

Kai-Tak Wan

List of Publications by Year in descending order

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100
papers

3,930
citations

185998

28
h-index

128067

60
g-index

104
all docs

104
docs citations

104
times ranked

5184
citing authors

#	ARTICLE	IF	CITATIONS
1	Carbon-Nanotube-Embedded Hydrogel Sheets for Engineering Cardiac Constructs and Bioactuators. ACS Nano, 2013, 7, 2369-2380.	7.3	789
2	Reduced Graphene Oxideâ€“GelMA Hybrid Hydrogels as Scaffolds for Cardiac Tissue Engineering. Small, 2016, 12, 3677-3689.	5.2	385
3	Mechanical property characterization of mouse zona pellucida. IEEE Transactions on Nanobioscience, 2003, 2, 279-286.	2.2	282
4	Direct measurement of graphene adhesion on silicon surface by intercalation of nanoparticles. Journal of Applied Physics, 2010, 107, .	1.1	164
5	A theoretical and numerical study of a thin clamped circular film under an external load in the presence of a tensile residual stress. Thin Solid Films, 2003, 425, 150-162.	0.8	149
6	Electrically Driven Microengineered Bioinspired Soft Robots. Advanced Materials, 2018, 30, 1704189.	11.1	140
7	Microfluidics-Assisted Fabrication of Gelatin-Silica Coreâ€“Shell Microgels for Injectable Tissue Constructs. Biomacromolecules, 2014, 15, 283-290.	2.6	133
8	Nanoparticle-Based Hybrid Scaffolds for Deciphering the Role of Multimodal Cues in Cardiac Tissue Engineering. ACS Nano, 2019, 13, 12525-12539.	7.3	101
9	Fracture mechanics of a shaft-loaded blister of thin flexible membrane on rigid substrate. International Journal of Fracture, 1996, 74, 181-197.	1.1	97
10	Crack velocity functions and thresholds in brittle solids. Journal of the European Ceramic Society, 1990, 6, 259-268.	2.8	93
11	Fracture and Contact Adhesion Energies of Mica-Mica, Silica-Silica, and Mica-Silica Interfaces in Dry and Moist Atmospheres. Journal of the American Ceramic Society, 1992, 75, 667-676.	1.9	90
12	Fracture mechanics of a new blister test with stable crack growth. Acta Metallurgica Et Materialia, 1995, 43, 4109-4115.	1.9	81
13	Measuring mechanical properties of thin flexible films by a shaft-loaded blister test. Thin Solid Films, 1999, 352, 167-172.	0.8	58
14	Interfacial energy states of moisture-exposed cracks in mica. Journal of Materials Research, 1990, 5, 172-182.	1.2	57
15	Fracture Mechanics of a Shaft-loaded Blister Test â€“ Transition from a Bending Plate to a Stretching Membrane. Journal of Adhesion, 1999, 70, 209-219.	1.8	49
16	Adherence of an Axisymmetric Flat Punch Onto a Clamped Circular Plate: Transition From a Rigid Plate to a Flexible Membrane. Journal of Applied Mechanics, Transactions ASME, 2002, 69, 110-116.	1.1	46
17	Elastic and Viscoelastic Characterization of Mouse Oocytes Using Micropipette Indentation. Annals of Biomedical Engineering, 2012, 40, 2122-2130.	1.3	45
18	Adherence of an Axisymmetric Flat Punch on a Thin Flexible Membrane. Journal of Adhesion, 2001, 75, 369-380.	1.8	44

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19	A bending-to-stretching analysis of the blister test in the presence of tensile residual stress. <i>International Journal of Solids and Structures</i> , 2005, 42, 2771-2784.	1.3	42
20	Impact of environmental variables on the degradation of photovoltaic components and perspectives for the reliability assessment methodology. <i>Solar Energy</i> , 2020, 199, 425-436.	2.9	41
21	Small-angle light scattering to detect strain-directed collagen degradation in native tissue. <i>Interface Focus</i> , 2011, 1, 767-776.	1.5	39
22	A theoretical and numerical study of thin film delamination using the pull-off test. <i>International Journal of Solids and Structures</i> , 2004, 41, 717-730.	1.3	36
23	Do Electrospun Polymer Fibers Stick?. <i>Langmuir</i> , 2010, 26, 14188-14193.	1.6	34
24	Adhesion of a flat punch adhered to a thin pre-stressed membrane. <i>Journal of Adhesion</i> , 2003, 79, 123-140.	1.8	31
25	The Bending to Stretching Transition of a Pressurized Blister Test. <i>International Journal of Fracture</i> , 1998, 92, 43-47.	1.1	30
26	Adherence of a Rectangular Flat Punch Onto a Clamped Plate: Transition From a Rigid Plate to a Flexible Membrane. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2002, 69, 104-109.	1.1	29
27	Constitutive equation for elastic indentation of a thin-walled bio-mimetic microcapsule by an atomic force microscope tip. <i>Colloids and Surfaces B: Biointerfaces</i> , 2003, 27, 241-248.	2.5	28
28	A systematic method for characterizing the elastic properties and adhesion of a thin polymer membrane. <i>International Journal of Mechanical Sciences</i> , 2005, 47, 319-332.	3.6	28
29	Axisymmetric rim instability of water droplet impact on a super-hydrophobic surface. <i>Physics of Fluids</i> , 2018, 30, .	1.6	27
30	Surface forces at crack interfaces in mica in the presence of capillary condensation. <i>Acta Metallurgica Et Materialia</i> , 1990, 38, 2073-2083.	1.9	26
31	Fracture Mechanics of aV-peel Adhesion Test “Transition from a Bending Plate to a Stretching Membrane. <i>Journal of Adhesion</i> , 1999, 70, 197-207.	1.8	26
32	The coupling effect of interfacial adhesion and tensile residual stress on a thin membrane adhered to a flat punch. <i>Journal of Micromechanics and Microengineering</i> , 2005, 15, 778-784.	1.5	26
33	Measurement of Adhesion Work of Electrospun Polymer Membrane by Shaft-Loaded Blister Test. <i>Langmuir</i> , 2012, 28, 6677-6683.	1.6	26
34	Thermal-Induced Modification of the Contact Mechanics of Adhering Liposomes. <i>Langmuir</i> , 2002, 18, 3134-3141.	1.6	25
35	A novel test method for quantifying cracking propensity of photovoltaic backsheets after ultraviolet exposure. <i>Progress in Photovoltaics: Research and Applications</i> , 2019, 27, 44-54.	4.4	24
36	Adhesion-delamination mechanics of a prestressed rectangular film adhered onto a rigid substrate. <i>Journal of Applied Physics</i> , 2007, 101, 024903.	1.1	23

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37	Colloidal adhesion of phospholipid vesicles: high-resolution reflection interference contrast microscopy and theory. <i>Colloids and Surfaces B: Biointerfaces</i> , 2002, 25, 347-362.	2.5	19
38	Glycoprotein mucin molecular brush on cancer cell surface acting as mechanical barrier against drug delivery. <i>Applied Physics Letters</i> , 2010, 97, 263703.	1.5	19
39	Adhesion of an Elastic Convex Shell onto a Rigid Plate. <i>Journal of Adhesion</i> , 2011, 87, 579-594.	1.8	19
40	Derivation of the strain energy release rate G from first principles for the pressurized blister test. <i>International Journal of Adhesion and Adhesives</i> , 2005, 25, 13-18.	1.4	18
41	Confined Thin Film Delamination in the Presence of Intersurface Forces With Finite Range and Magnitude. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2009, 76, .	1.1	18
42	A nano-cheese-cutter to directly measure interfacial adhesion of freestanding nano-fibers. <i>Journal of Applied Physics</i> , 2012, 111, 024315.	1.1	17
43	Adhesion of nylon-6 on surface treated aluminium substrates. <i>Journal of Materials Science</i> , 1996, 31, 2109-2116.	1.7	16
44	Static and Dynamic Fatigue of Glass/Carbon Hybrid Composites in Fluid Environment. <i>Journal of Composite Materials</i> , 2002, 36, 159-172.	1.2	16
45	Indentation of a square elastomeric thin film by a flat-ended cylindrical punch in the presence of long-range intersurface forces. <i>Journal of Applied Physics</i> , 2004, 96, 6159-6163.	1.1	16
46	A novel cylindrical punch method to characterize interfacial adhesion and residual stress of a thin polymer film. <i>Engineering Fracture Mechanics</i> , 2007, 74, 1101-1106.	2.0	16
47	“Pull-in” of a pre-stressed thin film by an electrostatic potential: A 1-D rectangular bridge and a 2-D circular diaphragm. <i>International Journal of Mechanical Sciences</i> , 2010, 52, 1158-1166.	3.6	16
48	Adhesion of graphene sheet on nano-patterned substrates with nano-pillar array. <i>Journal of Applied Physics</i> , 2013, 113, 244303.	1.1	16
49	Repulsive interaction between coplanar cracks in the double cantilever geometry. <i>Journal of Materials Research</i> , 1992, 7, 1584-1588.	1.2	15
50	Correlation of macroscopic aggregation behavior and microscopic adhesion properties of bacteria strains using a dimensionless Tabor’s parameter. <i>Journal of Colloid and Interface Science</i> , 2012, 374, 70-76.	5.0	15
51	Printing Highly Controlled Suspended Carbon Nanotube Network on Micro-patterned Superhydrophobic Flexible Surface. <i>Scientific Reports</i> , 2015, 5, 15908.	1.6	15
52	Squeezed nanocrystals: equilibrium configuration of metal clusters embedded beneath the surface of a layered material. <i>Nanoscale</i> , 2019, 11, 6445-6452.	2.8	14
53	Shapes of Fe nanocrystals encapsulated at the graphite surface. <i>New Journal of Physics</i> , 2020, 22, 023016.	1.2	14
54	Pressurized internal lenticular cracks at healed mica interfaces. <i>Journal of Materials Research</i> , 1993, 8, 1128-1136.	1.2	13

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55	Adhesionâ€“Delamination Mechanics of a Prestressed Circular Film Adhered onto a Rigid Substrate. <i>Journal of Adhesion</i> , 2007, 83, 67-83.	1.8	13
56	Analysis of One-Dimensional and Two-Dimensional Thin Film â€œPull-inâ€•Phenomena Under the Influence of an Electrostatic Potential. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2007, 74, 927-934.	1.1	13
57	Adhesion Between Thin Cylindrical Shells With Parallel Axes. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2010, 77, .	1.1	13
58	A novel blister test to investigate thin film delamination at elevated temperature. <i>International Journal of Adhesion and Adhesives</i> , 2000, 20, 141-143.	1.4	12
59	Deformation of a Convex Hydrogel Shell by Parallel Plate and Central Compression. <i>Experimental Mechanics</i> , 2012, 52, 539-549.	1.1	12
60	Mechanical performance of hydrogel contact lenses with a range of power under parallel plate compression and central load. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2013, 22, 59-64.	1.5	12
61	Universal Quantifier Derived from AFM Analysis Links Cellular Mechanical Properties and Cellâ€“Surface Integration Forces with Microbial Deposition and Transport Behavior. <i>Environmental Science & Technology</i> , 2014, 48, 1769-1778.	4.6	12
62	Revisiting the Constrained Blister Test to Measure Thin Film Adhesion. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2017, 84, .	1.1	12
63	Effect of chemical interaction on barenblatt crack profiles in brittle solids. <i>Acta Metallurgica Et Materialia</i> , 1992, 40, 3331-3337.	1.9	11
64	Substrate-induced deformation and adhesion of phospholipid vesicles at the main phase transition. <i>Biophysical Chemistry</i> , 2002, 99, 245-258.	1.5	10
65	Encapsulation of metal nanoparticles at the surface of a prototypical layered material. <i>Nanoscale</i> , 2021, 13, 1485-1506.	2.8	10
66	Flexural bending resonance of acoustically levitated glycerol droplet. <i>Physics of Fluids</i> , 2021, 33, .	1.6	10
67	Measuring Interfacial Adhesion of Carbon Nanotube Bundles and Electrospun Polymer Fibers. <i>Langmuir</i> , 2017, 33, 12592-12595.	1.6	10
68	Detecting Solid Masses in Phantom Breast Using Mechanical Indentation. <i>Experimental Mechanics</i> , 2014, 54, 935-942.	1.1	9
69	Delamination behavior of film-substrate systems under cyclic loading. <i>Journal of Materials Science Letters</i> , 2000, 19, 57-59.	0.5	8
70	Adhesion of a Compliant Cylindrical Shell Onto a Rigid Substrate. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2012, 79, .	1.1	8
71	Adhesion of a Cylindrical Shell in the Presence of DLVO Surface Potential. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2013, 80, .	1.1	8
72	Mechanical integrity and adhesion of thin films for applications in electronics packaging and cell biology. <i>Thin Solid Films</i> , 2003, 424, 120-124.	0.8	7

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73	Delamination Mechanics of a Clamped Rectangular Membrane in the Presence of Long-Range Intersurface Forces: Transition from JKR to DMT Limits. <i>Journal of Adhesion</i> , 2010, 86, 335-351.	1.8	7
74	Generalized Spatio-Temporal Model of Backsheet Degradation From Field Surveys of Photovoltaic Modules. <i>IEEE Journal of Photovoltaics</i> , 2019, 9, 1374-1381.	1.5	7
75	A Preliminary Two-Dimensional Palpation Mechanics for Detecting a Hard Inclusion by Indentation of a Soft Matrix Under Large Strain. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2019, 86, .	1.1	7
76	Photo-Cross-Linkable Human Albumin Colloidal Gels Facilitate In Vivo Vascular Integration for Regenerative Medicine. <i>ACS Omega</i> , 2021, 6, 33511-33522.	1.6	7
77	Thermal induced modification of the contact mechanics of adhering liposomes on cationic substrate. <i>Chemistry and Physics of Lipids</i> , 2002, 120, 131-143.	1.5	6
78	Parameter Governing Thin Film Adhesion-Delamination in the Transition from DMT- to JKR-Limit. <i>Journal of Adhesion</i> , 2010, 86, 969-981.	1.8	6
79	Adhesion Map for Thin Membranes. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2014, 81, .	1.1	6
80	One-Dimensional Constrained Blister Test to Measure Thin Film Adhesion. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2018, 85, .	1.1	6
81	Multi-scale mechanical characterization of a freestanding polymer film using indentation. <i>International Journal of Materials Research</i> , 2008, 99, 862-864.	0.1	5
82	Quantification of colloidal filtration of polystyrene micro-particles on glass substrate using a microfluidic device. <i>Colloids and Surfaces B: Biointerfaces</i> , 2018, 165, 381-387.	2.5	5
83	Delamination of a Thin Film Driven by a Flat Cylindrical Shaft. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2018, 85, .	1.1	5
84	Effect of acyl chain mismatch on the contact mechanics of two-component phospholipid vesicle during main phase transition. <i>Biophysical Chemistry</i> , 2003, 104, 141-153.	1.5	4
85	Subcritical Delamination in Epoxy Bonds to Silicon and Glass Adherends: Effect of Temperature and Preconditioning. <i>Journal of Adhesion</i> , 2008, 84, 619-637.	1.8	4
86	The mechanistic aspects of microbial transport in porous media. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2020, 603, 125169.	2.3	4
87	Measurement of crack length in width tapered beam experiments. <i>Journal of Adhesion Science and Technology</i> , 2021, 35, 357-374.	1.4	4
88	Path of a solid inclusion embedded in a soft matrix subject to finger palpation. <i>International Journal of Solids and Structures</i> , 2020, 203, 151-156.	1.3	3
89	Influence of Relative Humidity on Interparticle Capillary Adhesion. <i>Langmuir</i> , 2021, 37, 12714-12722.	1.6	3
90	PREDICTING MACROSCOPIC COLLOIDAL DEPOSITION AND TRANSPORTATION BASED ON DIMENSIONLESS TABOR'S PARAMETER. <i>Nano LIFE</i> , 2013, 03, 1340009.	0.6	2

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91	Mechanical characterization of suspended strips of meshed single-walled carbon nanotubes. Journal of Applied Physics, 2016, 119, 045305.	1.1	2
92	Degradation Models of Photovoltaic Module Backsheets Exposed to Diverse Real World Condition. , 2017, , .		2
93	Intersurface Adhesion in the Presence of Capillary Condensation. Journal of Applied Mechanics, Transactions ASME, 2018, 85, .	1.1	2
94	Mechanical Characterization of a Convex Shell (Contact Lens) with Meridional Thickness Variation. Experimental Mechanics, 2018, 58, 997-1002.	1.1	2
95	An Optical Topographic Technique to Map the 3-D Deformed Profile of a Convex Lens Under External Loading. Experimental Mechanics, 2015, 55, 641-646.	1.1	1
96	Adherence of a hyperelastic shell on a rigid planar substrate. International Journal of Solids and Structures, 2022, 236-237, 111351.	1.3	1
97	Technique to Measure Adhesive Forces Between Electrospun Nanofibers. Materials Research Society Symposia Proceedings, 2009, 1240, 1.	0.1	0
98	10.1063/5.0055710.2. , 2021, , .		0
99	MODIFIED BLISTER TESTS FOR EVALUATION OF THIN FLEXIBLE MEMBRANE ADHESION ON RIGID SUBSTRATE. Zairyo/Journal of the Society of Materials Science, Japan, 1995, 44, 78-81.	0.1	0
100	Mechanical instability of a solid inclusion in a soft matrix due to indentation. European Journal of Mechanics, A/Solids, 2022, 92, 104474.	2.1	0