

Muamer Kadic

List of Publications by Year in descending order

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100
papers

7,283
citations

101384

36
h-index

54797

84
g-index

103
all docs

103
docs citations

103
times ranked

4975
citing authors

#	ARTICLE	IF	CITATIONS
1	Three-dimensional mechanical metamaterials with a twist. <i>Science</i> , 2017, 358, 1072-1074.	6.0	658
2	3D metamaterials. <i>Nature Reviews Physics</i> , 2019, 1, 198-210.	11.9	598
3	Tailored 3D Mechanical Metamaterials Made by Direct Laser Writing Optical Lithography. <i>Advanced Materials</i> , 2012, 24, 2710-2714.	11.1	560
4	Experiments on Transformation Thermodynamics: Molding the Flow of Heat. <i>Physical Review Letters</i> , 2013, 110, 195901.	2.9	498
5	An elasto-mechanical unfeelability cloak made of pentamode metamaterials. <i>Nature Communications</i> , 2014, 5, 4130.	5.8	444
6	On the practicability of pentamode mechanical metamaterials. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	405
7	Metamaterials beyond electromagnetism. <i>Reports on Progress in Physics</i> , 2013, 76, 126501.	8.1	378
8	Tailored Buckling Microlattices as Reusable Lightweight Shock Absorbers. <i>Advanced Materials</i> , 2016, 28, 5865-5870.	11.1	289
9	Vibrant times for mechanical metamaterials. <i>MRS Communications</i> , 2015, 5, 453-462.	0.8	234
10	Invisibility cloaking in a diffusive light scattering medium. <i>Science</i> , 2014, 345, 427-429.	6.0	210
11	On three-dimensional dilational elastic metamaterials. <i>New Journal of Physics</i> , 2014, 16, 033032.	1.2	157
12	Micro-Structured Two-Component 3D Metamaterials with Negative Thermal-Expansion Coefficient from Positive Constituents. <i>Scientific Reports</i> , 2017, 7, 40643.	1.6	141
13	Three-dimensional labyrinthine acoustic metamaterials. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	137
14	New Twists of 3D Chiral Metamaterials. <i>Advanced Materials</i> , 2019, 31, e1807742.	11.1	130
15	Mechanical cloak design by direct lattice transformation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 4930-4934.	3.3	120
16	Characteristics of mechanical metamaterials based on buckling elements. <i>Journal of the Mechanics and Physics of Solids</i> , 2017, 102, 151-164.	2.3	114
17	Polymerization Kinetics in Three-Dimensional Direct Laser Writing. <i>Advanced Materials</i> , 2014, 26, 6566-6571.	11.1	109
18	Light-weight shell-lattice metamaterials for mechanical shock absorption. <i>International Journal of Mechanical Sciences</i> , 2020, 169, 105288.	3.6	109

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19	Pentamode Metamaterials with Independently Tailored Bulk Modulus and Mass Density. <i>Physical Review Applied</i> , 2014, 2, .	1.5	108
20	Phonon band structures of three-dimensional pentamode metamaterials. <i>Physical Review B</i> , 2012, 86, .	1.1	93
21	On anisotropic versions of three-dimensional pentamode metamaterials. <i>New Journal of Physics</i> , 2013, 15, 023029.	1.2	91
22	Elastic measurements on macroscopic three-dimensional pentamode metamaterials. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	91
23	Three-dimensional waveguide interconnects for scalable integration of photonic neural networks. <i>Optica</i> , 2020, 7, 640.	4.8	77
24	Ultrasound experiments on acoustical activity in chiral mechanical metamaterials. <i>Nature Communications</i> , 2019, 10, 3384.	5.8	73
25	Hidden progress: broadband plasmonic invisibility. <i>Optics Express</i> , 2010, 18, 15757.	1.7	72
26	Plasmonic Space Folding: Focusing Surface Plasmons <i>via</i> Negative Refraction in Complementary Media. <i>ACS Nano</i> , 2011, 5, 6819-6825.	7.3	70
27	Micro-scale Auxetic Hierarchical Mechanical Metamaterials for Shape Morphing. <i>Advanced Materials</i> , 2022, 34, e2110115.	11.1	69
28	Roadmap on transformation optics. <i>Journal of Optics (United Kingdom)</i> , 2018, 20, 063001.	1.0	64
29	Transformational plasmonics: cloak, concentrator and rotator for SPPs. <i>Optics Express</i> , 2010, 18, 12027.	1.7	54
30	Mapping acoustical activity in 3D chiral mechanical metamaterials onto micropolar continuum elasticity. <i>Journal of the Mechanics and Physics of Solids</i> , 2020, 137, 103877.	2.3	54
31	Roton-like acoustical dispersion relations in 3D metamaterials. <i>Nature Communications</i> , 2021, 12, 3278.	5.8	53
32	Experimental Evidence for Sign Reversal of the Hall Coefficient in Three-Dimensional Metamaterials. <i>Physical Review Letters</i> , 2017, 118, 016601.	2.9	44
33	On the Schwarzschild Effect in 3D Two-photon Laser Lithography. <i>Advanced Optical Materials</i> , 2019, 7, 1901040.	3.6	43
34	Experimental observation of roton-like dispersion relations in metamaterials. <i>Science Advances</i> , 2021, 7, eabm2189.	4.7	41
35	Transformation plasmonics. <i>Nanophotonics</i> , 2012, 1, 51-64.	2.9	39
36	Poroelastic metamaterials with negative effective static compressibility. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	38

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37	Mechanical metamaterials with anisotropic and negative effective mass density tensor made from one constituent material. <i>Physica Status Solidi (B): Basic Research</i> , 2015, 252, 1671-1674.	0.7	37
38	Direct (3+1)D laser writing of graded-index optical elements. <i>Optica</i> , 2021, 8, 1281.	4.8	31
39	3D printed multimode-splitters for photonic interconnects. <i>Optical Materials Express</i> , 2020, 10, 2952.	1.6	31
40	Optimal isotropic, reusable truss lattice material with near-zero Poisson's ratio. <i>Extreme Mechanics Letters</i> , 2020, 41, 101048.	2.0	30
41	Static chiral Willis continuum mechanics for three-dimensional chiral mechanical metamaterials. <i>Physical Review B</i> , 2019, 99, .	1.1	29
42	Invisibility cloaking in light scattering media. <i>Laser and Photonics Reviews</i> , 2016, 10, 382-408.	4.4	28
43	Optical Pulling and Pushing Forces in Bilayer P -Symmetric Structures. <i>Physical Review Applied</i> , 2018, 9, .	1.5	28
44	Designing thermal energy harvesting devices with natural materials through optimized microstructures. <i>International Journal of Heat and Mass Transfer</i> , 2021, 169, 120948.	2.5	28
45	Experiments on cloaking in optics, thermodynamics and mechanics. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2015, 373, 20140357.	1.6	27
46	Three-dimensional poroelastic metamaterials with extremely negative or positive effective static volume compressibility. <i>Extreme Mechanics Letters</i> , 2018, 22, 165-171.	2.0	26
47	Transient behavior of invisibility cloaks for diffusive light propagation. <i>Optica</i> , 2015, 2, 84.	4.8	25
48	4D Thermomechanical metamaterials for soft microrobotics. <i>Communications Materials</i> , 2021, 2, .	2.9	25
49	Isotropic Chiral Acoustic Phonons in 3D Quasicrystalline Metamaterials. <i>Physical Review Letters</i> , 2020, 124, 235502.	2.9	22
50	A general strategy for performance enhancement of negative stiffness mechanical metamaterials. <i>European Journal of Mechanics, A/Solids</i> , 2022, 96, 104702.	2.1	20
51	Plasmonic interaction of visible light with gold nanoscale checkerboards. <i>Physical Review B</i> , 2011, 84, .	1.1	19
52	Diffuse-light all-solid-state invisibility cloak. <i>Optics Letters</i> , 2015, 40, 4202.	1.7	19
53	Topologically Protected Twist Edge States for a Resonant Mechanical Laser-Beam Scanner. <i>Physical Review Applied</i> , 2019, 11, .	1.5	19
54	Scattering problems in elastodynamics. <i>Physical Review B</i> , 2016, 94, .	1.1	18

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55	When size matters. Nature Physics, 2018, 14, 8-9.	6.5	18
56	Observation of topological gravity-capillary waves in a water wave crystal. New Journal of Physics, 2019, 21, 083031.	1.2	18
57	Experimental observations of topologically guided water waves within non-hexagonal structures. Applied Physics Letters, 2020, 116, 131603.	1.5	18
58	Controlling surface plasmon polaritons in transformed coordinates. Journal of Modern Optics, 2011, 58, 994-1003.	0.6	17
59	Invisible waveguides on metal plates for plasmonic analogs of electromagnetic wormholes. Physical Review A, 2014, 90, .	1.0	16
60	Elastodynamic behavior of mechanical cloaks designed by direct lattice transformations. Wave Motion, 2020, 92, 102419.	1.0	15
61	Elastic wave near-cloaking. Extreme Mechanics Letters, 2021, 44, 101262.	2.0	15
62	Design of thermal cloaks with isotropic materials based on machine learning. International Journal of Heat and Mass Transfer, 2022, 189, 122716.	2.5	15
63	Nonlocal interaction engineering of 2D roton-like dispersion relations in acoustic and mechanical metamaterials. Communications Materials, 2022, 3, .	2.9	15
64	Closed tubular mechanical metamaterial as lightweight load-bearing structure and energy absorber. Journal of the Mechanics and Physics of Solids, 2022, 167, 104957.	2.3	15
65	Hall-Effect Sign Inversion in a Realizable 3D Metamaterial. Physical Review X, 2015, 5, .	2.8	13
66	Experiments on Metamaterials with Negative Effective Static Compressibility. Physical Review X, 2017, 7, .	2.8	13
67	Optical force rectifiers based on PT-symmetric metasurfaces. Physical Review B, 2018, 97, .	1.1	12
68	Three-dimensional phononic crystal with ultra-wide bandgap at megahertz frequencies. Applied Physics Letters, 2021, 118, .	1.5	12
69	Single-Step Lithography Micro-Stepper Based on Frictional Contact and Chiral Metamaterial. Small, 2022, 18, .	5.2	12
70	Stiffer, Stronger and Centrosymmetrical Class of Pentamodal Mechanical Metamaterials. Materials, 2019, 12, 3470.	1.3	10
71	Acoustic Topological Circuitry in Square and Rectangular Phononic Crystals. Physical Review Applied, 2021, 15, .	1.5	10
72	Theory of the Hall effect in three-dimensional metamaterials. New Journal of Physics, 2018, 20, 083034.	1.2	9

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73	Complex-Eigenfrequency Band Structure of Viscoelastic Phononic Crystals. Applied Sciences (Switzerland), 2019, 9, 2825.	1.3	9
74	Thermal cloaking of complex objects with the neutral inclusion and the coordinate transformation methods. AIP Advances, 2019, 9, .	0.6	9
75	Chiral triclinic metamaterial crystals supporting isotropic acoustical activity and isotropic chiral phonons. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20200764.	1.0	9
76	Self-rotating 3D chiral mechanical metamaterials. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	1.0	8
77	Photonic crystal carpet: Manipulating wave fronts in the near field at $1.55 \mu\text{m}$. Physical Review B, 2013, 88, .	1.1	7
78	Parallel Hall effect from three-dimensional single-component metamaterials. Applied Physics Letters, 2015, 107, 132103.	1.5	7
79	Experiments on the Parallel Hall Effect in Three-Dimensional Metamaterials. Physical Review Applied, 2017, 7, .	1.5	7
80	Cloaking In-Plane Elastic Waves with Swiss Rolls. Materials, 2020, 13, 449.	1.3	7
81	Cubic metamaterial crystal supporting broadband isotropic chiral phonons. Physical Review Materials, 2021, 5, .	0.9	7
82	Optically assisted trapping with high-permittivity dielectric rings: Towards optical aerosol filtration. Applied Physics Letters, 2016, 109, .	1.5	5
83	Effective anisotropy of periodic acoustic and elastic composites. Journal of Applied Physics, 2021, 129, .	1.1	4
84	Brillouin Light Scattering Characterisation of Gray Tone 3D Printed Isotropic Materials. Materials, 2022, 15, 4070.	1.3	3
85	Hall-effect metamaterials and anti-Hall bars. Physics Today, 2017, 70, 14-15.	0.3	2
86	Kern, Kadic, and Wegener Reply:. Physical Review Letters, 2018, 120, 149702.	2.9	2
87	Introduction to mechanical metamaterials and their effective properties. Comptes Rendus Physique, 2020, 21, 751-765.	0.3	2
88	From transformational optics to plasmonics. , 2010, , .		1
89	3D Optical Invisibility Cloak in the Diffusive-Light Limit. , 2014, , .		1
90	Chapter 10 Experiments on Cloaking in Electromagnetism, Mechanics, and Thermodynamics. , 2016, , 335-368.		1

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91	Cloaking Liquid Surface Waves and Plasmon Polaritons. Springer Series in Materials Science, 2013, , 267-288.	0.4	0
92	Transformation Optics of Surface Plasmon Polaritons. Handbook of Surface Science, 2014, 4, 279-307.	0.3	0
93	Invisibility cloaking in the diffusive-light limit (presentation video). Proceedings of SPIE, 2014, , .	0.8	0
94	All-Solid-State Invisibility Cloak for Diffuse Light. , 2015, , .		0
95	Mechanical Activity: The Elastic Counterpart of Optical Activity. NATO Science for Peace and Security Series B: Physics and Biophysics, 2018, , 403-404.	0.2	0
96	3D Cubic Buckling Mechanical Metamaterials. NATO Science for Peace and Security Series B: Physics and Biophysics, 2018, , 421-422.	0.2	0
97	3D-printed core-cladding waveguides and adiabatic splitters for integrated photonic circuits. , 2021, , .		0
98	Scalable photonic splitters based on 3D laser lithography. , 2021, , .		0
99	3D printed interconnects of photonic waveguides. , 2021, , .		0
100	An Introduction to Mathematics of Transformational Plasmonics. , 2012, , 235-277.		0