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	Adherence of a hyperelastic shell on a rigid planar substrate. International Journal of Solids and Structures, 2022, 236-237, 111351.	1.3	1
2	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
3	Measurement of crack length in width tapered beam experiments. Journal of Adhesion Science and Technology, 2021, 35, 357-374.	1.4	4
4	Encapsulation of metal nanoparticles at the surface of a prototypical layered material. Nanoscale, 2021, 13, 1485-1506.	2.8	10
5	Flexural bending resonance of acoustically levitated glycerol droplet. Physics of Fluids, 2021, 33, .	1.6	10
6	10.1063/5.0055710.2. , 2021, , .		0
7	Influence of Relative Humidity on Interparticle Capillary Adhesion. Langmuir, 2021, 37, 12714-12722.	1.6	3
8	Photo-Cross-Linkable Human Albumin Colloidal Gels Facilitate In Vivo Vascular Integration for Regenerative Medicine. ACS Omega, 2021, 6, 33511-33522.	1.6	7
9	Path of a solid inclusion embedded in a soft matrix subject to finger palpation. International Journal of Solids and Structures, 2020, 203, 151-156.	1.3	3
10	The mechanistic aspects of microbial transport in porous media. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2020, 603, 125169.	2.3	4
11	Impact of environmental variables on the degradation of photovoltaic components and perspectives for the reliability assessment methodology. Solar Energy, 2020, 199, 425-436.	2.9	41
12	Shapes of Fe nanocrystals encapsulated at the graphite surface. New Journal of Physics, 2020, 22, 023016.	1.2	14
13	A novel test method for quantifying cracking propensity of photovoltaic backsheets after ultraviolet exposure. Progress in Photovoltaics: Research and Applications, 2019, 27, 44-54.	4.4	24
14	Nanoparticle-Based Hybrid Scaffolds for Deciphering the Role of Multimodal Cues in Cardiac Tissue Engineering. ACS Nano, 2019, 13, 12525-12539.	7.3	101
15	Generalized Spatio-Temporal Model of Backsheet Degradation From Field Surveys of Photovoltaic Modules. IEEE Journal of Photovoltaics, 2019, 9, 1374-1381.	1.5	7
16	Squeezed nanocrystals: equilibrium configuration of metal clusters embedded beneath the surface of a layered material. Nanoscale, 2019, 11, 6445-6452.	2.8	14
17	A Preliminary Two-Dimensional Palpation Mechanics for Detecting a Hard Inclusion by Indentation of a Soft Matrix Under Large Strain. Journal of Applied Mechanics, Transactions ASME, 2019, 86, .	1.1	7
18	One-Dimensional Constrained Blister Test to Measure Thin Film Adhesion. Journal of Applied Mechanics, Transactions ASME, 2018, 85, .	1.1	6

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19	Intersurface Adhesion in the Presence of Capillary Condensation. Journal of Applied Mechanics, Transactions ASME, 2018, 85, .	1.1	2
20	Electrically Driven Microengineered Bioinspired Soft Robots. Advanced Materials, 2018, 30, 1704189.	11.1	140
21	Quantification of colloidal filtration of polystyrene micro-particles on glass substrate using a microfluidic device. Colloids and Surfaces B: Biointerfaces, 2018, 165, 381-387.	2.5	5
22	Mechanical Characterization of a Convex Shell (Contact Lens) with Meridional Thickness Variation. Experimental Mechanics, 2018, 58, 997-1002.	1.1	2
23	Axisymmetric rim instability of water droplet impact on a super-hydrophobic surface. Physics of Fluids, 2018, 30, .	1.6	27
24	Delamination of a Thin Film Driven by a Flat Cylindrical Shaft. Journal of Applied Mechanics, Transactions ASME, 2018, 85, .	1.1	5
25	Revisiting the Constrained Blister Test to Measure Thin Film Adhesion. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	1.1	12
26	Degradation Models of Photovoltaic Module Backsheets Exposed to Diverse Real World Condition. , 2017, , .		2
27	Measuring Interfacial Adhesion of Carbon Nanotube Bundles and Electrospun Polymer Fibers. Langmuir, 2017, 33, 12592-12595.	1.6	10
28	Reduced Graphene Oxideâ€GelMA Hybrid Hydrogels as Scaffolds for Cardiac Tissue Engineering. Small, 2016, 12, 3677-3689.	5.2	385
29	Mechanical characterization of suspended strips of meshed single-walled carbon nanotubes. Journal of Applied Physics, 2016, 119, 045305.	1.1	2
30	Printing Highly Controlled Suspended Carbon Nanotube Network on Micro-patterned Superhydrophobic Flexible Surface. Scientific Reports, 2015, 5, 15908.	1.6	15
31	An Optical Topographic Technique to Map the 3-D Deformed Profile of a Convex LensÂunder External Loading. Experimental Mechanics, 2015, 55, 641-646.	1.1	1
32	Adhesion Map for Thin Membranes. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	1.1	6
33	Microfluidics-Assisted Fabrication of Gelatin-Silica Coreâ€“Shell Microgels for Injectable Tissue Constructs. Biomacromolecules, 2014, 15, 283-290.	2.6	133
34	Universal Quantifier Derived from AFM Analysis Links Cellular Mechanical Properties and Cellâ€“Surface Integration Forces with Microbial Deposition and Transport Behavior. Environmental Science & Technology, 2014, 48, 1769-1778.	4.6	12
35	Detecting Solid Masses in Phantom Breast Using Mechanical Indentation. Experimental Mechanics, 2014, 54, 935-942.	1.1	9
36	Adhesion of graphene sheet on nano-patterned substrates with nano-pillar array. Journal of Applied Physics, 2013, 113, 244303.	1.1	16

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37	Mechanical performance of hydrogel contact lenses with a range of power under parallel plate compression and central load. Journal of the Mechanical Behavior of Biomedical Materials, 2013, 22, 59-64.	1.5	12
38	Carbon-Nanotube-Embedded Hydrogel Sheets for Engineering Cardiac Constructs and Bioactuators. ACS Nano, 2013, 7, 2369-2380.	7.3	789
39	Adhesion of a Cylindrical Shell in the Presence of DLVO Surface Potential. Journal of Applied Mechanics, Transactions ASME, 2013, 80, .	1.1	8
40	PREDICTING MACROSCOPIC COLLOIDAL DEPOSITION AND TRANSPORTATION BASED ON DIMENSIONLESS TABOR'S PARAMETER. Nano LIFE, 2013, 03, 1340009.	0.6	2
41	Adhesion of a Compliant Cylindrical Shell Onto a Rigid Substrate. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	8
42	A nano-cheese-cutter to directly measure interfacial adhesion of freestanding nano-fibers. Journal of Applied Physics, 2012, 111, 024315.	1.1	17
43	Elastic and Viscoelastic Characterization of Mouse Oocytes Using Micropipette Indentation. Annals of Biomedical Engineering, 2012, 40, 2122-2130.	1.3	45
44	Measurement of Adhesion Work of Electrospun Polymer Membrane by Shaft-Loaded Blister Test. Langmuir, 2012, 28, 6677-6683.	1.6	26
45	Deformation of a Convex Hydrogel Shell by Parallel Plate and Central Compression. Experimental Mechanics, 2012, 52, 539-549.	1.1	12
46	Correlation of macroscopic aggregation behavior and microscopic adhesion properties of bacteria strains using a dimensionless Taborâ€™s parameter. Journal of Colloid and Interface Science, 2012, 374, 70-76.	5.0	15
47	Adhesion of an Elastic Convex Shell onto a Rigid Plate. Journal of Adhesion, 2011, 87, 579-594.	1.8	19
48	Small-angle light scattering to detect strain-directed collagen degradation in native tissue. Interface Focus, 2011, 1, 767-776.	1.5	39
49	â€œPull-inâ€•of a pre-stressed thin film by an electrostatic potential: A 1-D rectangular bridge and a 2-D circular diaphragm. International Journal of Mechanical Sciences, 2010, 52, 1158-1166.	3.6	16
50	Delamination Mechanics of a Clamped Rectangular Membrane in the Presence of Long-Range Intersurface Forces: Transition from JKR to DMT Limits. Journal of Adhesion, 2010, 86, 335-351.	1.8	7
51	Adhesion Between Thin Cylindrical Shells With Parallel Axes. Journal of Applied Mechanics, Transactions ASME, 2010, 77, .	1.1	13
52	Glycoprotein mucin molecular brush on cancer cell surface acting as mechanical barrier against drug delivery. Applied Physics Letters, 2010, 97, 263703.	1.5	19
53	Direct measurement of graphene adhesion on silicon surface by intercalation of nanoparticles. Journal of Applied Physics, 2010, 107, .	1.1	164
54	Parameter Governing Thin Film Adhesion-Delamination in the Transition from DMT- to JKR-Limit. Journal of Adhesion, 2010, 86, 969-981.	1.8	6

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55	Do Electrospun Polymer Fibers Stick?. Langmuir, 2010, 26, 14188-14193.	1.6	34
56	Technique to Measure Adhesive Forces Between Electrospun Nanofibers. Materials Research Society Symposia Proceedings, 2009, 1240, 1.	0.1	0
57	Confined Thin Film Delamination in the Presence of Intersurface Forces With Finite Range and Magnitude. Journal of Applied Mechanics, Transactions ASME, 2009, 76, .	1.1	18
58	Subcritical Delamination in Epoxy Bonds to Silicon and Glass Adherends: Effect of Temperature and Preconditioning. Journal of Adhesion, 2008, 84, 619-637.	1.8	4
59	Multi-scale mechanical characterization of a freestanding polymer film using indentation. International Journal of Materials Research, 2008, 99, 862-864.	0.1	5
60	Adhesionâ€“Delamination Mechanics of a Prestressed Circular Film Adhered onto a Rigid Substrate. Journal of Adhesion, 2007, 83, 67-83.	1.8	13
61	Analysis of One-Dimensional and Two-Dimensional Thin Film â€œPull-inâ€•Phenomena Under the Influence of an Electrostatic Potential. Journal of Applied Mechanics, Transactions ASME, 2007, 74, 927-934.	1.1	13
62	Adhesion-delamination mechanics of a prestressed rectangular film adhered onto a rigid substrate. Journal of Applied Physics, 2007, 101, 024903.	1.1	23
63	A novel cylindrical punch method to characterize interfacial adhesion and residual stress of a thin polymer film. Engineering Fracture Mechanics, 2007, 74, 1101-1106.	2.0	16
64	A systematic method for characterizing the elastic properties and adhesion of a thin polymer membrane. International Journal of Mechanical Sciences, 2005, 47, 319-332.	3.6	28
65	A bending-to-stretching analysis of the blister test in the presence of tensile residual stress. International Journal of Solids and Structures, 2005, 42, 2771-2784.	1.3	42
66	Derivation of the strain energy release rate G from first principles for the pressurized blister test. International Journal of Adhesion and Adhesives, 2005, 25, 13-18.	1.4	18
67	The coupling effect of interfacial adhesion and tensile residual stress on a thin membrane adhered to a flat punch. Journal of Micromechanics and Microengineering, 2005, 15, 778-784.	1.5	26
68	Indentation of a square elastomeric thin film by a flat-ended cylindrical punch in the presence of long-range intersurface forces. Journal of Applied Physics, 2004, 96, 6159-6163.	1.1	16
69	A theoretical and numerical study of thin film delamination using the pull-off test. International Journal of Solids and Structures, 2004, 41, 717-730.	1.3	36
70	Mechanical integrity and adhesion of thin films for applications in electronics packaging and cell biology. Thin Solid Films, 2003, 424, 120-124.	0.8	7
71	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
72	Effect of acyl chain mismatch on the contact mechanics of two-component phospholipid vesicle during main phase transition. Biophysical Chemistry, 2003, 104, 141-153.	1.5	4

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73	Constitutive equation for elastic indentation of a thin-walled bio-mimetic microcapsule by an atomic force microscope tip. Colloids and Surfaces B: Biointerfaces, 2003, 27, 241-248.	2.5	28
74	Mechanical property characterization of mouse zona pellucida. IEEE Transactions on Nanobioscience, 2003, 2, 279-286.	2.2	282
75	Adhesion of a flat punch adhered to a thin pre-stressed membrane. Journal of Adhesion, 2003, 79, 123-140.	1.8	31
76	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
77	Static and Dynamic Fatigue of Glassâ€“Carbon Hybrid Composites in Fluid Environment. Journal of Composite Materials, 2002, 36, 159-172.	1.2	16
78	Adherence of a Rectangular Flat Punch Onto a Clamped Plate: Transition From a Rigid Plate to a Flexible Membrane. Journal of Applied Mechanics, Transactions ASME, 2002, 69, 104-109.	1.1	29
79	Thermal-Induced Modification of the Contact Mechanics of Adhering Liposomes. Langmuir, 2002, 18, 3134-3141.	1.6	25
80	Colloidal adhesion of phospholipid vesicles: high-resolution reflection interference contrast microscopy and theory. Colloids and Surfaces B: Biointerfaces, 2002, 25, 347-362.	2.5	19
81	Substrate-induced deformation and adhesion of phospholipid vesicles at the main phase transition. Biophysical Chemistry, 2002, 99, 245-258.	1.5	10
82	Thermal induced modification of the contact mechanics of adhering liposomes on cationic substrate. Chemistry and Physics of Lipids, 2002, 120, 131-143.	1.5	6
83	Adherence of an Axisymmetric Flat Punch on a Thin Flexible Membrane. Journal of Adhesion, 2001, 75, 369-380.	1.8	44
84	A novel blister test to investigate thin film delamination at elevated temperature. International Journal of Adhesion and Adhesives, 2000, 20, 141-143.	1.4	12
85	Delamination behavior of film-substrate systems under cyclic loading. Journal of Materials Science Letters, 2000, 19, 57-59.	0.5	8
86	Fracture Mechanics of aV-peel Adhesion Test â€“ Transition from a Bending Plate to a Stretching Membrane. Journal of Adhesion, 1999, 70, 197-207.	1.8	26
87	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
88	Measuring mechanical properties of thin flexible films by a shaft-loaded blister test. Thin Solid Films, 1999, 352, 167-172.	0.8	58
89	The Bending to Stretching Transition of a Pressurized Blister Test. International Journal of Fracture, 1998, 92, 43-47.	1.1	30
90	Adhesion of nylon-6 on surface treated aluminium substrates. Journal of Materials Science, 1996, 31, 2109-2116.	1.7	16

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91	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
92	Fracture mechanics of a new blister test with stable crack growth. Acta Metallurgica Et Materialia, 1995, 43, 4109-4115.	1.9	81
93	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
94	Pressurized internal lenticular cracks at healed mica interfaces. Journal of Materials Research, 1993, 8, 1128-1136.	1.2	13
95	Repulsive interaction between coplanar cracks in the doubleâ€“cantilever geometry. Journal of Materials Research, 1992, 7, 1584-1588.	1.2	15
96	Effect of chemical interaction on barenblatt crack profiles in brittle solids. Acta Metallurgica Et Materialia, 1992, 40, 3331-3337.	1.9	11
97	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
98	Interfacial energy states of moisture-exposed cracks in mica. Journal of Materials Research, 1990, 5, 172-182.	1.2	57
99	Crack velocity functions and thresholds in brittle solids. Journal of the European Ceramic Society, 1990, 6, 259-268.	2.8	93
100	Surface forces at crack interfaces in mica in the presence of capillary condensation. Acta Metallurgica Et Materialia, 1990, 38, 2073-2083.	1.9	26