Zhigang Suo

List of Publications by Year
in descending order

317 papers	45,300 citations	1171 111 h-index	2032 205 g-index
324 all docs	324 docs citations	324 times ranked	28312 citing authors

#	Article	IF	Citations
1	Highly stretchable and tough hydrogels. Nature, 2012, 489, 133-136.	13.7	4,089
2	Stretchable, Transparent, Ionic Conductors. Science, 2013, 341, 984-987.	6.0	1,396
3	Hydrogel ionotronics. Nature Reviews Materials, 2018, 3, 125-142.	23.3	1,119
4	Ionic skin. Advanced Materials, 2014, 26, 7608-7614.	11.1	992
5	Electronic dura mater for long-term multimodal neural interfaces. Science, 2015, 347, 159-163.	6.0	845
6	Theory of dielectric elastomers. Acta Mechanica Solida Sinica, 2010, 23, 549-578.	1.0	806
7	Interface crack between two elastic layers. International Journal of Fracture, 1990, 43, 1-18.	1.1	804
8	A theory of coupled diffusion and large deformation in polymeric gels. Journal of the Mechanics and Physics of Solids, 2008, 56, 1779-1793.	2.3	790
9	A transparent bending-insensitive pressure sensor. Nature Nanotechnology, 2016, 11, 472-478.	15.6	680
10	Foldable Printed Circuit Boards on Paper Substrates. Advanced Functional Materials, 2010, 20, 28-35.	7.8	630
11	Robotic Tentacles with Threeâ€Dimensional Mobility Based on Flexible Elastomers. Advanced Materials, 2013, 25, 205-212.	11.1	580
12	Macroporous nanowire nanoelectronic scaffolds for synthetic tissues. Nature Materials, 2012, 11, 986-994.	13.3	561
13	Stretchable Interconnects for Elastic Electronic Surfaces. Proceedings of the IEEE, 2005, 93, 1459-1467.	16.4	558
14	Syringe-injectable electronics. Nature Nanotechnology, 2015, 10, 629-636.	15.6	543
15	Strengthening Alginate/Polyacrylamide Hydrogels Using Various Multivalent Cations. ACS Applied Materials & Interfaces, 2013, 5, 10418-10422.	4.0	520
16	Hydrogel Adhesion: A Supramolecular Synergy of Chemistry, Topology, and Mechanics. Advanced Functional Materials, 2020, 30, 1901693.	7.8	507
17	A nonlinear field theory of deformable dielectrics. Journal of the Mechanics and Physics of Solids, 2008, 56, 467-486.	2.3	465
18	Highly Stretchable and Tough Hydrogels below Water Freezing Temperature. Advanced Materials, 2018, 30, e1801541.	11.1	444

#	Article	IF	Citations
19	Inhomogeneous swelling of a gel in equilibrium with a solvent and mechanical load. International Journal of Solids and Structures, 2009, 46, 3282-3289.	1.3	441
20	Fracture, fatigue, and friction of polymers in which entanglements greatly outnumber cross-links. Science, 2021, 374, 212-216.	6.0	410
21	Method to analyze electromechanical stability of dielectric elastomers. Applied Physics Letters, 2007, 91, .	1.5	395
22	Sandwich test specimens for measuring interface crack toughness. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1989, 107, 135-143.	2.6	381
23	Harnessing snap-through instability in soft dielectrics to achieve giant voltage-triggered deformation. Soft Matter, 2012, 8, 285-288.	1.2	373
24	Ultrasound-triggered disruption and self-healing of reversibly cross-linked hydrogels for drug delivery and enhanced chemotherapy. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 9762-9767.	3.3	372
25	Highly stretchable and transparent nanomesh electrodes made by grain boundary lithography. Nature Communications, 2014, 5, 3121.	5.8	367
26	3D Printing of Transparent and Conductive Heterogeneous Hydrogelâ€“Elastomer Systems. Advanced Materials, 2017, 29, 1604827.	11.1	364
27	Mechanisms of reversible stretchability of thin metal films on elastomeric substrates. Applied Physics Letters, 2006, 88, 204103.	1.5	363
28	Hybrid Hydrogels with Extremely High Stiffness and Toughness. ACS Macro Letters, 2014, 3, 520-523.	2.3	354
29	Fracture of electrodes in lithium-ion batteries caused by fast charging. Journal of Applied Physics, 2010, 108, .	1.1	348
30	Metal films on polymer substrates stretched beyond 50%. Applied Physics Letters, 2007, 91, .	1.5	345
31	Electromechanical hysteresis and coexistent states in dielectric elastomers. Physical Review B, 2007, 76, .	1.1	327
32	A soft, bistable valve for autonomous control of soft actuators. Science Robotics, 2018, 3, .	9.9	316
33	Dielectric Elastomer Generators: How Much Energy Can Be Converted?. IEEE/ASME Transactions on Mechatronics, 2011, 16, 33-41.	3.7	303
34	Stiff, strong, and tough hydrogels with good chemical stability. Journal of Materials Chemistry B, 2014, 2, 6708-6713.	2.9	302
35	Lithium-Assisted Plastic Deformation of Silicon Electrodes in Lithium-Ion Batteries: A First-Principles Theoretical Study. Nano Letters, 2011, 11, 2962-2967.	4.5	301
36	Theory of Dielectric Elastomers Capable of Giant Deformation of Actuation. Physical Review Letters, 2010, 104, 178302.	2.9	300

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37	Giant voltage-induced deformation in dielectric elastomers near the verge of snap-through instability. Journal of the Mechanics and Physics of Solids, 2013, 61, 611-628.	2.3	298
38	Transparent hydrogel with enhanced water retention capacity by introducing highly hydratable salt. Applied Physics Letters, 2014, 105, .	1.5	292
39	A theory of constrained swelling of a pH-sensitive hydrogel. Soft Matter, 2010, 6, 784.	1.2	288
40	Stress-relaxation behavior in gels with ionic and covalent crosslinks. Journal of Applied Physics, 2010, 107, 63509.	1.1	287
41	Performance and biocompatibility of extremely tough alginate/polyacrylamide hydrogels. Biomaterials, 2013, 34, 8042-8048.	5.7	282
42	Maximal energy that can be converted by a dielectric elastomer generator. Applied Physics Letters, 2009, 94, .	1.5	279
43	Large Plastic Deformation in Highâ€Capacity Lithiumâ€Ion Batteries Caused by Charge and Discharge. Journal of the American Ceramic Society, 2011, 94, s226.	1.9	276
44	Topological Adhesion of Wet Materials. Advanced Materials, 2018, 30, e1800671.	11.1	276
45	Electronic skin: architecture and components. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 25, 326-334.	1.3	275
46	High ductility of a metal film adherent on a polymer substrate. Applied Physics Letters, 2005, 87, 161910.	1.5	262
47	Concurrent Reaction and Plasticity during Initial Lithiation of Crystalline Silicon in Lithium-Ion Batteries. Journal of the Electrochemical Society, 2012, 159, A238-A243.	1.3	256
48	Mechanics and chemical thermodynamics of phase transition in temperature-sensitive hydrogels. Journal of the Mechanics and Physics of Solids, 2011, 59, 2259-2278.	2.3	253
49	Stretchable materials of high toughness and low hysteresis. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 5967-5972.	3.3	253
50	Mechanisms of large actuation strain in dielectric elastomers. Journal of Polymer Science, Part B: Polymer Physics, 2011, 49, 504-515.	2.4	252
51	Buckling of Elastomeric Beams Enables Actuation of Soft Machines. Advanced Materials, 2015, 27, 6323-6327.	11.1	244
52	Electrical breakdown and ultrahigh electrical energy density in poly(vinylidene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 142 Td (fluoride-he	1.5	242
53	Steady-state cracking in brittle substrates beneath adherent films. International Journal of Solids and Structures, 1989, 25, 1337-1353.	1.3	239
54	Large deformation and electrochemistry of polyelectrolyte gels. Journal of the Mechanics and Physics of Solids, 2010, 58, 558-577.	2.3	237

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55	Dielectric elastomer actuators under equal-biaxial forces, uniaxial forces, and uniaxial constraint of stiff fibers. Soft Matter, 2012, 8, 6167.	1.2	237
56	Using indentation to characterize the poroelasticity of gels. Applied Physics Letters, 2010, 96, .	1.5	236
57	Electroluminescence of Giant Stretchability. Advanced Materials, 2016, 28, 4480-4484.	11.1	230
58	Highly Stretchable and Transparent Ionogels as Nonvolatile Conductors for Dielectric Elastomer Transducers. ACS Applied Materials & Interfaces, 2014, 6, 7840-7845.	4.0	226
59	Buckling Pneumatic Linear Actuators Inspired by Muscle. Advanced Materials Technologies, 2016, 1, 1600055.	3.0	226
60	Electrostriction in elastic dielectrics undergoing large deformation. Journal of Applied Physics, 2008, 104, .	1.1	222
61	The effect of film thickness on the failure strain of polymer-supported metal films. Acta Materialia, 2010, 58, 1679-1687.	3.8	221
62	Fatigue fracture of tough hydrogels. Extreme Mechanics Letters, 2017, 15, 91-96.	2.0	209
63	Bonding dissimilar polymer networks in various manufacturing processes. Nature Communications, 2018, 9, 846.	5.8	209
64	Bioinspired Hydrogel Interferometer for Adaptive Coloration and Chemical Sensing. Advanced Materials, 2018, 30, e1800468.	11.1	209
65	Kinetics of Initial Lithiation of Crystalline Silicon Electrodes of Lithium-Ion Batteries. Nano Letters, 2012, 12, 5039-5047.	4.5	206
66	Fatigue of hydrogels. European Journal of Mechanics, A/Solids, 2019, 74, 337-370.	2.1	206
67	Formation of creases on the surfaces of elastomers and gels. Applied Physics Letters, 2009, 95, .	1.5	205
68	Resonant behavior of a membrane of a dielectric elastomer. International Journal of Solids and Structures, 2010, 47, 3254-3262.	1.3	202
69	Model of dissipative dielectric elastomers. Journal of Applied Physics, 2012, 111, .	1.1	200
70	Functional hydrogel coatings. National Science Review, 2021, 8, nwaa254.	4.6	191
71	Maximizing the Energy Density of Dielectric Elastomer Generators Using Equiâ€Biaxial Loading. Advanced Functional Materials, 2013, 23, 5056-5061.	7.8	189
72	Ionoelastomer junctions between polymer networks of fixed anions and cations. Science, 2020, 367, 773-776.	6.0	188

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73	Poroelastic swelling kinetics of thin hydrogel layers: comparison of theory and experiment. Soft Matter, 2010, 6, 6004.	1.2	186
74	Mechanics of stretchable electronics and soft machines. MRS Bulletin, 2012, 37, 218-225.	1.7	185
75	Photodetachable Adhesion. Advanced Materials, 2019, 31, e1806948.	11.1	181
76	Selfâ€Healing, Adhesive, and Highly Stretchable Ionogel as a Strain Sensor for Extremely Large Deformation. Small, 2019, 15, e1804651.	5.2	180
77	Ionic cable. Extreme Mechanics Letters, 2015, 3, 59-65.	2.0	179
78	Digital logic for soft devices. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 7750-7759.	3.3	170
79	Delamination Specimens for Orthotropic Materials. Journal of Applied Mechanics, Transactions ASME, 1990, 57, 627-634.	1.1	163
80	Averting cracks caused by insertion reaction in lithiumâ€“ion batteries. Journal of Materials Research, 2010, 25, 1007-1010.	1.2	161
81	Giant, voltage-actuated deformation of a dielectric elastomer under dead load. Applied Physics Letters, 2012, 100, .	1.5	161
82	Reactive Flow in Silicon Electrodes Assisted by the Insertion of Lithium. Nano Letters, 2012, 12, 4397-4403.	4.5	160
83	Compliant thin film patterns of stiff materials as platforms for stretchable electronics. Journal of Materials Research, 2005, 20, 3274-3277.	1.2	157
84	Nonlinear oscillation of a dielectric elastomer balloon. Polymer International, 2010, 59, 378-383.	1.6	157
85	Fatigue of double-network hydrogels. Engineering Fracture Mechanics, 2018, 187, 74-93.	2.0	156
86	Inelastic hosts as electrodes for high-capacity lithium-ion batteries. Journal of Applied Physics, 2011, 109, .	1.1	151
87	Measurements of the Fracture Energy of Lithiated Silicon Electrodes of Li-Ion Batteries. Nano Letters, 2013, 13, 5570-5577.	4.5	151
88	Flaw sensitivity of highly stretchable materials. Extreme Mechanics Letters, 2017, 10, 50-57.	2.0	151
89	Fatigue fracture of hydrogels. Extreme Mechanics Letters, 2017, 10, 24-31.	2.0	151
90	Hydrogel Paint. Advanced Materials, 2019, 31, e1903062.	11.1	146

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91	Stretchable and fatigue-resistant materials. Materials Today, 2020, 34, 7-16.	8.3	146
92	Stretchable wavy metal interconnects. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 1723-1725.	0.9	144
93	Propagation of instability in dielectric elastomers. International Journal of Solids and Structures, 2008, 45, 3739-3750.	1.3	143
94	NONEQUILIBRIUM THERMODYNAMICS OF DIELECTRIC ELASTOMERS. International Journal of Applied Mechanics, 2011, 03, 203-217.	1.3	143
95	Fracture and debonding in lithium-ion batteries with electrodes of hollow coreâ€"shell nanostructures. Journal of Power Sources, 2012, 218, 6-14.	4.0	142
96	From macro- to microscale poroelastic characterization of polymeric hydrogels via indentation. Soft Matter, 2012, 8, 3393.	1.2	139
97	The thickness and stretch dependence of the electrical breakdown strength of an acrylic dielectric elastomer. Applied Physics Letters, 2012, 101, .	1.5	135
98	Cracking of Laminates Subjected to Biaxial Tensile Stresses. Journal of the American Ceramic Society, 1996, 79, 2127-2133.	1.9	133
99	A soft ring oscillator. Science Robotics, 2019, 4, .	9.9	128
100	Polyacrylamide hydrogels. I. Network imperfection. Journal of the Mechanics and Physics of Solids, 2019, 131, 43-55.	2.3	128
101	Method to analyze programmable deformation of dielectric elastomer layers. Applied Physics Letters, 2008, 93, .	1.5	127
102	Viscoelasticity and poroelasticity in elastomeric gels. Acta Mechanica Solida Sinica, 2012, 25, 441-458.	1.0	127
103	Mechanics of thin-film transistors and solar cells on flexible substrates. Solar Energy, 2006, 80, 687-693.	2.9	125
104	Natural rubber for sustainable high-power electrical energy generation. RSC Advances, 2014, 4, 27905-27913.	1.7	125
105	Epitaxial films stabilized by long-range forces. Physical Review B, 1998, 58, 5116-5120.	1.1	120
106	Persistent Step-Flow Growth of Strained Films on Vicinal Substrates. Physical Review Letters, 2005, 95, 095501.	2.9	119
107	New directions in mechanics. Mechanics of Materials, 2005, 37, 231-259.	1.7	118
108	Complex interplay of nonlinear processes in dielectric elastomers. Physical Review E, 2012, 85, 051801.	0.8	118

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109	Wearable and Washable Conductors for Active Textiles. ACS Applied Materials & Interfaces, 2017, 9, 25542-25552.	4.0	118
110	Large deformation and electromechanical instability of a dielectric elastomer tube actuator. Journal of Applied Physics, 2010, 108, .	1.1	116
111	Rational Design of Mechanoâ€Responsive Optical Materials by Fine Tuning the Evolution of Strainâ€Dependent Wrinkling Patterns. Advanced Optical Materials, 2013, 1, 381-388.	3.6	115
112	Creasing instability of elastomer films. Soft Matter, 2012, 8, 1301-1304.	1.2	114
113	Dielectric elastomer actuators with elastomeric electrodes. Applied Physics Letters, 2012, 101, 091907.	1.5	111
114	A finite element method for transient analysis of concurrent large deformation and mass transport in gels. Journal of Applied Physics, 2009, 105, .	1.1	110
115	Stiff subcircuit islands of diamondlike carbon for stretchable electronics. Journal of Applied Physics, 2006, 100, 014913.	1.1	109
116	Method for measuring energy generation and efficiency of dielectric elastomer generators. Applied Physics Letters, 2011, 99, .	1.5	106
117	Failure by simultaneous grain growth, strain localization, and interface debonding in metal films on polymer substrates. Journal of Materials Research, 2009, 24, 379-385.	1.2	105
118	Fatigue fracture of nearly elastic hydrogels. Soft Matter, 2018, 14, 3563-3571.	1.2	105
119	Fatigue Fracture of Self-Recovery Hydrogels. ACS Macro Letters, 2018, 7, 312-317.	2.3	105
120	Long-distance propagation of forces in a cell. Biochemical and Biophysical Research Communications, 2005, 328, 1133-1138.	1.0	103
121	Spherical indentation testing of poroelastic relaxations in thin hydrogel layers. Soft Matter, 2012, 8, 1492-1498.	1.2	101
122	Printing Hydrogels and Elastomers in Arbitrary Sequence with Strong Adhesion. Advanced Functional Materials, 2019, 29, 1901721.	7.8	101
123	Large, uni-directional actuation in dielectric elastomers achieved by fiber stiffening. Applied Physics Letters, 2012, 100, .	1.5	100
124	Elastomeric substrates with embedded stiff platforms for stretchable electronics. Applied Physics Letters, 2013, 102, .	1.5	98
125	Experimental determination of equations of state for ideal elastomeric gels. Soft Matter, 2012, 8, 8121.	1.2	97
126	Exceptionally tough and notch-insensitive magnetic hydrogels. Soft Matter, 2015, 11, 8253-8261.	1.2	97

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127	Variation of stress with charging rate due to strain-rate sensitivity of silicon electrodes of Li-ion batteries. Journal of Power Sources, 2014, 270, 569-575.	4.0	96
128	Stretchable and transparent hydrogels as soft conductors for dielectric elastomer actuators. Journal of Polymer Science, Part B: Polymer Physics, 2014, 52, 1055-1060.	2.4	94
129	Adhesion between highly stretchable materials. Soft Matter, 2016, 12, 1093-1099.	1.2	93
130	Agile and Resilient Insect-Scale Robot. Soft Robotics, 2019, 6, 133-141.	4.6	93
131	Temporal evolution and instability in a viscoelastic dielectric elastomer. Journal of the Mechanics and Physics of Solids, 2015, 76, 47-64.	2.3	92
132	Dielectric elastomer membranes undergoing inhomogeneous deformation. Journal of Applied Physics, 2009, 106, .	1.1	91
133	Fatigue-free, superstretchable, transparent, and biocompatible metal electrodes. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12332-12337.	3.3	89
134	Indentation of polydimethylsiloxane submerged in organic solvents. Journal of Materials Research, 2011, 26, 785-795.	1.2	87
135	On designing dielectric elastomer actuators. Journal of Applied Physics, 2008, 104, .	1.1	86
136	Fracture Toughness and Fatigue Threshold of Tough Hydrogels. ACS Macro Letters, 2019, 8, 17-23.	2.3	86
137	Performance of dissipative dielectric elastomer generators. Journal of Applied Physics, 2012, 111, .	1.1	85
138	Fiber-reinforced tough hydrogels. Extreme Mechanics Letters, 2014, 1, 90-96.	2.0	85
139	Modeling and simulation of buckling of polymeric membrane thin film gel. Computational Materials Science, 2010, 49, S60-S64.	1.4	84
140	A dynamic finite element method for inhomogeneous deformation and electromechanical instability of dielectric elastomer transducers. International Journal of Solids and Structures, 2012, 49, 2187-2194.	1.3	83
141	Hydrogel Interferometry for Ultrasensitive and Highly Selective Chemical Detection. Advanced Materials, 2018, 30, e1804916.	11.1	79
142	Stickâ€On Largeâ€Strain Sensors for Soft Robots. Advanced Materials Interfaces, 2019, 6, 1900985.	1.9	79
143	Fabricating hydrogels to mimic biological tissues of complex shapes and high fatigue resistance. Matter, 2021, 4, 1935-1946.	5.0	78
144	Phase-transforming and switchable metamaterials. Extreme Mechanics Letters, 2016, 6, 1-9.	2.0	77

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145	Organic liquid-crystal devices based on ionic conductors. Materials Horizons, 2017, 4, 1102-1109.	6.4	76
146	Design Molecular Topology for Wetâ€“Dry Adhesion. ACS Applied Materials & Interfaces, 2019, 11, 24802-24811.	4.0	76
147	Creases in soft tissues generated by growth. Europhysics Letters, 2011, 95, 64002.	0.7	74
148	Two types of transitions to wrinkles in dielectric elastomers. Soft Matter, 2012, 8, 8840.	1.2	74
149	MECHANICS AND THERMODYNAMICS OF BRITTLE INTERFACIAL FAILURE IN BIMATERIAL SYSTEMS. , 1990, , 269-294.		73
150	Delamination of stiff islands patterned on stretchable substrates. International Journal of Materials Research, 2007, 98, 717-722.	0.1	73
151	Rupture of a highly stretchable acrylic dielectric elastomer. Journal of Applied Physics, 2012, 111, .	1.1	73
152	Cyclic plasticity and shakedown in high-capacity electrodes of lithium-ion batteries. International Journal of Solids and Structures, 2013, 50, 1120-1129.	1.3	73
153	Sandwich-Lithiation and Longitudinal Crack in Amorphous Silicon Coated on Carbon Nanofibers. ACS Nano, 2012, 6, 9158-9167.	7.3	72
154	Localization of Folds and Cracks in Thin Metal Films Coated on Flexible Elastomer Foams. Advanced Materials, 2013, 25, 3117-3121.	11.1	72
155	A model of ideal elastomeric gels for polyelectrolyte gels. Soft Matter, 2014, 10, 2582.	1.2	72
156	Surface Energy as a Barrier to Creasing of Elastomer Films: An Elastic Analogy to Classical Nucleation. Physical Review Letters, 2012, 109, 038001.	2.9	71
157	Reactive flow in solids. Journal of the Mechanics and Physics of Solids, 2013, 61, 61-77.	2.3	70
158	Poroelasticity of a covalently crosslinked alginate hydrogel under compression. Journal of Applied Physics, 2010, 108, .	1.1	69
159	Electromechanical phase transition in dielectric elastomers. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 1014-1040.	1.0	69
160	Nano-optomechanical Actuator and Pull-Back Instability. ACS Nano, 2013, 7, 1676-1681.	7.3	69
161	Fire-Resistant Hydrogel-Fabric Laminates: A Simple Concept That May Save Lives. ACS Applied Materials & Interfaces, 2016, 8, 2071-2077.	4.0	69
162	Polyacrylamide hydrogels. II. elastic dissipater. Journal of the Mechanics and Physics of Solids, 2019, 133, 103737.	2.3	69

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163	Extension limit, polarization saturation, and snap-through instability of dielectric elastomers. International Journal of Smart and Nano Materials, 2011, 2, 59-67.	2.0	66
164	Equations of state for ideal elastomeric gels. Europhysics Letters, 2012, 97, 34009.	0.7	66
165	Tough Photoluminescent Hydrogels Doped with Lanthanide. Macromolecular Rapid Communications, 2015, 36, 465-471.	2.0	66
166	Covalent Topological Adhesion. ACS Macro Letters, 2019, 8, 754-758.	2.3	65
167	Fatigue-Resistant elastomers. Journal of the Mechanics and Physics of Solids, 2020, 134, 103751.	2.3	65
168	Osmotic collapse of a void in an elastomer: breathing, buckling and creasing. Soft Matter, 2010, 6, 5770.	1.2	63
169	Cyclic performance of viscoelastic dielectric elastomers with solid hydrogel electrodes. Applied Physics Letters, 2014, 104, .	1.5	63
170	Ionotronic Luminescent Fibers, Fabrics, and Other Configurations. Advanced Materials, 2020, 32, e2005545.	11.1	63
171	Electromechanical instability in semicrystalline polymers. Applied Physics Letters, 2009, 95, .	1.5	62
172	Hydrogelâ€“mesh composite for wound closure. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	62
173	Poroelastic relaxation indentation of thin layers of gels. Journal of Applied Physics, 2011, 110, 086103.	1.1	61
174	Bursting drops in solid dielectrics caused by high voltages. Nature Communications, 2012, 3, 1157.	5.8	60
175	Instant, Tough, Noncovalent Adhesion. ACS Applied Materials & Interfaces, 2019, 11, 40749-40757.	4.0	60
176	Force generated by a swelling elastomer subject to constraint. Journal of Applied Physics, 2010, 107, 103535.	1.1	59
177	Inhomogeneous and anisotropic equilibrium state of a swollen hydrogel containing a hard core. Applied Physics Letters, 2008, 92, .	1.5	56
178	Force and stroke of a hydrogel actuator. Soft Matter, 2013, 9, 8504.	1.2	56
179	Dielectric elastomers of interpenetrating networks. Applied Physics Letters, 2009, 95, .	1.5	55
180	A Lesson from Plants: Highâ€Speed Soft Robotic Actuators. Advanced Science, 2020, 7, 1903391.	5.6	55

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181	Inorganic islands on a highly stretchable polyimide substrate. Journal of Materials Research, 2009, 24, 3338-3342.	1.2	54
182	Nonlinear deformation analysis of a dielectric elastomer membraneâ€“spring system. Smart Materials and Structures, 2010, 19, 085017.	1.8	54
183	Snap-through Expansion of a Gas Bubble in an Elastomer. Journal of Adhesion, 2011, 87, 466-481.	1.8	54
184	Indentation: A simple, nondestructive method for characterizing the mechanical and transport properties of pH-sensitive hydrogels. Journal of Materials Research, 2012, 27, 152-160.	1.2	52
185	Lowâ€Voltage Reversible Electroadhesion of Ionoelastomer Junctions. Advanced Materials, 2020, 32, e2000600.	11.1	52
186	Neural interfaces by hydrogels. Extreme Mechanics Letters, 2019, 30, 100510.	2.0	51
187	Computational Model of Hydrostatically Coupled Dielectric Elastomer Actuators. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	50
188	Micromechanics of macroelectronics. Particuology: Science and Technology of Particles, 2005, 3, 321-328.	0.4	48
189	Bifurcation Diagrams for the Formation of Wrinkles or Creases in Soft Bilayers. Journal of Applied Mechanics, Transactions ASME, 2015, 82, .	1.1	48
190	Flawâ€Insensitive Hydrogels under Static and Cyclic Loads. Macromolecular Rapid Communications, 2019, 40, e1800883.	2.0	48
191	Creases and wrinkles on the surface of a swollen gel. Journal of Applied Physics, 2013, 114, .	1.1	46
192	The role of substrate pre-stretch in post-wrinkling bifurcations. Soft Matter, 2014, 10, 6520.	1.2	46
193	High-performance electromechanical transduction using laterally-constrained dielectric elastomers part I: Actuation processes. Journal of the Mechanics and Physics of Solids, 2017, 105, 81-94.	2.3	46
194	Topoarchitected polymer networks expand the space of material properties. Nature Communications, 2022, 13, 1622.	5.8	46
195	Channel cracks in a hermetic coating consisting of organic and inorganic layers. Applied Physics Letters, 2007, 90, 111910.	1.5	44
196	Strength and toughness of adhesion of soft materials measured in lap shear. Journal of the Mechanics and Physics of Solids, 2020, 143, 103988.	2.3	44
197	Morphological Evolution of Si Nanowires upon Lithiation: A First-Principles Multiscale Model. Nano Letters, 2013, 13, 2011-2015.	4.5	43
198	Strong and Degradable Adhesion of Hydrogels. ACS Applied Bio Materials, 2019, 2, 1781-1786.	2.3	43

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199	Topological adhesion. I. Rapid and strong topohesives. Extreme Mechanics Letters, 2020, 39, 100803.	2.0	43
200	A finite element method for dielectric elastomer transducers. Acta Mechanica Solida Sinica, 2012, 25, 459-466.	1.0	42
201	REACTIVE FLOW IN LARGE-DEFORMATION ELECTRODES OF LITHIUM-ION BATTERIES. International Journal of Applied Mechanics, 2012, 04, 1250023.	1.3	41
202	Stretchable Seal. ACS Applied Materials & Interfaces, 2018, 10, 27333-27343.	4.0	40
203	Exact Analysis of Ligand-Induced Dimerization of Monomeric Receptors. Analytical Chemistry, 2008, 80, 5550-5555.	3.2	39
204	Tearing a hydrogel of complex rheology. Journal of the Mechanics and Physics of Solids, 2019, 125, 749-761.	2.3	39
205	Adhesion between Hydrophobic Elastomer and Hydrogel through Hydrophilic Modification and Interfacial Segregation. ACS Applied Materials & Interfaces, 2018, 10, 43252-43261.	4.0	38
206	Giant Poisson's Effect for Wrinkleâ€Free Stretchable Transparent Electrodes. Advanced Materials, 2019, 31, e1902955.	11.1	38
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