

Boyan S Lazarov

List of Publications by Year in descending order

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186
papers

22,423
citations

13865

67
h-index

9345

143
g-index

187
all docs

187
docs citations

187
times ranked

6362
citing authors

#	ARTICLE	IF	CITATIONS
1	Topology optimization approaches. <i>Structural and Multidisciplinary Optimization</i> , 2013, 48, 1031-1055.	3.5	1,851
2	Morphology-based black and white filters for topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2007, 33, 401-424.	3.5	1,219
3	On projection methods, convergence and robust formulations in topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2011, 43, 767-784.	3.5	1,078
4	Topology Optimization. , 2004, , .		1,033
5	Efficient topology optimization in MATLAB using 88 lines of code. <i>Structural and Multidisciplinary Optimization</i> , 2011, 43, 1-16.	3.5	969
6	On the Design of Compliant Mechanisms Using Topology Optimization*. <i>Mechanics Based Design of Structures and Machines</i> , 1997, 25, 493-524.	0.6	956
7	Materials with prescribed constitutive parameters: An inverse homogenization problem. <i>International Journal of Solids and Structures</i> , 1994, 31, 2313-2329.	2.7	791
8	Filters in topology optimization based on Helmholtz-type differential equations. <i>International Journal for Numerical Methods in Engineering</i> , 2011, 86, 765-781.	2.8	594
9	Systematic design of phononic band-gap materials and structures by topology optimization. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2003, 361, 1001-1019.	3.4	551
10	Giga-voxel computational morphogenesis for structural design. <i>Nature</i> , 2017, 550, 84-86.	27.8	463
11	Tailoring materials with prescribed elastic properties. <i>Mechanics of Materials</i> , 1995, 20, 351-368.	3.2	438
12	Topology synthesis of large-displacement compliant mechanisms. <i>International Journal for Numerical Methods in Engineering</i> , 2001, 50, 2683-2705.	2.8	392
13	Topology Optimized Architectures with Programmable Poisson's Ratio over Large Deformations. <i>Advanced Materials</i> , 2015, 27, 5523-5527.	21.0	380
14	Manufacturing tolerant topology optimization. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2009, 25, 227-239.	3.4	328
15	Infill Optimization for Additive Manufacturing—Approaching Bone-Like Porous Structures. <i>IEEE Transactions on Visualization and Computer Graphics</i> , 2018, 24, 1127-1140.	4.4	326
16	On the usefulness of non-gradient approaches in topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2011, 43, 589-596.	3.5	317
17	A new class of extremal composites. <i>Journal of the Mechanics and Physics of Solids</i> , 2000, 48, 397-428.	4.8	290
18	Multiphase composites with extremal bulk modulus. <i>Journal of the Mechanics and Physics of Solids</i> , 2000, 48, 461-498.	4.8	283

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19	Minimum length scale in topology optimization by geometric constraints. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 293, 266-282.	6.6	275
20	Acoustic design by topology optimization. <i>Journal of Sound and Vibration</i> , 2008, 317, 557-575.	3.9	262
21	Design of manufacturable 3D extremal elastic microstructure. <i>Mechanics of Materials</i> , 2014, 69, 1-10.	3.2	258
22	Systematic design of photonic crystal structures using topology optimization: Low-loss waveguide bends. <i>Applied Physics Letters</i> , 2004, 84, 2022-2024.	3.3	249
23	Homogenization-based topology optimization for high-resolution manufacturable microstructures. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 113, 1148-1163.	2.8	224
24	Topology optimization using PETSc: An easy-to-use, fully parallel, open source topology optimization framework. <i>Structural and Multidisciplinary Optimization</i> , 2015, 51, 565-572.	3.5	215
25	Large scale three-dimensional topology optimisation of heat sinks cooled by natural convection. <i>International Journal of Heat and Mass Transfer</i> , 2016, 100, 876-891.	4.8	214
26	Robust topology optimization accounting for spatially varying manufacturing errors. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 3613-3627.	6.6	212
27	Topology optimization of multi-scale structures: a review. <i>Structural and Multidisciplinary Optimization</i> , 2021, 63, 1455-1480.	3.5	206
28	Length scale and manufacturability in density-based topology optimization. <i>Archive of Applied Mechanics</i> , 2016, 86, 189-218.	2.2	203
29	Topology optimization of photonic crystal structures: a high-bandwidth low-loss T-junction waveguide. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2005, 22, 1191.	2.1	199
30	Topology optimized mode multiplexing in silicon-on-insulator photonic wire waveguides. <i>Optics Express</i> , 2016, 24, 16866.	3.4	181
31	Topology optimization of acoustic-structure interaction problems using a mixed finite element formulation. <i>International Journal for Numerical Methods in Engineering</i> , 2007, 70, 1049-1075.	2.8	171
32	Interpolation scheme for fictitious domain techniques and topology optimization of finite strain elastic problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014, 276, 453-472.	6.6	171
33	Low-frequency band gaps in chains with attached non-linear oscillators. <i>International Journal of Non-Linear Mechanics</i> , 2007, 42, 1186-1193.	2.6	157
34	A topology optimization method for design of negative permeability metamaterials. <i>Structural and Multidisciplinary Optimization</i> , 2010, 41, 163-177.	3.5	156
35	Geometric Properties of Optimal Photonic Crystals. <i>Physical Review Letters</i> , 2008, 100, 153904.	7.8	154
36	Topology optimisation for natural convection problems. <i>International Journal for Numerical Methods in Fluids</i> , 2014, 76, 699-721.	1.6	149

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37	Minimum compliance topology optimization of shellâ€“infill composites for additive manufacturing. Computer Methods in Applied Mechanics and Engineering, 2017, 326, 358-375.	6.6	149
38	Topology optimization of coated structures and material interface problems. Computer Methods in Applied Mechanics and Engineering, 2015, 290, 524-541.	6.6	142
39	Parallel framework for topology optimization using the method of moving asymptotes. Structural and Multidisciplinary Optimization, 2013, 47, 493-505.	3.5	141
40	Topology optimization of turbulent flows. Computer Methods in Applied Mechanics and Engineering, 2018, 331, 363-393.	6.6	138
41	On multigrid-CG for efficient topology optimization. Structural and Multidisciplinary Optimization, 2014, 49, 815-829.	3.5	128
42	Topology optimized mode conversion in a photonic crystal waveguide fabricated in silicon-on-insulator material. Optics Express, 2014, 22, 8525.	3.4	124
43	Topology optimization of microfluidic mixers. International Journal for Numerical Methods in Fluids, 2009, 61, 498-513.	1.6	120
44	On the (non-)optimality of Michell structures. Structural and Multidisciplinary Optimization, 2016, 54, 361-373.	3.5	119
45	Density based topology optimization of turbulent flow heat transfer systems. Structural and Multidisciplinary Optimization, 2018, 57, 1905-1918.	3.5	116
46	A new generation 99 line Matlab code for compliance topology optimization and its extension to 3D. Structural and Multidisciplinary Optimization, 2020, 62, 2211-2228.	3.5	114
47	Topology optimization of large scale stokes flow problems. Structural and Multidisciplinary Optimization, 2008, 35, 175-180.	3.5	113
48	Systematic design of 3D auxetic lattice materials with programmable Poissonâ€™s ratio for finite strains. Journal of the Mechanics and Physics of Solids, 2018, 114, 303-318.	4.8	112
49	Homogenization-based stiffness optimization and projection of 2D coated structures with orthotropic infill. Computer Methods in Applied Mechanics and Engineering, 2019, 349, 722-742.	6.6	112
50	Topology optimization with geometric uncertainties by perturbation techniques. International Journal for Numerical Methods in Engineering, 2012, 90, 1321-1336.	2.8	110
51	Topology optimization of a pseudo 3D thermofluid heat sink model. International Journal of Heat and Mass Transfer, 2018, 121, 1073-1088.	4.8	107
52	Inverse design in photonics by topology optimization: tutorial. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 496.	2.1	103
53	Topology optimization considering material and geometric uncertainties using stochastic collocation methods. Structural and Multidisciplinary Optimization, 2012, 46, 597-612.	3.5	102
54	Topology optimisation of manufacturable microstructural details without length scale separation using a spectral coarse basis preconditioner. Computer Methods in Applied Mechanics and Engineering, 2015, 290, 156-182.	6.6	99

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55	Stress-constrained topology optimization for compliant mechanism design. Structural and Multidisciplinary Optimization, 2015, 52, 929-943.	3.5	97
56	Stress-constrained topology optimization considering uniform manufacturing uncertainties. Computer Methods in Applied Mechanics and Engineering, 2019, 344, 512-537.	6.6	96
57	Topology optimization of fail-safe structures using a simplified local damage model. Structural and Multidisciplinary Optimization, 2014, 49, 657-666.	3.5	95
58	A "poor man's" approach to topology optimization of cooling channels based on a Darcy flow model. International Journal of Heat and Mass Transfer, 2018, 116, 1108-1123.	4.8	89
59	Buckling strength topology optimization of 2D periodic materials based on linearized bifurcation analysis. Computer Methods in Applied Mechanics and Engineering, 2018, 339, 115-136.	6.6	88
60	Topology optimization: a tool for the tailoring of structures and materials. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2000, 358, 211-227.	3.4	86
61	Industrial application of topology optimization for combined conductive and convective heat transfer problems. Structural and Multidisciplinary Optimization, 2016, 54, 1045-1060.	3.5	83
62	Approximate reanalysis in topology optimization. International Journal for Numerical Methods in Engineering, 2009, 78, 1474-1491.	2.8	81
63	Topology optimization for transient wave propagation problems in one dimension. Structural and Multidisciplinary Optimization, 2008, 36, 585-595.	3.5	79
64	Revisiting topology optimization with buckling constraints. Structural and Multidisciplinary Optimization, 2019, 59, 1401-1415.	3.5	79
65	Topological Insulators by Topology Optimization. Physical Review Letters, 2019, 122, 234502.	7.8	78
66	Design of passive coolers for light-emitting diode lamps using topology optimisation. International Journal of Heat and Mass Transfer, 2018, 122, 138-149.	4.8	77
67	Topological design of electromechanical actuators with robustness toward over- and under-etching. Computer Methods in Applied Mechanics and Engineering, 2013, 253, 237-251.	6.6	76
68	Combined shape and topology optimization for minimization of maximal von Mises stress. Structural and Multidisciplinary Optimization, 2017, 55, 1541-1557.	3.5	74
69	Efficient use of iterative solvers in nested topology optimization. Structural and Multidisciplinary Optimization, 2010, 42, 55-72.	3.5	68
70	Maximizing the quality factor to mode volume ratio for ultra-small photonic crystal cavities. Applied Physics Letters, 2018, 113, .	3.3	67
71	De-homogenization of optimal multi-scale 3D topologies. Computer Methods in Applied Mechanics and Engineering, 2020, 364, 112979.	6.6	67
72	Topology optimization of unsteady flow problems using the lattice Boltzmann method. Journal of Computational Physics, 2016, 307, 291-307.	3.8	66

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73	Experimental validation of additively manufactured optimized shapes for passive cooling. Applied Energy, 2018, 226, 330-339.	10.1	64
74	Sensitivity filtering from a continuum mechanics perspective. Structural and Multidisciplinary Optimization, 2012, 46, 471-475.	3.5	63
75	Towards all-dielectric, polarization-independent optical cloaks. Applied Physics Letters, 2012, 100, 101106.	3.3	62
76	Creating geometrically robust designs for highly sensitive problems using topology optimization. Structural and Multidisciplinary Optimization, 2015, 52, 737-754.	3.5	62
77	Robust topology optimization accounting for misplacement of material. Structural and Multidisciplinary Optimization, 2013, 47, 317-333.	3.5	61
78	Investment casting and experimental testing of heat sinks designed by topology optimization. International Journal of Heat and Mass Transfer, 2018, 127, 396-412.	4.8	59
79	A design approach for integrating thermoelectric devices using topology optimization. Applied Energy, 2016, 176, 49-64.	10.1	57
80	Maximum length scale in density based topology optimization. Computer Methods in Applied Mechanics and Engineering, 2017, 318, 826-844.	6.6	57
81	Topology optimization of 3D shell structures with porous infill. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 778-791.	3.4	57
82	Higher-order multi-resolution topology optimization using the finite cell method. International Journal for Numerical Methods in Engineering, 2017, 110, 903-920.	2.8	57
83	A comprehensive review of educational articles on structural and multidisciplinary optimization. Structural and Multidisciplinary Optimization, 2021, 64, 2827-2880.	3.5	57
84	Additive manufacturing oriented topology optimization of structures with self-supported enclosed voids. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113385.	6.6	56
85	Topology optimization of compliant mechanisms with stress constraints and manufacturing error robustness. Computer Methods in Applied Mechanics and Engineering, 2019, 354, 397-421.	6.6	53
86	Design of robust and efficient photonic switches using topology optimization. Photonics and Nanostructures - Fundamentals and Applications, 2012, 10, 153-165.	2.0	52
87	Topology optimization of fluid-structure-interaction problems in poroelasticity. Computer Methods in Applied Mechanics and Engineering, 2013, 258, 55-62.	6.6	51
88	Efficient reanalysis techniques for robust topology optimization. Computer Methods in Applied Mechanics and Engineering, 2012, 245-246, 217-231.	6.6	50
89	Closing the gap towards super-long suspension bridges using computational morphogenesis. Nature Communications, 2020, 11, 2735.	12.8	49
90	On reducing computational effort in topology optimization: how far can we go?. Structural and Multidisciplinary Optimization, 2011, 44, 25-29.	3.5	48

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91	On the realization of the bulk modulus bounds for two-phase viscoelastic composites. <i>Journal of the Mechanics and Physics of Solids</i> , 2014, 63, 228-241.	4.8	48
92	Designing photonic topological insulators with quantum-spin-Hall edge states using topology optimization. <i>Nanophotonics</i> , 2019, 8, 1363-1369.	6.0	48
93	Designing meta material slabs exhibiting negative refraction using topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2016, 54, 469-482.	3.5	47
94	A "poor man's" approach to topology optimization of natural convection problems. <i>Structural and Multidisciplinary Optimization</i> , 2019, 59, 1105-1124.	3.5	46
95	A monolithic approach for topology optimization of electrostatically actuated devices. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 4062-4075.	6.6	44
96	Topology optimization of two fluid heat exchangers. <i>International Journal of Heat and Mass Transfer</i> , 2020, 163, 120543.	4.8	43
97	Time domain topology optimization of 3D nanophotonic devices. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2014, 12, 23-33.	2.0	42
98	Revisiting density-based topology optimization for fluid-structure-interaction problems. <i>Structural and Multidisciplinary Optimization</i> , 2018, 58, 969-995.	3.5	42
99	A non-linear material interpolation for design of metallic nano-particles using topology optimization. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 343, 23-39.	6.6	42
100	Three-dimensional manufacturing tolerant topology optimization with hundreds of millions of local stress constraints. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 548-578.	2.8	42
101	Interactive topology optimization on hand-held devices. <i>Structural and Multidisciplinary Optimization</i> , 2013, 47, 1-6.	3.5	41
102	Inverse design of nanostructured surfaces for color effects. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2014, 31, 164.	2.1	41
103	Compliant thermal microactuators. <i>Sensors and Actuators A: Physical</i> , 1999, 76, 463-469.	4.1	39
104	Ultra-coherent nanomechanical resonators based on inverse design. <i>Nature Communications</i> , 2021, 12, 5766.	12.8	37
105	Topology Optimization of Stressed Capacitive RF MEMS Switches. <i>Journal of Microelectromechanical Systems</i> , 2013, 22, 206-215.	2.5	36
106	Topology optimization of compliant mechanisms considering stress constraints, manufacturing uncertainty and geometric nonlinearity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 365, 112972.	6.6	36
107	Towards solving large-scale topology optimization problems with buckling constraints at the cost of linear analyses. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 363, 112911.	6.6	36
108	A "poor man's" approach for high-resolution three-dimensional topology design for natural convection problems. <i>Advances in Engineering Software</i> , 2020, 140, 102736.	3.8	35

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109	Topology optimized electrothermal polysilicon microgrippers. <i>Microelectronic Engineering</i> , 2008, 85, 1096-1099.	2.4	34
110	Topology optimization for optical projection lithography with manufacturing uncertainties. <i>Applied Optics</i> , 2014, 53, 2720.	1.8	34
111	Eigenvalue topology optimization via efficient multilevel solution of the frequency response. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 115, 872-892.	2.8	34
112	Topology optimization with linearized buckling criteria in 250 lines of Matlab. <i>Structural and Multidisciplinary Optimization</i> , 2021, 63, 3045-3066.	3.5	34
113	Local versus global stress constraint strategies in topology optimization: A comparative study. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 6003-6036.	2.8	34
114	Topology optimization of two-dimensional elastic wave barriers. <i>Journal of Sound and Vibration</i> , 2016, 376, 95-111.	3.9	33
115	Reduced-order methods for dynamic problems in topology optimization: A comparative study. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 387, 114149.	6.6	32
116	On fully stressed design and p-norm measures in structural optimization. <i>Structural and Multidisciplinary Optimization</i> , 2017, 56, 731-736.	3.5	31
117	Compact 200 line MATLAB code for inverse design in photonics by topology optimization: tutorial. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2021, 38, 510.	2.1	30
118	Accuracy of an efficient framework for structural analysis of wind turbine blades. <i>Wind Energy</i> , 2016, 19, 1603-1621.	4.2	29
119	Topology optimization with flexible void area. <i>Structural and Multidisciplinary Optimization</i> , 2014, 50, 927-943.	3.5	28
120	Frequency response as a surrogate eigenvalue problem in topology optimization. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 113, 1214-1229.	2.8	28
121	Experimental Validation of Topology Optimization for RF MEMS Capacitive Switch Design. <i>Journal of Microelectromechanical Systems</i> , 2013, 22, 1296-1309.	2.5	27
122	Topology optimization for transient response of photonic crystal structures. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2010, 27, 2040.	2.1	26
123	Inverse design of nanoparticles for enhanced Raman scattering. <i>Optics Express</i> , 2020, 28, 4444.	3.4	26
124	Plasmonic versus dielectric enhancement in thin-film solar cells. <i>Applied Physics Letters</i> , 2012, 100, 211914.	3.3	25
125	Design of segmented off-diagonal thermoelectric generators using topology optimization. <i>Applied Energy</i> , 2019, 236, 950-960.	10.1	25
126	On the similarities between micro/nano lithography and topology optimization projection methods. <i>Structural and Multidisciplinary Optimization</i> , 2013, 48, 717-730.	3.5	24

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127	Optimal design of robust piezoelectric unimorph microgrippers. Applied Mathematical Modelling, 2018, 55, 1-12.	4.2	24
128	Design of one-dimensional optical pulse-shaping filters by time-domain topology optimization. Applied Physics Letters, 2009, 95, .	3.3	23
129	Topology optimization of ultra high resolution shell structures. Thin-Walled Structures, 2021, 160, 107349.	5.3	23
130	Applications of automatic differentiation in topology optimization. Structural and Multidisciplinary Optimization, 2017, 56, 1135-1146.	3.5	21
131	Systematic design of loss-engineered slow-light waveguides. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2012, 29, 2657.	1.5	20
132	A density-based topology optimization methodology for thermoelectric energy conversion problems. Structural and Multidisciplinary Optimization, 2018, 57, 1427-1442.	3.5	20
133	Achieving stress-constrained topological design via length scale control. Structural and Multidisciplinary Optimization, 2018, 58, 2053-2071.	3.5	20
134	Shape preserving design of geometrically nonlinear structures using topology optimization. Structural and Multidisciplinary Optimization, 2019, 59, 1033-1051.	3.5	20
135	Numerical investigation of stiffness and buckling response of simple and optimized infill structures. Structural and Multidisciplinary Optimization, 2020, 61, 2629-2639.	3.5	20
136	Design of composite structures with programmable elastic responses under finite deformations. Journal of the Mechanics and Physics of Solids, 2021, 151, 104356.	4.8	20
137	On the implementation and effectiveness of morphological close-open and open-close filters for topology optimization. Structural and Multidisciplinary Optimization, 2016, 54, 15-21.	3.5	19
138	Combined length scale and overhang angle control in minimum compliance topology optimization for additive manufacturing. Structural and Multidisciplinary Optimization, 2019, 59, 2005-2022.	3.5	19
139	Self-supporting structure design with feature-driven optimization approach for additive manufacturing. Computer Methods in Applied Mechanics and Engineering, 2021, 386, 114110.	6.6	19
140	3D architected isotropic materials with tunable stiffness and buckling strength. Journal of the Mechanics and Physics of Solids, 2021, 152, 104415.	4.8	17
141	EML webinar overview: Topology Optimization " Status and Perspectives. Extreme Mechanics Letters, 2020, 39, 100855.	4.1	15
142	Experimental validation of a topology optimized acoustic cavity. Journal of the Acoustical Society of America, 2015, 138, 3470-3474.	1.1	14
143	Strongly enhanced upconversion in trivalent erbium ions by tailored gold nanostructures: Toward high-efficient silicon-based photovoltaics. Solar Energy Materials and Solar Cells, 2020, 208, 110406.	6.2	14
144	Design of metamaterial mechanisms using robust topology optimization and variable linking scheme. Structural and Multidisciplinary Optimization, 2021, 63, 1975-1988.	3.5	14

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145	Internal contact modeling for finite strain topology optimization. Computational Mechanics, 2021, 67, 1099-1114.	4.0	14
146	Topology optimized gold nanostrips for enhanced near-infrared photon upconversion. Applied Physics Letters, 2017, 111, .	3.3	13
147	A density-based topology optimization methodology for thermal energy storage systems. Structural and Multidisciplinary Optimization, 2019, 60, 2189-2204.	3.5	13
148	Topology Optimization of Large-Scale 3D Morphing Wing Structures. Actuators, 2021, 10, 217.	2.3	13
149	Robust topology design of periodic grating surfaces. Journal of the Optical Society of America B: Optical Physics, 2012, 29, 2935.	2.1	12
150	3D interactive topology optimization on hand-held devices. Structural and Multidisciplinary Optimization, 2015, 51, 1385-1391.	3.5	12
151	De-homogenization using convolutional neural networks. Computer Methods in Applied Mechanics and Engineering, 2022, 388, 114197.	6.6	12
152	Ultra-broadband edge-state pair for zigzag-interfaced valley Hall insulators. Science China: Physics, Mechanics and Astronomy, 2022, 65, 1.	5.1	12
153	Topology Optimization of Graded Truss Lattices Based on On-the-Fly Homogenization. Journal of Applied Mechanics, Transactions ASME, 2022, 89, .	2.2	12
154	Topology optimization for simplified structural fire safety. Engineering Structures, 2016, 124, 333-343.	5.3	11
155	Shape preserving design of thermo-elastic structures considering geometrical nonlinearity. Structural and Multidisciplinary Optimization, 2020, 61, 1787-1804.	3.5	11
156	On approaches for avoiding low-stiffness regions in variable thickness sheet and homogenization-based topology optimization. Structural and Multidisciplinary Optimization, 2021, 64, 39-52.	3.5	11
157	Topology optimization of pulse shaping filters using the Hilbert transform envelope extraction. Structural and Multidisciplinary Optimization, 2011, 44, 409-419.	3.5	10
158	Inverse design engineering of all-silicon polarization beam splitters. Proceedings of SPIE, 2016, , .	0.8	10
159	Dose regularization via filtering and projection: An open-source code for optimization-based proximity-effect-correction for nanoscale lithography. Microelectronic Engineering, 2018, 199, 52-57.	2.4	10
160	Topology Optimization Using Multiscale Finite Element Method for High-Contrast Media. Lecture Notes in Computer Science, 2014, , 339-346.	1.3	10
161	Topology optimization for optical microlithography with partially coherent illumination. International Journal for Numerical Methods in Engineering, 2017, 109, 631-647.	2.8	9
162	Using high-frequency vibrations and non-linear inclusions to create metamaterials with adjustable effective properties. International Journal of Non-Linear Mechanics, 2009, 44, 90-97.	2.6	8

#	ARTICLE	IF	CITATIONS
163	On nanostructured silicon success. Nature Photonics, 2016, 10, 142-143.	31.4	8
164	Slepian simulation of distributions of plastic displacements of earthquake excited shear frames with a large number of stories. Probabilistic Engineering Mechanics, 2005, 20, 251-262.	2.7	7
165	A short numerical study on the optimization methods influence on topology optimization. Structural and Multidisciplinary Optimization, 2017, 56, 1603-1612.	3.5	7
166	Synthesis of Frame Field-Aligned Multi-Laminar Structures. ACM Transactions on Graphics, 2022, 41, 1-20.	7.2	7
167	Topology optimization of damage-resistant structures with a predefined load-bearing capacity. International Journal for Numerical Methods in Engineering, 2022, 123, 1114-1145.	2.8	5
168	Field-enhancing photonic devices utilizing waveguide coupling and plasmonics - a selection rule for optimization-based design. Optics Express, 2018, 26, A788.	3.4	4
169	Topology optimization and experimental verification of compact E-plane waveguide filters. Microwave and Optical Technology Letters, 2019, 61, 1208-1215.	1.4	4
170	Complementary lecture notes for teaching the 99/88-line topology optimization codes. Structural and Multidisciplinary Optimization, 2021, 64, 3227-3231.	3.5	4
171	Factorized parallel preconditioner for the saddle point problem. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 1398-1410.	2.1	3
172	Topology-optimized mode converter in a silicon-on-insulator photonic wire waveguide. , 2016, ,		3
173	Topology optimization of structures with infill-supported enclosed voids for additive manufacturing. Additive Manufacturing, 2022, 55, 102795.	3.0	3
174	Simulation by Slepian method of plastic displacements of Gaussian process excited multistory shear frame. Probabilistic Engineering Mechanics, 2004, 19, 113-126.	2.7	2
175	Topology optimized mode conversion in a photonic crystal waveguide. , 2013, ,		2
176	Fast multiscale contrast independent preconditioners for linear elastic topology optimization problems. Journal of Computational and Applied Mathematics, 2021, 389, 113366.	2.0	2
177	Topology-optimized broadband surface relief transmission grating. Proceedings of SPIE, 2014, ,	0.8	1
178	Topology-optimized silicon photonic wire mode (de)multiplexer. Proceedings of SPIE, 2015, ,	0.8	1
179	Topology optimized design for silicon-on-insulator mode converter. , 2015, ,		1
180	Topology optimized design of a transverse electric higher order mode converter. , 2016, ,		1

#	ARTICLE	IF	CITATIONS
181	Topology optimization of microvascular composites for active-cooling applications using a geometrical reduced-order model. Structural and Multidisciplinary Optimization, 2021, 64, 563.	3.5	1
182	On projection methods, convergence and robust formulations in topology optimization. , 2011, 43, 767.		1
183	Comparison between different dispersion engineering methods in slow light photonic crystal waveguides. , 2011, , .		0
184	Topology optimization of ultra-fast nano-photonic switches. , 2011, , .		0
185	Topology optimization of nanoparticles for localized electromagnetic field enhancement. , 2017, , .		0
186	Flat-top Drop Filter based on a Single Topology Optimized Photonic Crystal Cavity. , 2015, , .		0