Christopher L Muhlstein

List of Publications by Year
in descending order

51	586	623574	610775
papers	citations	14 h-index	24 g-index

52	52	52	496
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Mechanism of fatigue in micron-scale films of polycrystalline silicon for microelectromechanical systems. Applied Physics Letters, 2002, 80, 1532-1534.	1.5	96
2	Fatigue-induced grain coarsening in nanocrystalline platinum films. Acta Materialia, 2011, 59, 1141-1149.	3.8	53
3	Fatigue failure in thin-film polycrystalline silicon is due to subcritical cracking within the oxide layer. Applied Physics Letters, 2005, 86, 041914.	1.5	47
4	Galvanic effects in Si-based microelectromechanical systems: Thick oxide formation and its implications for fatigue reliability. Applied Physics Letters, 2005, 86, 211919.	1.5	42
5	Nanoindentation of glass wool fibers. Journal of Non-Crystalline Solids, 2008, 354, 3887-3895.	1.5	41
6	The role of specimen thickness in the fracture toughness and fatigue crack growth resistance of nanocrystalline platinum films. Acta Materialia, 2012, 60, 1408-1417.	3.8	30
7	Effects of Surface Chemistry on the Nanomechanical Properties of Commercial Float Glass. Journal of the American Ceramic Society, 2010, 93, 838-847.	1.9	23
8	Dependence on diameter and growth direction of apparent strain to failure of Si nanowires. Journal of Applied Physics, 2011, 109, .	1.1	23
9	Lost Mold Rapid Infiltration Forming of Mesoscale Ceramics: Part 1, Fabrication. Journal of the American Ceramic Society, 2009, 92, S63-S69.	1.9	20
10	The Extended Range of Reaction-layer Fatigue Susceptibility of Polycrystalline Silicon Thin Films. International Journal of Fracture, 2005, 135, 1-18.	1.1	17
11	Notch Root Oxide Formation During Fatigue of Polycrystalline Silicon Structural Films. Journal of Microelectromechanical Systems, 2007, 16, 1441-1450.	1.7	17
12	Lost Moldâ€Rapid Infiltration Forming of Mesoscale Ceramics: Part 2, Geometry and Strength Improvements. Journal of the American Ceramic Society, 2009, 92, S70-S78.	1.9	17
13	Design, Fabrication, and Performance of a Piezoelectric Uniflex Microactuator. Journal of Microelectromechanical Systems, 2009, 18, 616-625.	1.7	17
14	Velocity-Dependent Fatigue Crack Paths in Nanograined Pt Films. Physical Review Letters, 2008, 101, 085503.	2.9	15
15	The role of debris-induced cantilever effects in cyclic fatigue of micron-scale silicon films. Fatigue and Fracture of Engineering Materials and Structures, 2007, 30, 57-63.	1.7	12
16	Continuous electrical in situ contact area measurement during instrumented indentation. Journal of Materials Research, 2008, 23, 2480-2485.	1.2	11
17	Optimal Design and Fabrication of Narrow-Gauge Compliant Forceps. Journal of Mechanical Design, Transactions of the ASME, 2011, 133, .	1.7	11
18	High-Cycle Fatigue of Polycrystalline Silicon Thin Films in Laboratory Air. Materials Research Society Symposia Proceedings, 2000, 657, 581.	0.1	10

#	Article	IF	Citations
19	Developing Niâ€“Al and Ruâ€“Al intermetallic films for use in microelectromechanical systems. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 042002.	0.6	10
20	Cyclic Stabilization of Electrodeposited Nickel Structural Films. Journal of Microelectromechanical Systems, 2011, 20, 753-763.	1.7	8
21	Reconciling fracture toughness parameter contradictions in thin ductile metal sheets. Fatigue and Fracture of Engineering Materials and Structures, 2017, 40, 1809-1824.	1.7	8
22	The effects of texture and grain morphology on the fracture toughness and fatigue crack growth resistance of nanocrystalline platinum films. International Journal of Fatigue, 2015, 70, 258-269.	2.8	7
23	Characterization of structural films using microelectromechanical resonators. Fatigue and Fracture of Engineering Materials and Structures, 2005, 28, 711-721.	1.7	6
24	On the origins of anomalous elastic moduli and failure strains of GaP nanowires. Nanotechnology, 2017, 28, 065703.	1.3	6
25	Failure by Fracture and Fatigue in “Nano” and “Bio” Materials. JSME International Journal Series A-Solid Mechanics and Material Engineering, 2004, 47, 238-251.	0.4	5
26	Crack closure of Ni-based superalloy 718 at high negative stress ratios. International Journal of Fatigue, 2022, 160, 106822.	2.8	5
27	Oxidation of RuAl and NiAl Thin Films: Evolution of Surface Morphology and Electrical Resistance. Journal of Microelectromechanical Systems, 2011, 20, 933-942.	1.7	4
28	The role of deposited layers in the nonlinear constitutive behavior of Si nanowires. Journal of Applied Physics, 2013, 114, 193507.	1.1	4
29	Relating Nonuniform Deformations to Fracture in Uniaxially Loaded Non-Woven Fiber Networks. Experimental Mechanics, 2019, 59, 1127-1144.	1.1	4
30	Mode I steady-state crack propagation through a fully-yielded ligament in thin ductile metal foils. Theoretical and Applied Fracture Mechanics, 2019, 101, 141-151.	2.1	4
31	Mode I crack growth in paper exhibits three stages of strain evolution in reaching steady-state. Theoretical and Applied Fracture Mechanics, 2022, 118, 103279.	2.1	3
32	Augmented instrumented indentation using nonlinear electrical contact current-voltage curves. Journal of Materials Research, 2009, 24, 1820-1832.	1.2	2
33	Correlating bonded joint deformation with failure using a free surface strain field mining methodology. Fatigue and Fracture of Engineering Materials and Structures, 2016, 39, 1124-1137.	1.7	2
34	High-cycle fatigue damage accumulation in paper. Communications Materials, 2020, 1, .	2.9	2
35	On the Mechanism of Fatigue in Micron-Scale Structural Films of Polycrystalline Silicon. Materials Research Society Symposia Proceedings, 2001, 687, 1.	0.1	1
36	Reaction-layer fatigue: understanding the limitations of structural silicon. , 2004, , .		1

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37	The development of zones of active plasticity during mode I steady-state crack growth in thin aluminum sheets. Engineering Fracture Mechanics, 2019, 218, 106540.	2.0	1
38	Practical Implications of Instrument Displacement Drift during Force-Controlled Nanoindentation. Journal of Testing and Evaluation, 2010, 38, 203-210.	0.4	1
39	On The Mechanism of Fatigue in Micron-Scale Structural Films of Polycrystalline Silicon. Materials Research Society Symposia Proceedings, 2001, 697, 671.	0.1	0
40	Interfacial Effects on the Premature Failure of Polycrystalline Silicon Structural Films. Materials Research Society Symposia Proceedings, 2002, 741, 351.	0.1	0
41	Surface Engineering of Polycrystalline Silicon Microelectromechanical Systems for Fatigue Resistance. Materials Research Society Symposia Proceedings, 2002, 729, 211.	0.1	0
42	Fatigue Degradation of Nanometer-Scale Silicon Dioxide Reaction Layers on Silicon Structural Films. Materials Research Society Symposia Proceedings, 2003, 778, 721.	0.1	0
43	Using the Electron Microscope to Explore Reliability in Microelectromechanical Systems and Nanostructured Materials. Microscopy and Microanalysis, 2004, 10, 354-355.	0.2	0
44	Fatigue of polycrystalline silicon films with thin surface oxides. , 2006, , .		0
45	Softening under membrane contact stress due to ultra-thin Ru coatings on Au films. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 565, 172-179.	2.6	0
46	Strengthening Mechanisms in MLCCs: Residual Stress Versus Crack Tip Shielding. Journal of the American Ceramic Society, 2014, 97, 283-289.	1.9	0
47	OS06W0368 Characterization of structural films using microelectromechanical resonators. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003.2, _OS06W0368-_OS06W0368.	0.0	0
48	PL-2(PL2W0466) On the Fatigue and Fracture of "Nano" and "Bio" Materials. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003, 4.	0.0	0
49	PL2W0466 On the fatigue and fracture of "nano" and "bio" materials. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003.2, _PL2W0466--_PL2W0466-.	0.0	0
50	OS6(4)-14(OS06W0368) Characterization of Structural Films Using Microelectromechanical Resonators. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003, 229.	0.0	0
51	Steady-state crack growth in heterogeneous fiber network thin sheets. Engineering Fracture Mechanics, 2021, , 108133.	2.0	0