

Xiaojia Shelly Zhang

List of Publications by Year in descending order

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33
papers

446
citations

751781

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33
times ranked

343
citing authors

#	ARTICLE	IF	CITATIONS
1	A comprehensive review of educational articles on structural and multidisciplinary optimization. <i>Structural and Multidisciplinary Optimization</i> , 2021, 64, 2827-2880.	3.5	67
2	Multi-material topology optimization with multiple volume constraints: a general approach applied to ground structures with material nonlinearity. <i>Structural and Multidisciplinary Optimization</i> , 2018, 57, 161-182.	3.5	65
3	Topology optimization of hard-magnetic soft materials. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 158, 104628.	4.9	34
4	Adaptive multi-material topology optimization with hyperelastic materials under large deformations: A virtual element approach. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 370, 112976.	6.7	32
5	Stochastic sampling for deterministic structural topology optimization with many load cases: Density-based and ground structure approaches. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 325, 463-487.	6.7	27
6	Digital synthesis of free-form multimaterial structures for realization of arbitrary programmed mechanical responses. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2120563119.	7.5	24
7	Design of composite structures with programmable elastic responses under finite deformations. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 151, 104356.	4.9	23
8	Topology optimization of hyperelastic structures with anisotropic fiber reinforcement under large deformations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 378, 113496.	6.7	22
9	Multimaterial topology optimization with multiple volume constraints: Combining the ZPR update with a ground-structure algorithm to select a single material per overlapping set. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 114, 1053-1073.	2.8	19
10	Design of graded porous bone-like structures via a multi-material topology optimization approach. <i>Structural and Multidisciplinary Optimization</i> , 2021, 64, 677.	3.5	16
11	Encoding reprogrammable properties into magneto-mechanical materials via topology optimization. <i>Npj Computational Materials</i> , 2023, 9, .	9.0	14
12	Multimaterial stress-constrained topology optimization with multiple distinct yield criteria. <i>Extreme Mechanics Letters</i> , 2022, 54, 101716.	4.1	12
13	Inverse design of magneto-active metasurfaces and robots: Theory, computation, and experimental validation. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2023, 413, 116065.	6.7	12
14	Controlling the fracture response of structures via topology optimization: From delaying fracture nucleation to maximizing toughness. <i>Journal of the Mechanics and Physics of Solids</i> , 2023, 173, 105227.	4.9	11
15	Programming and physical realization of extreme three-dimensional responses of metastructures under large deformations. <i>International Journal of Engineering Science</i> , 2023, 191, 103881.	5.0	10
16	Metabolic tagging of extracellular vesicles and development of enhanced extracellular vesicle based cancer vaccines. <i>Nature Communications</i> , 2023, 14, .	13.0	10
17	Efficient multi-material continuum topology optimization considering hyperelasticity: Achieving local feature control through regional constraints. <i>Mechanics Research Communications</i> , 2020, 105, 103494.	1.9	9
18	Additive Manufacturing of Topology-Optimized Graded Porous Structures: An Experimental Study. <i>Jom</i> , 2021, 73, 2022-2030.	2.2	9

#	ARTICLE	IF	CITATIONS
19	Stress-based topology optimization for fiber composites with improved stiffness and strength: Integrating anisotropic and isotropic materials. <i>Composite Structures</i> , 2023, 320, 117041.	5.9	9
20	Momentum-based accelerated mirror descent stochastic approximation for robust topology optimization under stochastic loads. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 4431-4457.	2.8	7
21	Topology Optimization With Many Right-Hand Sides Using Mirror Descent Stochastic Approximation—Reduction From Many to a Single Sample. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2020, 87, .	2.2	4
22	Paved guideway topology optimization for pedestrian traffic under Nash equilibrium. <i>Structural and Multidisciplinary Optimization</i> , 2021, 63, 1405-1426.	3.5	3
23	Arbitrary curvature programming of thermo-active liquid crystal elastomer via topology optimization. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2023, 417, 116393.	6.7	3
24	Additive manufacturing of stiff and strong structures by leveraging printing-induced strength anisotropy in topology optimization. <i>Additive Manufacturing</i> , 2023, 75, 103730.	3.1	1
25	Algorithmic encoding of adaptive responses in temperature-sensing multimaterial architectures. <i>Science Advances</i> , 2023, 9, .	10.8	1
26	Topology optimization of irregular multiscale structures with tunable responses using a virtual growth rule. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2024, 425, 116864.	6.7	1
27	Modulate stress distribution with bio-inspired irregular architected materials towards optimal tissue support. <i>Nature Communications</i> , 2024, 15, .	13.0	1
28	Closure to “Macroelement and Macropatch Approaches to Structural Topology Optimization Using the Ground Structure Method” by Xiaojia Zhang, Sushant Maheshwari, Adeildo S. Ramos Jr., and Glaucio H. Paulino. <i>Journal of Structural Engineering</i> , 2018, 144, 07018009.	3.5	0
29	Computational morphogenesis for liquid crystal elastomer metamaterial. <i>Npj Computational Materials</i> , 2024, 10, .	9.0	0
30	Analytical realization of complex thermal meta-devices. <i>Nature Communications</i> , 2024, 15, .	13.0	0
31	Multiphysics topology optimization of magnetic materials with continuous magnetization orientations. <i>Mechanics of Materials</i> , 2024, , 105089.	3.3	0
32	Wireless Magnetic Robot for Precise Hierarchical Control of Tissue Deformation. <i>Advanced Science</i> , 0, , .	12.3	0
33	Unstructured growth of irregular architectures for optimized metastructures. <i>Journal of the Mechanics and Physics of Solids</i> , 2024, 192, 105787.	4.9	0