
13	Nanoindentation for Testing Material Properties. , 2018, , 1-32.		0
14	Extreme“Value Statistics Reveal Rare Failure“Critical Defects in Additive Manufacturing. <i>Advanced Engineering Materials</i> , 2017, 19, 1700102.	3.5	65
15	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
16	High-throughput stochastic tensile performance of additively manufactured stainless steel. <i>Journal of Materials Processing Technology</i> , 2017, 241, 1-12.	6.3	118
17	Indentation-Induced Shear Band Formation in Thin-Film Multilayers. <i>Frontiers in Materials</i> , 2017, 4, .	2.4	4
18	Delamination analysis of metal“ceramic multilayer coatings subject to nanoindentation. <i>Surface and Coatings Technology</i> , 2016, 303, 3-11.	4.8	11

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19	Non-stick syringe needles: Beneficial effects of thin film metallic glass coating. Scientific Reports, 2016, 6, 31847.	3.3	49
20	Analysis of Indentation-Derived Power-Law Creep Response. Journal of Materials Engineering and Performance, 2016, 25, 1109-1116.	2.5	16
21	Critical Temperature Shift for Stress Induced Voiding in Advanced Cu Interconnects for 32 nm and Beyond. Procedia Engineering, 2016, 139, 32-40.	1.2	1
22	Anisotropy, size, and aspect ratio effects on micropillar compression of Al SiC nanolaminate composites. Acta Materialia, 2016, 114, 25-32.	7.9	75
23	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. Procedia Engineering, 2016, 139, 101-111.	1.2	40
24	Orientation dependence of indentation behavior in Al-SiC nanolaminate composites. Materials Letters, 2016, 168, 129-133.	2.6	14
25	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
26	Indentation-derived elastic modulus of multilayer thin films: Effect of unloading-induced plasticity. Journal of Materials Research, 2015, 30, 2279-2290.	2.6	6
27	Indentation versus uniaxial power-law creep: a numerical assessment. Journal of Materials Science, 2015, 50, 1394-1400.	3.7	21
28	Deformation localization in constrained layers of metallic glasses: A parametric modeling analysis. Thin Solid Films, 2014, 561, 108-113.	1.8	2
29	Indentation behavior of multilayered thin films: Effects of layer undulation. Thin Solid Films, 2014, 570, 235-242.	1.8	8
30	Material Properties of Electronic Packages, Thermal Stresses in On-Chip Metal Interconnects. , 2014, , 2891-2898.		0
31	Critical temperature shift for Stress Induced Voiding in advanced Cu interconnects for 32 nm and beyond. , 2012, , .		5
32	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
33	Cyclic indentation behavior of metal-ceramic nanolayered composites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 557, 119-125.	5.6	21
34	Bendable bulk metallic glass: Effects of a thin, adhesive, strong, and ductile coating. Acta Materialia, 2012, 60, 3226-3238.	7.9	67
35	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
36	Direct simulation of fatigue failure in solder joints during cyclic shear. Materials & Design, 2011, 32, 1940-1947.	5.1	14

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37	Anomalous viscoplasticity during nanoindentation of Al/SiC nanolaminated composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011, 528, 4608-4614.	5.6	7
38	Micropillar compression of Al/SiC nanolaminates. <i>Acta Materialia</i> , 2010, 58, 6628-6636.	7.9	84
39	Numerical study of ductile failure morphology in solder joints under fast loading conditions. <i>Microelectronics Reliability</i> , 2010, 50, 2059-2070.	1.7	17
40	Focused Ion Beam (FIB) tomography of nanoindentation damage in nanoscale metal/ceramic multilayers. <i>Materials Characterization</i> , 2010, 61, 481-488.	4.4	33
41	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
42	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
43	Modeling of Solder Fatigue Failure due to Ductile Damage. <i>Journal of Mechanics</i> , 2010, 26, N23-N27.	1.4	6
44	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
45	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
46	Parametric variations of the interatomic potential in atomistic analysis of nano-scale metal plasticity. <i>International Journal of Mechanics and Materials in Design</i> , 2008, 4, 361-374.	3.0	2
47	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
48	On the Elastic Assumption for Copper Lines in Interconnect Stress Modeling. <i>IEEE Transactions on Device and Materials Reliability</i> , 2008, 8, 600-607.	2.0	8
49	Indentation across size scales and disciplines: Recent developments in experimentation and modeling. <i>Acta Materialia</i> , 2007, 55, 4015-4039.	7.9	403
50	Elastic fields of 2D and 3D misfit particles in an infinite medium. <i>Mechanics Research Communications</i> , 2007, 34, 31-43.	1.8	4
51	On the failure path in shear-tested solder joints. <i>Microelectronics Reliability</i> , 2007, 47, 1300-1305.	1.7	18
52	Micromechanical Analysis of Discontinuously Reinforced Aluminum during Strength and Hardness Testing. , 2006, , .		0
53	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
54	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

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55	Thermo-mechanical stresses in copper interconnects – A modeling analysis. <i>Microelectronic Engineering</i> , 2006, 83, 446-459.	2.4	30
56	Effects of Dielectric Thermal Expansion and Elastic Modulus on the Stress and Deformation Fields in Copper Interconnects. <i>Materials Research Society Symposia Proceedings</i> , 2006, 914, 1.	0.1	1
57	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
58	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
59	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
60	Laser linking of metal interconnects: analysis and design considerations. <i>IEEE Transactions on Electron Devices</i> , 1996, 43, 402-410.	3.0	21
61	Thermal conductivity of crack-containing media: A numerical study. <i>Journal of Composite Materials</i> , 0, , 002199832210955.	2.4	0