

John W Hutchinson

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/686709/publications.pdf>

Version: 2024-02-01

68
papers

9,164
citations

81889

39
h-index

98792

67
g-index

69
all docs

69
docs citations

69
times ranked

6563
citing authors

#	ARTICLE	IF	CITATIONS
1	Spontaneous formation of ordered structures in thin films of metals supported on an elastomeric polymer. <i>Nature</i> , 1998, 393, 146-149.	27.8	2,077
2	Kinking of a Crack Out of an Interface. <i>Journal of Applied Mechanics, Transactions ASME</i> , 1989, 56, 270-278.	2.2	611
3	Microcracking in Ceramics Induced by Thermal Expansion or Elastic Anisotropy. <i>Journal of the American Ceramic Society</i> , 1988, 71, 157-166.	3.8	576
4	Herringbone Buckling Patterns of Compressed Thin Films on Compliant Substrates. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2004, 71, 597-603.	2.2	511
5	A comparative study of impulse-resistant metal sandwich plates. <i>International Journal of Impact Engineering</i> , 2004, 30, 1283-1305.	5.0	448
6	Environmental degradation of thermal-barrier coatings by molten deposits. <i>MRS Bulletin</i> , 2012, 37, 932-941.	3.5	425
7	Ordering of Spontaneously Formed Buckles on Planar Surfaces. <i>Langmuir</i> , 2000, 16, 3497-3501.	3.5	392
8	Wrinkling Phenomena in Neo-Hookean Film/Substrate Bilayers. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2012, 79, .	2.2	226
9	Metal sandwich plates optimized for pressure impulses. <i>International Journal of Mechanical Sciences</i> , 2005, 47, 545-569.	6.7	207
10	Interface strength, work of adhesion and plasticity in the peel test. <i>International Journal of Fracture</i> , 1998, 93, 315-333.	2.2	202
11	The Response of Metallic Sandwich Panels to Water Blast. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2007, 74, 81-99.	2.2	197
12	Dynamic buckling estimates.. <i>AIAA Journal</i> , 1966, 4, 525-530.	2.6	192
13	From wrinkles to creases in elastomers: the instability and imperfection-sensitivity of wrinkling. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012, 468, 94-115.	2.1	174
14	Kinking of a Crack out of an Interface: Role of In-Plane Stress. <i>Journal of the American Ceramic Society</i> , 1991, 74, 767-771.	3.8	173
15	Toughness of an interface along a thin ductile layer joining elastic solids. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1994, 70, 641-656.	0.6	166
16	Influence of substrate compliance on buckling delamination of thin films. <i>International Journal of Fracture</i> , 2002, 113, 39-55.	2.2	156
17	Localized ridge wrinkling of stiff films on compliant substrates. <i>Journal of the Mechanics and Physics of Solids</i> , 2012, 60, 1265-1279.	4.8	138
18	Interface Debonding and Fiber Cracking in Brittle Matrix Composites. <i>Journal of the American Ceramic Society</i> , 1989, 72, 2300-2303.	3.8	127

#	ARTICLE	IF	CITATIONS
19	Crossover Patterning by the Beam-Film Model: Analysis and Implications. PLoS Genetics, 2014, 10, e1004042.	3.5	127
20	The Geometric Role of Precisely Engineered Imperfections on the Critical Buckling Load of Spherical Elastic Shells. Journal of Applied Mechanics, Transactions ASME, 2016, 83, .	2.2	125
21	Crush dynamics of square honeycomb sandwich cores. International Journal for Numerical Methods in Engineering, 2006, 65, 2221-2245.	2.8	124
22	Models of Interface Separation Accompanied by Plastic Dissipation at Multiple Scales. International Journal of Fracture, 1999, 95, 1-17.	2.2	119
23	The role of nonlinear substrate elasticity in the wrinkling of thin films. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120422.	3.4	99
24	Buckling of spherical shells revisited. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160577.	2.1	96
25	Constitutive model for quasi-static deformation of metallic sandwich cores. International Journal for Numerical Methods in Engineering, 2004, 61, 2205-2238.	2.8	95
26	Generalizing J 2 flow theory: Fundamental issues in strain gradient plasticity. Acta Mechanica Sinica/Lixue Xuebao, 2012, 28, 1078-1086.	3.4	91
27	Period-doubling and period-tripling in growing bilayered systems. Philosophical Magazine, 2015, 95, 3208-3224.	1.6	88
28	The Mechanics of Indentation Induced Lateral Cracking. Journal of the American Ceramic Society, 2005, 88, 1233-1238.	3.8	78
29	Initial post-buckling behavior of toroidal shell segments. International Journal of Solids and Structures, 1967, 3, 97-115.	2.7	75
30	Mechanics of wrinkle/ridge transitions in thin film/substrate systems. Journal of the Mechanics and Physics of Solids, 2015, 81, 22-40.	4.8	68
31	Imperfections and energy barriers in shell buckling. International Journal of Solids and Structures, 2018, 148-149, 157-168.	2.7	68
32	Buckling of a Pressurized Hemispherical Shell Subjected to a Probing Force. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	2.2	61
33	Non-uniform plastic deformation of micron scale objects. International Journal for Numerical Methods in Engineering, 2003, 56, 961-975.	2.8	54
34	Nonlinear buckling behaviour of spherical shells: barriers and symmetry-breaking dimples. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160154.	3.4	53
35	The adhesion energy between polymer thin films and self-assembled monolayers. Journal of Materials Research, 1998, 13, 3555-3564.	2.6	52
36	Coupled Plastic Wave Propagation and Column Buckling. Journal of Applied Mechanics, Transactions ASME, 2005, 72, 139-146.	2.2	49

#	ARTICLE	IF	CITATIONS
37	Nonlinear Buckling Interaction for Spherical Shells Subject to Pressure and Probing Forces. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	2.2	48
38	Ridge Localizations and Networks in Thin Films Compressed by the Incremental Release of a Large Equibiaxial Pre-stretch in the Substrate. Advanced Materials, 2014, 26, 4061-4067.	21.0	47
39	Lifetime Assessment for Thermal Barrier Coatings: Tests for Measuring Mixed Mode Delamination Toughness. Journal of the American Ceramic Society, 2011, 94, s85.	3.8	41
40	Three-Dimensional Effects in Microcrack Nucleation in Brittle Polycrystals. Journal of the American Ceramic Society, 1990, 73, 1548-1554.	3.8	36
41	First principles based predictions of the toughness of a metal/oxide interface. International Journal of Materials Research, 2010, 101, 8-15.	0.3	36
42	Technical Brief: Knockdown Factor for the Buckling of Spherical Shells Containing Large-Amplitude Geometric Defects. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	2.2	35
43	Localization in spherical shell buckling. Journal of the Mechanics and Physics of Solids, 2020, 136, 103720.	4.8	35
44	Foreign object damage and fatigue crack threshold: Cracking outside shallow indents. International Journal of Fracture, 2001, 107, 31-51.	2.2	34
45	Probing Shells Against Buckling: A Nondestructive Technique for Laboratory Testing. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2017, 27, 1730048.	1.7	33
46	Knockdown factors for buckling of cylindrical and spherical shells subject to reduced biaxial membrane stress. International Journal of Solids and Structures, 2010, 47, 1443-1448.	2.7	32
47	pH-responsive scaffolds generate a pro-healing response. Biomaterials, 2015, 57, 22-32.	11.4	32
48	Bucklewaves. European Journal of Mechanics, A/Solids, 2006, 25, 1-12.	3.7	30
49	The 3D Topography of Mitotic Chromosomes. Molecular Cell, 2020, 79, 902-916.e6.	9.7	30
50	Energy and Momentum Transfer in Air Shocks. Journal of Applied Mechanics, Transactions ASME, 2009, 76, .	2.2	24
51	Measuring critical stress for shear failure of interfacial regions in coating/interlayer/substrate systems through a micro-pillar testing protocol. Journal of Materials Research, 2017, 32, 1421-1431.	2.6	24
52	Three-dimensional morphology evolution of SiO ₂ patterned films under MeV ion irradiation. Journal of Applied Physics, 2006, 100, 023535.	2.5	22
53	EML Webinar overview: New developments in shell stability. Extreme Mechanics Letters, 2020, 39, 100805.	4.1	20
54	Directed assembly of fluidic networks by buckle delamination of films on patterned substrates. International Journal of Materials Research, 2007, 98, 1203-1208.	0.3	15

#	ARTICLE	IF	CITATIONS
55	Role of Fiber Stitching in Eliminating Transverse Fracture in Cross-Ply Ceramic Composites. Journal of the American Ceramic Society, 1995, 78, 251-253.	3.8	10
56	One-dimensional spatial patterning along mitotic chromosomes: A mechanical basis for macroscopic morphogenesis. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 26749-26755.	7.1	10
57	Mixed Mode Interface Toughness Of Metal / Ceramic Joints. Materials Research Society Symposia Proceedings, 1995, 409, 163.	0.1	8
58	Nonlinear dynamics of spherical shells buckling under step pressure. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20180884.	2.1	8
59	Edge-Cracks in Single Crystals Under Monotonic and Cyclic Loads. International Journal of Fracture, 1999, 99, 81-95.	2.2	7
60	Buckling Thresholds for Pre-Loaded Spherical Shells Subject to Localized Blasts. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	2.2	7
61	Bending Instability of Rod-Shaped Bacteria. Physical Review Letters, 2022, 128, 058101.	7.8	6
62	Surface instabilities of constrained elastomeric layers subject to electro-static stressing. Journal of the Mechanics and Physics of Solids, 2021, 153, 104462.	4.8	5
63	Probing the stability of thin-shell space structures under bending. International Journal of Solids and Structures, 2022, 257, 111806.	2.7	3
64	Models for the Strength of Ductile Matrix Composites. Materials Research Society Symposia Proceedings, 1990, 194, 3.	0.1	2
65	Technical Cost Framework for High-Temperature Manufacturing of Small Components and Devices. Journal of the American Ceramic Society, 1998, 81, 815-836.	3.8	2
66	Numerical Simulation of Cropping. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	2.2	1
67	Interfacial Fracture Mechanics. Materials Research Society Symposia Proceedings, 1988, 130, 397.	0.1	0
68	Thin Film Herringbone Buckling Patterns. Materials Research Society Symposia Proceedings, 2003, 795, 264.	0.1	0