

Multistable inflatable origami structures at the metre scale

Nature

592, 545-550

DOI: [10.1038/s41586-021-03407-4](https://doi.org/10.1038/s41586-021-03407-4)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Tailoring the multistability of origami-inspired, buckled magnetic structures <i>via</i> compression and creasing. <i>Materials Horizons</i> , 2021, 8, 3324-3333.	6.4	4
2	Large-scale origami locks into place under pressure. <i>Nature</i> , 2021, 592, 510-511.	13.7	0
3	Physical reservoir computing with origami and its application to robotic crawling. <i>Scientific Reports</i> , 2021, 11, 13002.	1.6	40
4	Ring Origami: Snapâ€Folding of Rings with Different Geometries. <i>Advanced Intelligent Systems</i> , 2021, 3, 2100107.	3.3	14
5	A Fabrication Strategy for Reconfigurable Millimeterâ€Scale Metamaterials. <i>Advanced Functional Materials</i> , 2021, 31, 2103428.	7.8	12
6	Stretchable origami robotic arm with omnidirectional bending and twisting. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	151
7	Elastostatic Modeling of Multi-Link Flexible Manipulator Based on Two-Dimensional Dual-Triangle Tensegrity Mechanism. <i>Journal of Mechanisms and Robotics</i> , 2022, 14, .	1.5	7
8	Origami-inspired magnetic-driven soft actuators with programmable designs and multiple applications. <i>Nano Energy</i> , 2021, 89, 106424.	8.2	42
9	A novel scheme of folding discretized surfaces of revolution inspired by waterbomb origami. <i>Mechanism and Machine Theory</i> , 2021, 165, 104431.	2.7	13
10	Deployable motion of rotational sliceforms. <i>Physical Review E</i> , 2021, 104, 045003.	0.8	0
11	4D Pixel Mechanical Metamaterials with Programmable and Reconfigurable Properties. <i>Advanced Functional Materials</i> , 2022, 32, 2107795.	7.8	34
12	Stacked-origami mechanical metamaterial with tailored multistage stiffness. <i>Materials and Design</i> , 2021, 212, 110203.	3.3	23
13	Multistable shape-reconfigurable metawire in 3D space. <i>Extreme Mechanics Letters</i> , 2022, 50, 101535.	2.0	13
14	Conical Kresling origami and its applications to curvature and energy programming. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2022, 478, .	1.0	13
15	Graph-theoretic estimation of reconfigurability in origami-based metamaterials. <i>Materials and Design</i> , 2022, 213, 110343.	3.3	14
16	Reconfigurable forceâ€displacement profiles of the square-twist origami. <i>International Journal of Solids and Structures</i> , 2022, 241, 111471.	1.3	7
17	Micro-engineered architected metamaterials for cell and tissue engineering. <i>Materials Today Advances</i> , 2022, 13, 100206.	2.5	15
18	Kirigami-based metastructures with programmable multistability. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2117649119.	3.3	28

#	ARTICLE	IF	CITATIONS
19	Bistable and Multistable Actuators for Soft Robots: Structures, Materials, and Functionalities. <i>Advanced Materials</i> , 2022, 34, e2110384.	11.1	133
20	Self-Reconfiguring and Stiffening Origami Tube. <i>Advanced Engineering Materials</i> , 2022, 24, .	1.6	13
21	Nonlinear Dynamics and Chaos in Conformational Changes of Mechanical Metamaterials. <i>Physical Review X</i> , 2022, 12, .	2.8	1
22	Self-Folding PCB Kirigami: Rapid Prototyping of 3D Electronics via Laser Cutting and Forming. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 14774-14782.	4.0	10
23	Acoustic Wave Focusing From Reconfigurable Acoustic Arrays Based on a Bricard-Miura Synthesis. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2022, 144, .	1.0	1
24	Strain compatibility and gradient elasticity in morphing origami metamaterials. <i>Extreme Mechanics Letters</i> , 2022, 53, 101722.	2.0	9
25	Rigidly flat-foldable class of lockable origami-inspired metamaterials with topological stiff states. <i>Nature Communications</i> , 2022, 13, 1816.	5.8	30
26	Kirigami-inspired foldable 3D cellular structures with a single degree of freedom. <i>International Journal of Solids and Structures</i> , 2022, 244-245, 111587.	1.3	2
27	A Data-Driven Review of Soft Robotics. <i>Advanced Intelligent Systems</i> , 2022, 4, .	3.3	28
28	Editorial: Developments in Acoustic, Phononic, and Mechanical Materials for Wave Control. <i>Frontiers in Mechanical Engineering</i> , 2021, 7, .	0.8	0
29	Rigid folding equations of degree-6 origami vertices. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2022, 478, 20220051.	1.0	4
30	A unit-separable Earth observation CubeSat structure concept using flat-retractable truss structure. , 2022, , .		0
31	Pneumatic Auxetics: . , 2022, , .		3
32	Multi-stable design of triangulated origami structures on cones of revolution. <i>Computer Aided Geometric Design</i> , 2022, 95, 102105.	0.5	4
33	Phase diagram and mechanics of snap-folding of ring origami by twisting. <i>International Journal of Solids and Structures</i> , 2022, 248, 111685.	1.3	10
34	Smart Silk Origami as Eco-sensors for Environmental Pollution. <i>ACS Applied Bio Materials</i> , 2022, 5, 3658-3666.	2.3	3
35	Tunable thermally bistable multi-material structure. <i>Applied Materials Today</i> , 2022, 28, 101529.	2.3	7
36	Inflatable Origami: Multimodal Deformation via Multistability. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	30

#	ARTICLE	IF	CITATIONS
37	Hexagonal Ring Origami Assemblies: Foldable Functional Structures With Extreme Packing. Journal of Applied Mechanics, Transactions ASME, 2022, 89, .	1.1	6
38	A Review on Origami Simulations: From Kinematics, To Mechanics, Toward Multiphysics. Applied Mechanics Reviews, 2022, 74, .	4.5	29
39	Inflated Pillow with Flexible Bistable Kink: Snap Design and Application. AIAA Journal, 2022, 60, 6500-6505.	1.5	1
40	Asymmetric multi-stability from relaxing the rigid-folding conditions in a stacked Miura-ori cellular solid. Thin-Walled Structures, 2022, 179, 109685.	2.7	8
41	Deployment and surface accuracy of regularly creased membranes. Extreme Mechanics Letters, 2022, 56, 101849.	2.0	3
42	Constructing foldable cylindrical surfaces via unfolded waterbomb origami units. Journal of Computational Design and Engineering, 2022, 9, 1498-1510.	1.5	4
43	Thick panel origami for load-bearing deployable structures. Mechanics Research Communications, 2022, 124, 103937.	1.0	6
44	Reconfigurable Shape Morphing With Origami-Inspired Pneumatic Blocks. IEEE Robotics and Automation Letters, 2022, 7, 9453-9460.	3.3	2
45	Discrete symmetries control geometric mechanics in parallelogram-based origami. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	2
46	Bio-inspired programmable multi-stable origami. Applied Physics Letters, 2022, 121, .	1.5	10
47	Deployment kinematics of axisymmetric Miura origami: Unit cells, tessellations, and stacked metamaterials. International Journal of Mechanical Sciences, 2022, 232, 107615.	3.6	15
48	Multi-peeling states of elastic film from flexible substrate. International Journal of Solids and Structures, 2022, 256, 111949.	1.3	2
49	Soft shape-programmable surfaces by fast electromagnetic actuation of liquid metal networks. Nature Communications, 2022, 13, .	5.8	29
50	Toward actuation of Kresling pattern-based origami robots. Smart Materials and Structures, 2022, 31, 105025.	1.8	1
51	Geometric analyses and experimental characterization of toroidal Miura-ori structures. Thin-Walled Structures, 2022, 181, 110141.	2.7	2
52	Reconfigurable Shape Morphing with Origami-Inspired Pneumatic Blocks. , 2022, , .		0
53	Programming Multistable Metamaterials to Discover Latent Functionalities. Advanced Science, 2022, 9, .	5.6	13
54	Simulation of ultra-thin membranes with creases. International Journal of Mechanics and Materials in Design, 2023, 19, 73-94.	1.7	1

#	ARTICLE	IF	CITATIONS
55	4D Multiscale Origami Soft Robots: A Review. <i>Polymers</i> , 2022, 14, 4235.	2.0	10
56	A data-driven reconstruction method for dynamic systems with multistable property. <i>Nonlinear Dynamics</i> , 2023, 111, 4517-4541.	2.7	3
57	A Zigzag-Based Thickness-Accommodating Foldable Prismatic Structure With a Single-Degree-of-Freedom. <i>Journal of Mechanisms and Robotics</i> , 2023, 15, .	1.5	1
58	A bioinspired snap-through metastructure for manipulating micro-objects. <i>Science Advances</i> , 2022, 8, .	4.7	12
59	Easy snap-folding of hexagonal ring origami by geometric modifications. <i>Journal of the Mechanics and Physics of Solids</i> , 2023, 171, 105142.	2.3	11
60	Origami-inspired metamaterials with switchable energy absorption based on bifurcated motions of a Tachi-Miura polyhedron. <i>Materials and Design</i> , 2023, 225, 111497.	3.3	6
61	Multistable origami honeycomb. <i>International Journal of Mechanical Sciences</i> , 2023, 243, 108044.	3.6	7
62	Origami-like quasi-mechanisms with an antiprismatic skeleton. <i>Mechanism and Machine Theory</i> , 2023, 181, 105214.	2.7	0
63	Multistability, symmetry and geometric conservation in eightfold waterbomb origami. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2022, 478, .	1.0	1
64	Topologically reconfigurable magnetic polaritons. <i>Science Advances</i> , 2022, 8, .	4.7	14
65	Inverse design of 3D reconfigurable curvilinear modular origami structures using geometric and topological reconstructions. <i>Nature Communications</i> , 2022, 13, .	5.8	9
66	Origami With Rotational Symmetry: A Review on Their Mechanics and Design. <i>Applied Mechanics Reviews</i> , 2023, 75, .	4.5	17
67	Origami-based tunable mechanical memory metamaterial for vibration attenuation. <i>Mechanical Systems and Signal Processing</i> , 2023, 188, 110033.	4.4	16
68	Structural and Spatial Minimal Requirement Efficacy of Emergency Shelters for Different Emergencies. <i>Buildings</i> , 2023, 13, 32.	1.4	2
69	Homogenization Model for Multistable Honeycomb Metastructures Exhibiting Beam-like Behavior. , 2023, , .		1
70	A Millimeterâ€Scale Soft Robot for Tissue Biopsy Procedures. <i>Advanced Intelligent Systems</i> , 2023, 5, .	3.3	6
71	Continuous modeling of creased annuli with tunable bistable and looping behaviors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2023, 120, .	3.3	4
72	Buckling-regulated origami materials with synergy of deployable and undeployable features. <i>International Journal of Mechanical Sciences</i> , 2023, 247, 108167.	3.6	9

#	ARTICLE	IF	CITATIONS
73	Dynamic failure of 3D printed negative-stiffness meta-sandwich structures under repeated impact loadings. <i>Composites Science and Technology</i> , 2023, 234, 109928.	3.8	19
74	Asymmetric Zipper-Coupled Tubes and Smooth Sheet Attachments in the Design of Deployable Space-Filling Mechanisms. <i>Journal of Mechanisms and Robotics</i> , 2024, 16, .	1.5	0
75	Digitized design and mechanical property reprogrammability of multistable origami metamaterials. <i>Journal of the Mechanics and Physics of Solids</i> , 2023, 173, 105237.	2.3	13
76	Ultrafast, Programmable, and Electronics-Free Soft Robots Enabled by Snapping Metacaps. <i>Advanced Intelligent Systems</i> , 2023, 5, .	3.3	7
78	Harnessing the nonlinear properties of buckling inflatable tubes for complex robotic behaviors. <i>Materials Today</i> , 2023, 63, 59-88.	8.3	5
79	Engineering zero modes in transformable mechanical metamaterials. <i>Nature Communications</i> , 2023, 14, .	5.8	20
80	Designing and Analyzing Multistable Mechanisms Using Quadrilateral Boundary Rigid Origami. <i>Journal of Mechanisms and Robotics</i> , 2024, 16, .	1.5	1
81	Active topological phase transitions in high-order elastic topological insulators driven by pneumatic methods and liquid metals. <i>Journal of Applied Physics</i> , 2023, 133, 104504.	1.1	5
82	Soft Deployable Structures via Core-Shell Inflatables. <i>Physical Review Letters</i> , 2023, 130, .	2.9	2
83	Multimaterial 3D printed self-locking thick-panel origami metamaterials. <i>Nature Communications</i> , 2023, 14, .	5.8	22
84	Programming 3D Curves with Discretely Constrained Cylindrical Inflatables. <i>Advanced Materials</i> , 2023, 35, .	11.1	5
85	Oribron: An Origami-Inspired Deformable Rigid Bronchoscope for Radial Support. <i>Micromachines</i> , 2023, 14, 822.	1.4	1
86	Ultra-tunable bistable structures for universal robotic applications. <i>Cell Reports Physical Science</i> , 2023, , 101365.	2.8	0
129	A Kirigami-Inspired Foldable Spherical Fully Dielectric Luneburg Lens Antenna. , 2023, , .		0