Yichao Zhu

List of Publications by Year
in descending order

35 papers	883 citations	516710 16 h-index	477307 29 g-index
35 all docs	35 docs citations	35 times ranked	624 citing authors

#	Article	IF	Citations
1	Additive Manufacturing-Oriented Design of Graded Lattice Structures Through Explicit Topology Optimization. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	2.2	112
2	Topology optimization with multiple materials via moving morphable component (MMC) method. International Journal for Numerical Methods in Engineering, 2018, 113, 1653-1675.	2.8	112
3	An efficient moving morphable component (MMC)-based approach for multi-resolution topology optimization. Structural and Multidisciplinary Optimization, 2018, 58, 2455-2479.	3.5	67
4	Structural complexity control in topology optimization via moving morphable component (MMC) approach. Structural and Multidisciplinary Optimization, 2017, 56, 535-552.	3.5	66
5	A Moving Morphable Component Based Topology Optimization Approach for Rib-Stiffened Structures Considering Buckling Constraints. Journal of Mechanical Design, Transactions of the ASME, 2018, 140, .	2.9	50
6	A novel asymptotic-analysis-based homogenisation approach towards fast design of infill graded microstructures. Journal of the Mechanics and Physics of Solids, 2019, 124, 612-633.	4.8	46
7	Kirigami pattern design of mechanically driven formation of complex 3D structures through topology optimization. Extreme Mechanics Letters, 2017, 15, 139-144.	4.1	39
8	Explicit structural topology optimization under finite deformation via Moving Morphable Void (MMV) approach. Computer Methods in Applied Mechanics and Engineering, 2019, 344, 798-818.	6.6	37
9	A continuum model for dislocation dynamics incorporating Frankâ€“Read sources and Hallâ€“Petch relation in two dimensions. International Journal of Plasticity, 2014, 60, 19-39.	8.8	33
10	Optimal design of shell-graded-infill structures by a hybrid MMC-MMV approach. Computer Methods in Applied Mechanics and Engineering, 2020, 369, 113187.	6.6	32
11	Explicit control of structural complexity in topology optimization. Computer Methods in Applied Mechanics and Engineering, 2017, 324, 149-169.	6.6	26
12	The mechanical principles behind the golden ratio distribution of veins in plant leaves. Scientific Reports, 2018, 8, 13859.	3.3	26
13	Generation of smoothly-varying infill configurations from a continuous menu of cell patterns and the asymptotic analysis of its mechanical behaviour. Computer Methods in Applied Mechanics and Engineering, 2020, 366, 113037.	6.6	26
14	The role of dislocation pile-up in flow stress determination and strain hardening. Scripta Materialia, 2016, 116, 53-56.	5.2	24
15	Gurtin-Murdoch surface elasticity theory revisit: An orbital-free density functional theory perspective. Journal of the Mechanics and Physics of Solids, 2017, 109, 178-197.	4.8	24
16	A continuum model for dislocation dynamics in three dimensions using the dislocation density potential functions and its application to micro-pillars. Journal of the Mechanics and Physics of Solids, 2015, 84, 230-253.	4.8	20
17	Point defect sink efficiency of low-angle tilt grain boundaries. Journal of the Mechanics and Physics of Solids, 2017, 101, 166-179.	4.8	15
18	A magnification-based multi-asperity (MBMA) model of rough contact without adhesion. Journal of the Mechanics and Physics of Solids, 2019, 133, 103724.	4.8	14

#	Article	IF	Citations
19	Homogenization of a Row of Dislocation Dipoles from Discrete Dislocation Dynamics. SIAM Journal on Applied Mathematics, 2016, 76, 750-775.	1.8	12
20	On speeding up an asymptotic-analysis-based homogenisation scheme for designing gradient porous structured materials using a zoning strategy. Structural and Multidisciplinary Optimization, 2020, 62, 457-473.	3.5	12
21	Characterisation of dislocation patterning behaviour with a continuum dislocation dynamics model on two parallel slip planes equipped with a deep neural network resolving local microstructures. International Journal of Solids and Structures, 2020, 198, 57-71.	2.7	12
22	Compliance minimisation of smoothly varying multiscale structures using asymptotic analysis and machine learning. Computer Methods in Applied Mechanics and Engineering, 2022, 395, 114861.	6.6	12
23	Role of Grain Boundaries under Long-Time Radiation. Physical Review Letters, 2018, 120, 222501.	7.8	11
24	A three-scale homogenisation approach to the prediction of long-time absorption of radiation induced interstitials by nanovoids at interfaces. Journal of the Mechanics and Physics of Solids, 2017, 105, 1-20.	4.8	10
25	Dislocation motion and instability. Journal of the Mechanics and Physics of Solids, 2013, 61, 1835-1853.	4.8	9
26	A Natural Transition Between Equilibrium Patterns of Dislocation Dipoles. Journal of Elasticity, 2014, 117, 51-61.	1.9	7
27	Continuum dynamics of the formation, migration and dissociation of self-locked dislocation structures on parallel slip planes. Journal of the Mechanics and Physics of Solids, 2016, 96, 369-387.	4.8	6
28	A lightweight optimal design model for bolted flange joints without gaskets considering its sealing performance. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2018, 232, 234-255.	2.5	5
29	Optimisation of spatially varying orthotropic porous structures based on conformal mapping. Computer Methods in Applied Mechanics and Engineering, 2022, 391, 114589.	6.6	5
30	Motion of screw segments in the early stage of fatigue testing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 589, 132-139.	5.6	4
31	Formulation of voids and bubbles as biased sinks to crystalline point defects. Scripta Materialia, 2021, 197, 113806.	5.2	4
32	Attempts on representing sink strengths with machine learning formulations and the long-term role of crystalline interfaces in the development of irradiation-induced bubbles. Journal of Nuclear Materials, 2021, 544, 152676.	2.7	2
33	A continuum model for distributions of dislocations incorporating short-range interactions. Communications in Mathematical Sciences, 2018, 16, 491-522.	1.0	2
34	Revisiting Kirchhoffâ€“Love plate theories for thin laminated configurations and the role of transverse loads. Journal of Composite Materials, 2022, 56, 1363-1377.	2.4	1
35	About Homogenisation. , 2022, , .		0