

Liwu Liu

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/7555044/publications.pdf>

Version: 2024-02-01

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	Shape memory polymers and their composites in aerospace applications: a review. <i>Smart Materials and Structures</i> , 2014, 23, 023001.	3.5	734
2	Direct-Write Fabrication of 4D Active Shape-Changing Structures Based on a Shape Memory Polymer and Its Nanocomposite. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 876-883.	8.0	351
3	Shape memory polymers for composites. <i>Composites Science and Technology</i> , 2018, 160, 169-198.	7.8	211
4	Shape memory polymers and their composites in biomedical applications. <i>Materials Science and Engineering C</i> , 2019, 97, 864-883.	7.3	200
5	4D-Printed Biodegradable and Remotely Controllable Shape Memory Occlusion Devices. <i>Advanced Functional Materials</i> , 2019, 29, 1906569.	14.9	171
6	Stimulus methods of multi-functional shape memory polymer nanocomposites: A review. <i>Composites Part A: Applied Science and Manufacturing</i> , 2017, 100, 20-30.	7.6	167
7	4D Printing Auxetic Metamaterials with Tunable, Programmable, and Reconfigurable Mechanical Properties. <i>Advanced Functional Materials</i> , 2020, 30, 2004226.	14.9	152
8	Review of Dielectric Elastomer Actuators and Their Applications in Soft Robots. <i>Advanced Intelligent Systems</i> , 2021, 3, 2000282.	6.1	111
9	Electromechanical stability of dielectric elastomer. <i>Applied Physics Letters</i> , 2009, 94, .	3.3	97
10	4D printing of personalized shape memory polymer vascular stents with negative Poisson's ratio structure: A preliminary study. <i>Science China Technological Sciences</i> , 2020, 63, 578-588.	4.0	88
11	Dielectric elastomer film actuators: characterization, experiment and analysis. <i>Smart Materials and Structures</i> , 2009, 18, 095024.	3.5	76
12	Analysis and manufacture of an energy harvester based on a Mooney-Rivlin type dielectric elastomer. <i>Europhysics Letters</i> , 2010, 90, 36004.	2.0	74
13	Integrative hinge based on shape memory polymer composites: Material, design, properties and application. <i>Composite Structures</i> , 2018, 206, 164-176.	5.8	74
14	Bending shape recovery of unidirectional carbon fiber reinforced epoxy-based shape memory polymer composites. <i>Composites Part A: Applied Science and Manufacturing</i> , 2019, 116, 169-179.	7.6	74
15	Mechanical Models, Structures, and Applications of Shape-Memory Polymers and Their Composites. <i>Acta Mechanica Solida Sinica</i> , 2019, 32, 535-565.	1.9	73
16	Dielectric Elastomer Spring-Roll Bending Actuators: Applications in Soft Robotics and Design. <i>Soft Robotics</i> , 2019, 6, 69-81.	8.0	71
17	Extension limit, polarization saturation, and snap-through instability of dielectric elastomers. <i>International Journal of Smart and Nano Materials</i> , 2011, 2, 59-67.	4.2	66
18	4D Printing of Bioinspired Absorbable Left Atrial Appendage Occluders: A Proof-of-Concept Study. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 12668-12678.	8.0	60

#	ARTICLE	IF	CITATIONS
19	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
20	Analysis and design of smart mandrels using shape memory polymers. Composites Part B: Engineering, 2014, 59, 230-237.	12.0	55
21	Post microbuckling mechanics of fibre-reinforced shape-memory polymers undergoing flexure deformation. Mechanics of Materials, 2014, 72, 46-60.	3.2	55
22	Electromechanical instability and snap-through instability of dielectric elastomers undergoing polarization saturation. Mechanics of Materials, 2012, 55, 60-72.	3.2	54
23	Thermoviscoelastic shape memory behavior for epoxy-shape memory polymer. Smart Materials and Structures, 2014, 23, 055025.	3.5	53
24	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
25	Conductive Shape Memory Microfiber Membranes with Core-Shell Structures and Electroactive Performance. ACS Applied Materials & Interfaces, 2018, 10, 35526-35532.	8.0	52
26	Comment on "Method to analyze electromechanical stability of dielectric elastomers" [Appl. Phys. Lett. 91, 061921 (2007)]. Applied Physics Letters, 2008, 93, .	3.3	51
27	A Biomimetic Soft Lens Controlled by Electrooculographic Signal. Advanced Functional Materials, 2019, 29, 1903762.	14.9	50
28	4D printing of shape memory polybutylene succinate/polylactic acid (PBS/PLA) and its potential applications. Composite Structures, 2022, 279, 114729.	5.8	50
29	Effects of accelerated aging on thermal, mechanical and shape memory properties of cyanate-based shape memory polymer: Vacuum ultraviolet radiation. Polymer Degradation and Stability, 2017, 138, 91-97.	5.8	46
30	World'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
31	On 4D printing as a revolutionary fabrication technique for smart structures. Smart Materials and Structures, 2020, 29, 083001.	3.5	41
32	Origami-inspired self-deployment 4D printed honeycomb sandwich structure with large shape transformation. Smart Materials and Structures, 2020, 29, 065015.	3.5	41
33	Thermoelectromechanical stability of dielectric elastomers undergoing temperature variation. Mechanics of Materials, 2014, 72, 33-45.	3.2	40
34	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
35	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
36	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

#	ARTICLE	IF	CITATIONS
37	Electromechanical stability of a Mooney–Rivlin-type dielectric elastomer with nonlinear variable permittivity. <i>Polymer International</i> , 2010, 59, 371-377.	3.1	35
38	An investigation on electromechanical stability of dielectric elastomers undergoing large deformation. <i>Smart Materials and Structures</i> , 2009, 18, 095040.	3.5	34
39	4D Pixel Mechanical Metamaterials with Programmable and Reconfigurable Properties. <i>Advanced Functional Materials</i> , 2022, 32, 2107795.	14.9	34
40	Design, material properties and performances of a smart hinge based on shape memory polymer composites. <i>Composites Part B: Engineering</i> , 2020, 193, 108056.	12.0	33
41	Thermo-electro-mechanical instability of dielectric elastomers. <i>Smart Materials and Structures</i> , 2011, 20, 075004.	3.5	31
42	A review on material models for isotropic hyperelasticity. <i>International Journal of Mechanical System Dynamics</i> , 2021, 1, 71-88.	2.8	31
43	The compatibility of polylactic acid and polybutylene succinate blends by molecular and mesoscopic dynamics. <i>International Journal of Smart and Nano Materials</i> , 2020, 11, 24-37.	4.2	28
44	Shape memory polymer S-shaped mandrel for composite air duct manufacturing. <i>Composite Structures</i> , 2015, 133, 930-938.	5.8	27
45	Stability analysis of dielectric elastomer film actuator. <i>Science in China Series D: Earth Sciences</i> , 2009, 52, 2715-2723.	0.9	25
46	Preliminary design and analysis of a cubic deployable support structure based on shape memory polymer composite. <i>International Journal of Smart and Nano Materials</i> , 2016, 7, 106-118.	4.2	25
47	Comment on “On electromechanical stability of dielectric elastomers” [Appl. Phys. Lett. 93, 101902 (2008)]. <i>Applied Physics Letters</i> , 2009, 94, 096101.	3.3	24
48	Modal Analyses of Deployable Truss Structures Based on Shape Memory Polymer Composites. <i>International Journal of Applied Mechanics</i> , 2016, 08, 1640009.	2.2	24
49	Electromechanical stability of electro-active silicone filled with high permittivity particles undergoing large deformation. <i>Smart Materials and Structures</i> , 2010, 19, 115025.	3.5	22
50	Ultra-light release device integrated with screen-printed heaters for CubeSat™s deployable solar arrays. <i>Composite Structures</i> , 2020, 232, 111561.	5.8	22
51	Recent developments in next-generation occlusion devices. <i>Acta Biomaterialia</i> , 2021, 128, 100-119.	8.3	21
52	Theory progress and applications of dielectric elastomers. <i>International Journal of Smart and Nano Materials</i> , 2013, 4, 199-209.	4.2	19
53	Design and analysis of shockless smart releasing device based on shape memory polymer composites. <i>Composite Structures</i> , 2019, 223, 110958.	5.8	19
54	Theoretical investigation on polar dielectric with large electrocaloric effect as cooling devices. <i>Applied Physics Letters</i> , 2011, 99, .	3.3	18

#	ARTICLE	IF	CITATIONS
55	Analysis of small-scale topology and macroscale mechanical properties of shape memory chiral-lattice metamaterials. <i>Composite Structures</i> , 2021, 262, 113569.	5.8	18
56	Damage and failure in carbon fiber-reinforced epoxy filament-wound shape memory polymer composite tubes under compression loading. <i>Polymer Testing</i> , 2020, 85, 106387.	4.8	17
57	Electromechanical stability of compressible dielectric elastomer actuators. <i>Smart Materials and Structures</i> , 2011, 20, 115015.	3.5	15
58	Voltage-induced deformation in dielectric. <i>Journal of Applied Physics</i> , 2012, 112, 033519.	2.5	13
59	Study of low earth orbit ultraviolet radiation and vacuum thermal cycling environment effects on epoxy-based shape memory polymer. <i>Journal of Intelligent Material Systems and Structures</i> , 2019, 30, 2688-2696.	2.5	13
60	Thermal, mechanical, and shape-memory properties of nanorubber-toughened, epoxy-based shape-memory nanocomposites. <i>Journal of Applied Polymer Science</i> , 2018, 135, 45780.	2.6	12
61	Effects of atomic oxygen on epoxy-based shape memory polymer in low earth orbit. <i>Journal of Intelligent Material Systems and Structures</i> , 2018, 29, 1081-1087.	2.5	11
62	Thermomechanical and electroactive behavior of a thermosetting styrene-based carbon black shape-memory composite. <i>Journal of Applied Polymer Science</i> , 2018, 135, 45978.	2.6	11
63	An E-shape broadband piezoelectric energy harvester induced by magnets. <i>Journal of Intelligent Material Systems and Structures</i> , 2018, 29, 2477-2491.	2.5	11
64	Shape retainability and reusability investigation of bottle-shaped SMP mandrel. <i>Polymer Testing</i> , 2018, 69, 325-331.	4.8	10
65	Thermomechanical properties and deformation behavior of a unidirectional carbon-fiber-reinforced shape memory polymer composite laminate. <i>Journal of Applied Polymer Science</i> , 2020, 137, 48532.	2.6	10
66	Electromechanical stability of semi-crystalline polymer. <i>Thin Solid Films</i> , 2011, 519, 5017-5021.	1.8	9
67	Failure modeling of folded dielectric elastomer actuator. <i>Science China: Physics, Mechanics and Astronomy</i> , 2014, 57, 263-272.	5.1	9
68	Prediction of effective thermomechanical behavior of shape memory polymer composite with micro-damage interface. <i>Composites Communications</i> , 2021, 25, 100727.	6.3	9
69	Polar elastic dielectric of large electrocaloric effect and deformation. <i>Mechanics of Materials</i> , 2014, 69, 71-92.	3.2	8
70	Strength property analysis for fiber-reinforced shape memory polymer composite laminate. <i>Journal of Intelligent Material Systems and Structures</i> , 2017, 28, 1627-1639.	2.5	8
71	Electric field induced variation of temperature and entropy in dielectric elastomers. <i>Journal of Mechanical Science and Technology</i> , 2015, 29, 109-114.	1.5	7
72	Modified Yeoh model with improved equibiaxial loading predictions. <i>Acta Mechanica</i> , 2022, 233, 437-453.	2.1	7

#	ARTICLE	IF	CITATIONS
73	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
74	Improved Carroll's hyperelastic model considering compressibility and its finite element implementation. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 785-796.	3.4	6
75	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
76	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
77	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
78	3D Printed Bioinspired Stents with Photothermal Effects for Malignant Colorectal Obstruction. Research, 2022, 2022, .	5.7	5
79	Thermoelectromechanical instability of dielectric elastomer undergoes polarization saturation and temperature variation. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 414-421.	3.4	4
80	Computational Model and Design of the Soft Tunable Lens Actuated by Dielectric Elastomer. Journal of Applied Mechanics, Transactions ASME, 2020, 87, .	2.2	4
81	Dielectric and Breakdown Properties of MWCNT- and OMMT-Reinforced Epoxy Composites. Journal of Electronic Materials, 2019, 48, 7270-7281.	2.2	3
82	Influence of the processing parameters on the electrocaloric effect of poly(vinylidene fluoride)/poly(methyl methacrylate) composites. Journal of Applied Physics, 2021, 124, 104101.	2.6	2
83	Composite Piezoelectric Energy Harvesters with Symmetric Angle-Ply Stacking Sequences and Variable Thickness Poisson's Ratios. Physica Status Solidi (B): Basic Research, 2020, 257, 1900689.	1.5	2
84	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
85	Manufacture and investigation on the shape memory polymer composite subsidy pipe. Composite Structures, 2021, 274, 114331.	5.8	2
86	4D printed programmable shape memory left atrial appendage occlusion device. , 2022, , .		0