Liwu Liu

List of Publications by Year
in descending order

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86 papers	4,438 citations	109321 35 h-index	106344 65 g-index
88 all docs	88 docs citations	88 times ranked	3186 citing authors

#	Article	IF	Citations
1	4D printing of shape memory polybutylene succinate/polylactic acid (PBS/PLA) and its potential applications. Composite Structures, 2022, 279, 114729.	5.8	50
2	4D Pixel Mechanical Metamaterials with Programmable and Reconfigurable Properties. Advanced Functional Materials, 2022, 32, 2107795.	14.9	34
3	A phenomenological constitutive model for predicting both the moderate and large deformation behavior of elastomeric materials. Mechanics of Materials, 2022, 165, 104179.	3.2	6
4	Modified Yeoh model with improved equibiaxial loading predictions. Acta Mechanica, 2022, 233, 437-453.	2.1	7
5	4D printed programmable shape memory left atrial appendage occlusion device. , 2022, , .		0
6	3D Printed Bioinspired Stents with Photothermal Effects for Malignant Colorectal Obstruction. Research, 2022, 2022, .	5.7	5
7	Compression behavior and energy absorption of 3D printed continuous fiber reinforced composite honeycomb structures with shape memory effects. Additive Manufacturing, 2021, 38, 101842.	3.0	38
8	Improved Carroll's hyperelastic model considering compressibility and its finite element implementation. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 785-796.	3.4	6
9	Thermoelectromechanical instability of dielectric elastomer undergoes polarization saturation and temperature variation. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 414-421.	3.4	4
10	Analysis of small-scale topology and macroscale mechanical properties of shape memory chiral-lattice metamaterials. Composite Structures, 2021, 262, 113569.	5.8	18
11	Prediction of effective thermomechanical behavior of shape memory polymer composite with micro-damage interface. Composites Communications, 2021, 25, 100727.	6.3	9
12	Review of Dielectric Elastomer Actuators and Their Applications in Soft Robots. Advanced Intelligent Systems, 2021, 3, 2000282.	6.1	111
13	Recent developments in next-generation occlusion devices. Acta Biomaterialia, 2021, 128, 100-119.	8.3	21
14	Manufacture and investigation on the shape memory polymer composite subsidy pipe. Composite Structures, 2021, 274, 114331.	5.8	2
15	4D Printing of Bioinspired Absorbable Left Atrial Appendage Occluders: A Proof-of-Concept Study. ACS Applied Materials & Interfaces, 2021, 13, 12668-12678.	8.0	60
16	A review on material models for isotropic hyperelasticity. International Journal of Mechanical System Dynamics, 2021, 1, 71-88.	2.8	31
17	Thermomechanical properties and deformation behavior of a unidirectional carbonâ€fiberâ€reinforced shape memory polymer composite laminate. Journal of Applied Polymer Science, 2020, 137, 48532.	2.6	10
18	Macroscale bending large-deformation and microbuckling behavior of a unidirectional fiber-reinforced soft composite. Journal of Composite Materials, 2020, 54, 243-257.	2.4	5

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19	Ultra-light release device integrated with screen-printed heaters for CubeSatâ€™s deployable solar arrays. Composite Structures, 2020, 232, 111561.	5.8	22
20	Worldâ€™s first spaceflight on-orbit demonstration of a flexible solar array system based on shape memory polymer composites. Science China Technological Sciences, 2020, 63, 1436-1451.	4.0	45
21	4D Printing Auxetic Metamaterials with Tunable, Programmable, and Reconfigurable Mechanical Properties. Advanced Functional Materials, 2020, 30, 2004226.	14.9	152
22	Composite Piezoelectric Energy Harvesters with Symmetric Angleâ€Ply Stacking Sequences and Variable Throughâ€theâ€Thickness Poisson's Ratios. Physica Status Solidi (B): Basic Research, 2020, 257, 1900689.	1.5	2
23	On 4D printing as a revolutionary fabrication technique for smart structures. Smart Materials and Structures, 2020, 29, 083001.	3.5	41
24	Origami-inspired self-deployment 4D printed honeycomb sandwich structure with large shape transformation. Smart Materials and Structures, 2020, 29, 065015.	3.5	41
25	Micro and nanolattice fabrication using projection micro litho stereo exposure additive manufacturing techniques and synchrotron X-ray 3D imaging-based defect characterization. Science China Technological Sciences, 2020, 63, 561-570.	4.0	2
26	4D printing of personalized shape memory polymer vascular stents with negative Poissonâ€™s ratio structure: A preliminary study. Science China Technological Sciences, 2020, 63, 578-588.	4.0	88
27	The compatibility of polylactic acid and polybutylene succinate blends by molecular and mesoscopic dynamics. International Journal of Smart and Nano Materials, 2020, 11, 24-37.	4.2	28
28	Damage and failure in carbon fiber-reinforced epoxy filament-wound shape memory polymer composite tubes under compression loading. Polymer Testing, 2020, 85, 106387.	4.8	17
29	Design, material properties and performances of a smart hinge based on shape memory polymer composites. Composites Part B: Engineering, 2020, 193, 108056.	12.0	33
30	Active composites based on shape memory polymers: overview, fabrication methods, applications, and future prospects. Journal of Materials Science, 2020, 55, 10975-11051.	3.7	53
31	Computational Model and Design of the Soft Tunable Lens Actuated by Dielectric Elastomer. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	2.2	4
32	Dielectric and Breakdown Properties of MWCNT- and OMMT-Reinforced Epoxy Composites. Journal of Electronic Materials, 2019, 48, 7270-7281.	2.2	3
33	A Biomimetic Soft Lens Controlled by Electrooculographic Signal. Advanced Functional Materials, 2019, 29, 1903762.	14.9	50
34	4Dâ€Printed Biodegradable and Remotely Controllable Shape Memory Occlusion Devices. Advanced Functional Materials, 2019, 29, 1906569.	14.9	171
35	Delayed electromechanical instability of a viscoelastic dielectric elastomer balloon. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2019, 475, 20190316.	2.1	6
36	Study of low earth orbit ultraviolet radiation and vacuum thermal cycling environment effects on epoxy-based shape memory polymer. Journal of Intelligent Material Systems and Structures, 2019, 30, 2688-2696.	2.5	13

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37	Mechanical Models, Structures, and Applications of Shape-Memory Polymers and Their Composites. Acta Mechanica Solida Sinica, 2019, 32, 535-565.	1.9	73
38	Design and analysis of shockless smart releasing device based on shape memory polymer composites. Composite Structures, 2019, 223, 110958.	5.8	19
39	Shape memory polymers and their composites in biomedical applications. Materials Science and Engineering C, 2019, 97, 864-883.	7.3	200
40	Dielectric Elastomer Spring-Roll Bending Actuators: Applications in Soft Robotics and Design. Soft Robotics, 2019, 6, 69-81.	8.0	71
41	Bending shape recovery of unidirectional carbon fiber reinforced epoxy-based shape memory polymer composites. Composites Part A: Applied Science and Manufacturing, 2019, 116, 169-179.	7.6	74
42	Shape memory polymers for composites. Composites Science and Technology, 2018, 160, 169-198.	7.8	211
43	Effects of atomic oxygen on epoxy-based shape memory polymer in low earth orbit. Journal of Intelligent Material Systems and Structures, 2018, 29, 1081-1087.	2.5	11
44	Thermal, mechanical, and shapeâ€memory properties of nanorubberâ€toughened, epoxyâ€based shapeâ€memory nanocomposites. Journal of Applied Polymer Science, 2018, 135, 45780.	2.6	12
45	Thermomechanical and electroactive behavior of a thermosetting styreneâ€based carbon black shapeâ€memory composite. Journal of Applied Polymer Science, 2018, 135, 45978.	2.6	11
46	Conductive Shape Memory Microfiber Membranes with Coreâ€“Shell Structures and Electroactive Performance. ACS Applied Materials & Interfaces, 2018, 10, 35526-35532.	8.0	52
47	Shape retainability and reusability investigation of bottle-shaped SMP mandrel. Polymer Testing, 2018, 69, 325-331.	4.8	10
48	An E-shape broadband piezoelectric energy harvester induced by magnets. Journal of Intelligent Material Systems and Structures, 2018, 29, 2477-2491.	2.5	11
49	Integrative hinge based on shape memory polymer composites: Material, design, properties and application. Composite Structures, 2018, 206, 164-176.	5.8	74
50	Effects of accelerated aging on thermal, mechanical and shape memory properties of cyanate-based shape memory polymer: IÂvacuum ultraviolet radiation. Polymer Degradation and Stability, 2017, 138, 91-97.	5.8	46
51	Stimulus methods of multi-functional shape memory polymer nanocomposites: A review. Composites Part A: Applied Science and Manufacturing, 2017, 100, 20-30.	7.6	167
52	Strength property analysis for fiber-reinforced shape memory polymer composite laminate. Journal of Intelligent Material Systems and Structures, 2017, 28, 1627-1639.	2.5	8
53	Direct-Write Fabrication of 4D Active Shape-Changing Structures Based on a Shape Memory Polymer and Its Nanocomposite. ACS Applied Materials & Interfaces, 2017, 9, 876-883.	8.0	351
54	Influence of the processing parameters on the electrocaloric effect of poly(vinylidene) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 62 Td (fluor	2.6	2

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55	Modal Analyses of Deployable Truss Structures Based on Shape Memory Polymer Composites. International Journal of Applied Mechanics, 2016, 08, 1640009.	2.2	24
56	Preliminary design and analysis of a cubic deployable support structure based on shape memory polymer composite. International Journal of Smart and Nano Materials, 2016, 7, 106-118.	4.2	25
57	An electrical-heating and self-sensing shape memory polymer composite incorporated with carbon fiber felt. Smart Materials and Structures, 2016, 25, 035036.	3.5	37
58	Constitutive model for shape memory polymer based on the viscoelasticity and phase transition theories. Journal of Intelligent Material Systems and Structures, 2016, 27, 314-323.	2.5	40
59	Electric field induced variation of temperature and entropy in dielectric elastomers. Journal of Mechanical Science and Technology, 2015, 29, 109-114.	1.5	7
60	Shape memory polymer S-shaped mandrel for composite air duct manufacturing. Composite Structures, 2015, 133, 930-938.	5.8	27
61	Thermoelectromechanical stability of dielectric elastomers undergoing temperature variation. Mechanics of Materials, 2014, 72, 33-45.	3.2	40
62	Thermal mechanical constitutive model of fiber reinforced shape memory polymer composite: Based on bridging model. Composites Part A: Applied Science and Manufacturing, 2014, 64, 132-138.	7.6	57
63	Thermoviscoelastic shape memory behavior for epoxy-shape memory polymer. Smart Materials and Structures, 2014, 23, 055025.	3.5	53
64	Polar elastic dielectric of large electrocaloric effect and deformation. Mechanics of Materials, 2014, 69, 71-92.	3.2	8
65	Shape memory polymers and their composites in aerospace applications: a review. Smart Materials and Structures, 2014, 23, 023001.	3.5	734
66	Failure modeling of folded dielectric elastomer actuator. Science China: Physics, Mechanics and Astronomy, 2014, 57, 263-272.	5.1	9
67	Analysis and design of smart mandrels using shape memory polymers. Composites Part B: Engineering, 2014, 59, 230-237.	12.0	55
68	Post microbuckling mechanics of fibre-reinforced shape-memory polymers undergoing flexure deformation. Mechanics of Materials, 2014, 72, 46-60.	3.2	55
69	Theory progress and applications of dielectric elastomers. International Journal of Smart and Nano Materials, 2013, 4, 199-209.	4.2	19
70	Electromechanical instability and snap-through instability of dielectric elastomers undergoing polarization saturation. Mechanics of Materials, 2012, 55, 60-72.	3.2	54
71	Voltage-induced deformation in dielectric. Journal of Applied Physics, 2012, 112, 033519.	2.5	13
72	Effect of mechanical force field on the electromechanical stability of dielectric elastomers. Science China: Physics, Mechanics and Astronomy, 2012, 55, 94-101.	5.1	5

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73	Extension limit, polarization saturation, and snap-through instability of dielectric elastomers. International Journal of Smart and Nano Materials, 2011, 2, 59-67.	4.2	66
74	Electromechanical stability of semi-crystalline polymer. Thin Solid Films, 2011, 519, 5017-5021.	1.8	9
75	Theoretical investigation on polar dielectric with large electrocaloric effect as cooling devices. Applied Physics Letters, 2011, 99, .	3.3	18
76	Thermo-electro-mechanical instability of dielectric elastomers. Smart Materials and Structures, 2011, 20, 075004.	3.5	31
77	Electromechanical stability of compressible dielectric elastomer actuators. Smart Materials and Structures, 2011, 20, 115015.	3.5	15
78	Electromechanical stability of a Mooneyâ€“Rivlinâ€type dielectric elastomer with nonlinear variable permittivity. Polymer International, 2010, 59, 371-377.	3.1	35
79	Electromechanical stability of electro-active silicone filled with high permittivity particles undergoing large deformation. Smart Materials and Structures, 2010, 19, 115025.	3.5	22
80	Analysis and manufacture of an energy harvester based on a Mooney-Rivlinâ€“type dielectric elastomer. Europhysics Letters, 2010, 90, 36004.	2.0	74
81	Comment on â€œOn electromechanical stability of dielectric elastomersâ€•[Appl. Phys. Lett. 93, 101902 (2008)]. Applied Physics Letters, 2009, 94, 096101.	3.3	24
82	An investigation on electromechanical stability of dielectric elastomers undergoing large deformation. Smart Materials and Structures, 2009, 18, 095040.	3.5	34
83	Stability analysis of dielectric elastomer film actuator. Science in China Series D: Earth Sciences, 2009, 52, 2715-2723.	0.9	25
84	Electromechanical stability of dielectric elastomer. Applied Physics Letters, 2009, 94, .	3.3	97
85	Dielectric elastomer film actuators: characterization, experiment and analysis. Smart Materials and Structures, 2009, 18, 095024.	3.5	76
86	Comment on â€œMethod to analyze electromechanical stability of dielectric elastomersâ€[Appl. Phys. Lett. 91, 061921 (2007)]. Applied Physics Letters, 2008, 93, .	3.3	51