Xiaoming Mao

List of Publications by Year in descending order

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55 papers	2,305 citations	236925 25 h-index	214800 47 g-index
56 all docs	56 docs citations	56 times ranked	1990 citing authors

#	Article	IF	Citations
1	Correlated rigidity percolation in fractal lattices. Physical Review E, 2021, 103, 012104.	2.1	2
2	Elasticity of colloidal gels: structural heterogeneity, floppy modes, and rigidity. Soft Matter, 2021, 17, 6929-6934.	2.7	17
3	Topological floppy modes in models of epithelial tissues. Soft Matter, 2021, 17, 8624-8641.	2.7	5
4	Frustrated self-assembly of non-Euclidean crystals of nanoparticles. Nature Communications, 2021, 12, 4925.	12.8	12
5	Fractional Excitations in Non-Euclidean Elastic Plates. Physical Review Letters, 2021, 127, 098001.	7.8	5
6	Introduction to force transmission by nonlinear biomaterials. Soft Matter, 2021, 17, 10172-10176.	2.7	6
7	Collective motility and mechanical waves in cell clusters. European Physical Journal E, 2021, 44, 137.	1.6	4
8	Topological Flexural Modes in Polarized Bilayer Lattices. Physical Review Applied, 2021, 16, .	3.8	8
9	Self-Assembly of Chiral Nanoparticles into Semiconductor Helices with Tunable near-Infrared Optical Activity. Chemistry of Materials, 2020, 32, 476-488.	6.7	79
10	Physical limits to sensing material properties. Nature Communications, 2020, 11, 5170.	12.8	2
11	Continuum Theory for Topological Edge Soft Modes. Physical Review Letters, 2020, 124, 207601.	7.8	21
12	Switchable phonon diodes using nonlinear topological Maxwell lattices. Physical Review B, 2020, 101, .	3.2	25
13	Correlated Rigidity Percolation and Colloidal Gels. Physical Review Letters, 2019, 123, 058001.	7.8	56
14	Rheological implications of embedded active matter in colloidal gels. Soft Matter, 2019, 15, 8012-8021.	2.7	13
15	Topological Boundary Floppy Modes in Quasicrystals. Physical Review X, 2019, 9, .	8.9	25
16	Cell motility, contact guidance, and durotaxis. Soft Matter, 2019, 15, 4856-4864.	2.7	22
17	Jamming as a Multicritical Point. Physical Review Letters, 2019, 122, 128006.	7.8	11
18	Influence of hinge stiffness on the asymmetric wave transport in topological lattices: a parametric study. , 2019, , .		1

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19	Topological Edge Floppy Modes in Disordered Fiber Networks. Physical Review Letters, 2018, 120, 068003.	7.8	39
20	Maxwell Lattices and Topological Mechanics. Annual Review of Condensed Matter Physics, 2018, 9, 413-433.	14.5	108
21	Capillary-driven binding of thin triangular prisms at fluid interfaces. Soft Matter, 2018, 14, 3902-3918.	2.7	5
22	Fracturing of topological Maxwell lattices. New Journal of Physics, 2018, 20, 063034.	2.9	37
23	Random walker models for durotaxis. Physical Biology, 2018, 15, 066009.	1.8	13
24	Mechanics of Disordered Fiber Networks. ACS Symposium Series, 2018, , 199-210.	0.5	3
25	Edge Modes and Asymmetric Wave Transport in Topological Lattices: Experimental Characterization at Finite Frequencies. Physical Review Letters, 2018, 121, 094301.	7.8	38
26	Transformable topological mechanical metamaterials. Nature Communications, 2017, 8, 14201.	12.8	137
27	Stress-induced plasticity of dynamic collagen networks. Nature Communications, 2017, 8, 842.	12.8	121
28	Fiber networks below the isostatic point: Fracture without stress concentration. Physical Review Materials, 2017, 1, .	2.4	24
29	Elasticity of randomly diluted honeycomb and diamond lattices with bending forces. Journal of Physics Condensed Matter, 2016, 28, 165402.	1.8	6
30	Finite-temperature mechanical instability in disordered lattices. Physical Review E, 2016, 93, 022110.	2.1	12
31	Nonlinear elasticity of disordered fiber networks. Soft Matter, 2016, 12, 1419-1424.	2.7	59
32	Finite-temperature buckling of an extensible rod. Physical Review E, 2015, 92, 062141.	2.1	4
33	Mechanical instability at finite temperature. Nature Communications, 2015, 6, 5968.	12.8	34
34	Phonons and elasticity in critically coordinated lattices. Reports on Progress in Physics, 2015, 78, 073901.	20.1	173
35	Rigidity percolation by next-nearest-neighbor bonds on generic and regular isostatic lattices. Physical Review E, 2015, 91, 032124.	2.1	25
36	Alignment and nonlinear elasticity in biopolymer gels. Physical Review E, 2015, 91, 042710.	2.1	45

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37	Self-assembly of three-dimensional open structures using patchy colloidal particles. Soft Matter, 2014, 10, 7569-7576.	2.7	32
38	Entropy favours open colloidal lattices. Nature Materials, 2013, 12, 217-222.	27.5	166
39	Elasticity of a filamentous kagome lattice. Physical Review E, 2013, 87, 042602.	2.1	44
40	Entropic effects in the self-assembly of open lattices from patchy particles. Physical Review E, 2013, 87, 062319.	2.1	26
41	Effective-medium theory of a filamentous triangular lattice. Physical Review E, 2013, 87, 042601.	2.1	41
42	Surface phonons, elastic response, and conformal invariance in twisted kagome lattices. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 12369-12374.	7.1	154
43	Rigidity percolation on the square lattice. Europhysics Letters, 2011, 96, 54002.	2.0	27
44	Nonaffine Displacements in Flexible Polymer Networks. Macromolecules, 2011, 44, 1671-1679.	4.8	77
45	Criticality and isostaticity in fibre networks. Nature Physics, 2011, 7, 983-988.	16.7	266
46	Coherent potential approximation of random nearly isostatic kagome lattice. Physical Review E, 2011, 83, 011111.	2.1	38
47	Soft Modes and Elasticity of Nearly Isostatic Lattices: Randomness and Dissipation. Physical Review Letters, 2010, 104, 085504.	7.8	68
48	Soft random solids and their heterogeneous elasticity. Physical Review E, 2009, 80, 031140.	2.1	14
49	Elastic heterogeneity of soft random solids. Europhysics Letters, 2007, 80, 26004.	2.0	9
50	Elasticity of highly cross-linked random networks. Europhysics Letters, 2006, 76, 677-682.	2.0	19
51	Cavity Approach to the Random Solid State. Physical Review Letters, 2005, 95, 148302.	7.8	2
52	Aluminum nanoscale order in amorphous Al92Sm8 measured by fluctuation electron microscopy. Applied Physics Letters, 2005, 86, 141910.	3.3	96
53	Social influence in small-world networks. Chinese Physics B, 2002, 11, 1280-1285.	1.3	8
54	Stochastic resonance in a financial model. Chinese Physics B, 2002, 11, 1106-1110.	1.3	18

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55	A Non-invasive Method of Tracing Spiral Tips. Chinese Physics Letters, 2001, 18, 834-836.	3.3	1