Ole Sigmund

List of Publications by Year
in descending order

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		5558	3638
337	36,388	82	180
papers	citations	h-index	g-index

342	342	342	8716
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Material interpolation schemes in topology optimization. Archive of Applied Mechanics, 1999, 69, 635-654.	1.2	1,935
2	Topology optimization approaches. Structural and Multidisciplinary Optimization, 2013, 48, 1031-1055.	1.7	1,851
3	A 99 line topology optimization code written in Matlab. Structural and Multidisciplinary Optimization, 2001, 21, 120-127.	1.7	1,780
4	Numerical instabilities in topology optimization: A survey on procedures dealing with checkerboards, mesh-dependencies and local minima. Structural Optimization, 1998, 16, 68-75.	0.7	1,619
5	Morphology-based black and white filters for topology optimization. Structural and Multidisciplinary Optimization, 2007, 33, 401-424.	1.7	1,219
6	On projection methods, convergence and robust formulations in topology optimization. Structural and Multidisciplinary Optimization, 2011, 43, 767-784.	1.7	1,078
7	Topology Optimization. , 2004, , .		1,033
8	Efficient topology optimization in MATLAB using 88 lines of code. Structural and Multidisciplinary Optimization, 2011, 43, 1-16.	1.7	969
9	On the Design of Compliant Mechanisms Using Topology Optimization*. Mechanics Based Design of Structures and Machines, 1997, 25, 493-524.	0.6	956
10	Design of materials with extreme thermal expansion using a three-phase topology optimization method. Journal of the Mechanics and Physics of Solids, 1997, 45, 1037-1067.	2.3	808
11	Materials with prescribed constitutive parameters: An inverse homogenization problem. International Journal of Solids and Structures, 1994, 31, 2313-2329.	1.3	791
12	Filters in topology optimization based on Helmholtzâ€type differential equations. International Journal for Numerical Methods in Engineering, 2011, 86, 765-781.	1.5	594
13	Systematic design of phononic bandâ€“gap materials and structures by topology optimization. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2003, 361, 1001-1019.	1.6	551
14	Topology optimization for nanoâ€photonics. Laser and Photonics Reviews, 2011, 5, 308-321.	4.4	492
15	Giga-voxel computational morphogenesis for structural design. Nature, 2017, 550, 84-86.	13.7	463
16	Checkerboard patterns in layout optimization. Structural Optimization, 1995, 10, 40-45.	0.7	458
17	Design and fabrication of compliant micromechanisms and structures with negative Poisson's ratio. Journal of Microelectromechanical Systems, 1997, 6, 99-106.	1.7	457
18	Design of multiphysics actuators using topology optimization â€“ Part I: One-material structures. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 6577-6604.	3.4	450

#	Article	IF	Citations
19	Tailoring materials with prescribed elastic properties. Mechanics of Materials, 1995, 20, 351-368.	1.7	438
20	Topology synthesis of large-displacement compliant mechanisms. International Journal for Numerical Methods in Engineering, 2001, 50, 2683-2705.	1.5	392
21	Stiffness design of geometrically nonlinear structures using topology optimization. Structural and Multidisciplinary Optimization, 2000, 19, 93-104.	1.7	381
22	Topology Optimized Architectures with Programmable Poisson's Ratio over Large Deformations. Advanced Materials, 2015, 27, 5523-5527.	11.1	380
23	Design of multiphysics actuators using topology optimization â€“ Part II: Two-material structures. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 6605-6627.	3.4	361
24	Topology optimization of channel flow problems. Structural and Multidisciplinary Optimization, 2005, 30, 181-192.	1.7	347
25	Manufacturing tolerant topology optimization. Acta Mechanica Sinica/Lixue Xuebao, 2009, 25, 227-239.	1.5	328
26	Infill Optimization for Additive Manufacturingâ€”Approaching Bone-Like Porous Structures. IEEE Transactions on Visualization and Computer Graphics, 2018, 24, 1127-1140.	2.9	326
27	Composites with extremal thermal expansion coefficients. Applied Physics Letters, 1996, 69, 3203-3205.	1.5	317
28	On the usefulness of non-gradient approaches in topology optimization. Structural and Multidisciplinary Optimization, 2011, 43, 589-596.	1.7	317
29	Slope constrained topology optimization. International Journal for Numerical Methods in Engineering, 1998, 41, 1417-1434.	1.5	290
30	A new class of extremal composites. Journal of the Mechanics and Physics of Solids, 2000, 48, 397-428.	2.3	290
31	Multiphase composites with extremal bulk modulus. Journal of the Mechanics and Physics of Solids, 2000, 48, 461-498.	2.3	283
32	Topology optimization of heat conduction problems using the finite volume method. Structural and Multidisciplinary Optimization, 2006, 31, 251-259.	1.7	279
33	Minimum length scale in topology optimization by geometric constraints. Computer Methods in Applied Mechanics and Engineering, 2015, 293, 266-282.	3.4	275
34	Topology optimization and fabrication of photonic crystal structures. Optics Express, 2004, 12, 1996.	1.7	269
35	Acoustic design by topology optimization. Journal of Sound and Vibration, 2008, 317, 557-575.	2.1	262
36	Design of manufacturable 3D extremal elastic microstructure. Mechanics of Materials, 2014, 69, 1-10.	1.7	258

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37	Systematic design of photonic crystal structures using topology optimization: Low-loss waveguide bends. Applied Physics Letters, 2004, 84, 2022-2024.	1.5	249
38	Homogenizationâ€based topology optimization for highâ€resolution manufacturable microstructures. International Journal for Numerical Methods in Engineering, 2018, 113, 1148-1163.	1.5	224
39	On the design of 1â€“3 piezocomposites using topology optimization. Journal of Materials Research, 1998, 13, 1038-1048.	1.2	217
40	Large scale three-dimensional topology optimisation of heat sinks cooled by natural convection. International Journal of Heat and Mass Transfer, 2016, 100, 876-891.	2.5	214
41	Robust topology optimization accounting for spatially varying manufacturing errors. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 3613-3627.	3.4	212
42	Topology optimization of multi-scale structures: a review. Structural and Multidisciplinary Optimization, 2021, 63, 1455-1480.	1.7	206
43	Length scale and manufacturability in density-based topology optimization. Archive of Applied Mechanics, 2016, 86, 189-218.	1.2	203
44	Topology optimization of photonic crystal structures: a high-bandwidth low-loss T-junction waveguide. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 1191.	0.9	199
45	Extensions and applications. , 2004, , 71-158.		196
46	Topology optimized mode multiplexing in silicon-on-insulator photonic wire waveguides. Optics Express, 2016, 24, 16866.	1.7	181
47	Exploiting Additive Manufacturing Infill in Topology Optimization for Improved Buckling Load. Engineering, 2016, 2, 250-257.	3.2	176
48	Topology optimization of acousticâ€“structure interaction problems using a mixed finite element formulation. International Journal for Numerical Methods in Engineering, 2007, 70, 1049-1075.	1.5	171
49	Interpolation scheme for fictitious domain techniques and topology optimization of finite strain elastic problems. Computer Methods in Applied Mechanics and Engineering, 2014, 276, 453-472.	3.4	171
50	New developments in handling stress constraints in optimal material distribution. , 1998, , .		164
51	Topology optimization using a mixed formulation: An alternative way to solve pressure load problems. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 1874-1889.	3.4	156
52	A topology optimization method for design of negative permeability metamaterials. Structural and Multidisciplinary Optimization, 2010, 41, 163-177.	1.7	156
53	Geometric Properties of Optimal Photonic Crystals. Physical Review Letters, 2008, 100, 153904.	2.9	154
54	Design of smart composite materials using topology optimization. Smart Materials and Structures, 1999, 8, 365-379.	1.8	153

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55	Topology optimisation for natural convection problems. International Journal for Numerical Methods in Fluids, 2014, 76, 699-721.	0.9	149
56	Minimum compliance topology optimization of shellâ€“infill composites for additive manufacturing. Computer Methods in Applied Mechanics and Engineering, 2017, 326, 358-375.	3.4	149
57	Design of materials with prescribed nonlinear properties. Journal of the Mechanics and Physics of Solids, 2014, 69, 156-174.	2.3	143
58	Topology optimization of coated structures and material interface problems. Computer Methods in Applied Mechanics and Engineering, 2015, 290, 524-541.	3.4	142
59	Maximizing band gaps in plate structures. Structural and Multidisciplinary Optimization, 2006, 32, 263-275.	1.7	140
60	Topology optimization of turbulent flows. Computer Methods in Applied Mechanics and Engineering, 2018, 331, 363-393.	3.4	138
61	Broadband photonic crystal waveguide 60ï¿½ bend obtained utilizing topology optimization. Optics Express, 2004, 12, 5916.	1.7	135
62	Robust topology optimization of photonic crystal waveguides with tailored dispersion properties. Journal of the Optical Society of America B: Optical Physics, 2011, 28, 387.	0.9	133
63	A Review of the Scattering-Parameter Extraction Method with Clarification of Ambiguity Issues in Relation to Metamaterial Homogenization. IEEE Antennas and Propagation Magazine, 2013, 55, 91-106.	1.2	133
64	Photonic crystal and quantum dot technologies for all-optical switch and logic device. New Journal of Physics, 2006, 8, 208-208.	1.2	126
65	Topology optimized low-contrast all-dielectric optical cloak. Applied Physics Letters, 2011, 98, .	1.5	126
66	Topology optimized mode conversion in a photonic crystal waveguide fabricated in silicon-on-insulator material. Optics Express, 2014, 22, 8525.	1.7	124
67	Topology optimization of microfluidic mixers. International Journal for Numerical Methods in Fluids, 2009, 61, 498-513.	0.9	120
68	On the (non-)optimality of Michell structures. Structural and Multidisciplinary Optimization, 2016, 54, 361-373.	1.7	119
69	Numerical methods for the topology optimization of structures that exhibit snap-through. International Journal for Numerical Methods in Engineering, 2002, 55, 1215-1237.	1.5	118
70	Density based topology optimization of turbulent flow heat transfer systems. Structural and Multidisciplinary Optimization, 2018, 57, 1905-1918.	1.7	116
71	A new generation 99 line Matlab code for compliance topology optimization and its extension to 3D. Structural and Multidisciplinary Optimization, 2020, 62, 2211-2228.	1.7	114
72	Topology optimization of large scale stokes flow problems. Structural and Multidisciplinary Optimization, 2008, 35, 175-180.	1.7	113

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73	Homogenization-based stiffness optimization and projection of 2D coated structures with orthotropic infill. Computer Methods in Applied Mechanics and Engineering, 2019, 349, 722-742.	3.4	112
74	Topology optimization with geometric uncertainties by perturbation techniques. International Journal for Numerical Methods in Engineering, 2012, 90, 1321-1336.	1.5	110
75	Topology optimization of a pseudo 3D thermofluid heat sink model. International Journal of Heat and Mass Transfer, 2018, 121, 1073-1088.	2.5	107
76	Inverse design in photonics by topology optimization: tutorial. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 496.	0.9	103
77	Topology optimization considering material and geometric uncertainties using stochastic collocation methods. Structural and Multidisciplinary Optimization, 2012, 46, 597-612.	1.7	102
78	Stress-constrained topology optimization for compliant mechanism design. Structural and Multidisciplinary Optimization, 2015, 52, 929-943.	1.7	97
79	Stress-constrained topology optimization considering uniform manufacturing uncertainties. Computer Methods in Applied Mechanics and Engineering, 2019, 344, 512-537.	3.4	96
80	Topology optimization of fail-safe structures using a simplified local damage model. Structural and Multidisciplinary Optimization, 2014, 49, 657-666.	1.7	95
81	Reinforcement layout design for concrete structures based on continuum damage and truss topology optimization. Structural and Multidisciplinary Optimization, 2013, 47, 157-174.	1.7	93
82	Topology optimization of periodic microstructures with a penalization of highly localized buckling modes. International Journal for Numerical Methods in Engineering, 2002, 54, 809-834.	1.5	91
83	A â€œpoor manâ€™s approachâ€• to topology optimization of cooling channels based on a Darcy flow model. International Journal of Heat and Mass Transfer, 2018, 116, 1108-1123.	2.5	89
84	Buckling strength topology optimization of 2D periodic materials based on linearized bifurcation analysis. Computer Methods in Applied Mechanics and Engineering, 2018, 339, 115-136.	3.4	88
85	Topology optimization: a tool for the tailoring of structures and materials. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2000, 358, 211-227.	1.6	86
86	Topology optimization of grating couplers for the efficient excitation of surface plasmons. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 1828.	0.9	86
87	Industrial application of topology optimization for combined conductive and convective heat transfer problems. Structural and Multidisciplinary Optimization, 2016, 54, 1045-1060.	1.7	83
88	Approximate reanalysis in topology optimization. International Journal for Numerical Methods in Engineering, 2009, 78, 1474-1491.	1.5	81
89	Topology optimization for transient wave propagation problems in one dimension. Structural and Multidisciplinary Optimization, 2008, 36, 585-595.	1.7	79
90	On the non-optimality of tree structures for heat conduction. International Journal of Heat and Mass Transfer, 2018, 122, 660-680.	2.5	79

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91	Revisiting topology optimization with buckling constraints. Structural and Multidisciplinary Optimization, 2019, 59, 1401-1415.	1.7	79
92	Topological Insulators by Topology Optimization. Physical Review Letters, 2019, 122, 234502.	2.9	78
93	Design of passive coolers for light-emitting diode lamps using topology optimisation. International Journal of Heat and Mass Transfer, 2018, 122, 138-149.	2.5	77
94	Topological design of electromechanical actuators with robustness toward over- and under-etching. Computer Methods in Applied Mechanics and Engineering, 2013, 253, 237-251.	3.4	76
95	Combined shape and topology optimization for minimization of maximal von Mises stress. Structural and Multidisciplinary Optimization, 2017, 55, 1541-1557.	1.7	74
96	Combined shape and topology optimization of 3D structures. Computers and Graphics, 2015, 46, 25-35.	1.4	73
97	Efficient use of iterative solvers in nested topology optimization. Structural and Multidisciplinary Optimization, 2010, 42, 55-72.	1.7	68
98	Topology Optimization of Sub-Wavelength Antennas. IEEE Transactions on Antennas and Propagation, 2011, 59, 58-69.	3.1	68
99	Topology optimization using an explicit interface representation. Structural and Multidisciplinary Optimization, 2014, 49, 387-399.	1.7	67
100	Maximizing the quality factor to mode volume ratio for ultra-small photonic crystal cavities. Applied Physics Letters, 2018, 113, .	1.5	67
101	De-homogenization of optimal multi-scale 3D topologies. Computer Methods in Applied Mechanics and Engineering, 2020, 364, 112979.	3.4	67
102	Topology optimization of unsteady flow problems using the lattice Boltzmann method. Journal of Computational Physics, 2016, 307, 291-307.	1.9	66
103	Isogeometric shape optimization of photonic crystals via Coons patches. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 2237-2255.	3.4	64
104	Experimental validation of additively manufactured optimized shapes for passive cooling. Applied Energy, 2018, 226, 330-339.	5.1	64
105	Robust design of large-displacement compliant mechanisms. Mechanical Sciences, 2011, 2, 175-182.	0.5	64
106	Sensitivity filtering from a continuum mechanics perspective. Structural and Multidisciplinary Optimization, 2012, 46, 471-475.	1.7	63
107	Towards all-dielectric, polarization-independent optical cloaks. Applied Physics Letters, 2012, 100, 101106.	1.5	62
108	Creating geometrically robust designs for highly sensitive problems using topology optimization. Structural and Multidisciplinary Optimization, 2015, 52, 737-754.	1.7	62

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109	Robust topology optimization accounting for misplacement of material. Structural and Multidisciplinary Optimization, 2013, 47, 317-333.	1.7	61
110	Hinge-free topology optimization with embedded translation-invariant differentiable wavelet shrinkage. Structural and Multidisciplinary Optimization, 2004, 27, 139-150.	1.7	60
111	Topology design and fabrication of an efficient double 90/spl deg/ photonic Crystal waveguide bend. IEEE Photonics Technology Letters, 2005, 17, 1202-1204.	1.3	60
112	Topology optimised broadband photonic crystal Y-splitter. Electronics Letters, 2005, 41, 69.	0.5	59
113	Investment casting and experimental testing of heat sinks designed by topology optimization. International Journal of Heat and Mass Transfer, 2018, 127, 396-412.	2.5	59
114	Rapid prototyping of nanotube-based devices using topology-optimized microgrippers. Nanotechnology, 2008, 19, 495503.	1.3	58
115	Design of photonic bandgap fibers by topology optimization. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 51.	0.9	58
116	Topology optimization of microchannel heat sinks using a two-layer model. International Journal of Heat and Mass Transfer, 2019, 143, 118462.	2.5	58
117	A design approach for integrating thermoelectric devices using topology optimization. Applied Energy, 2016, 176, 49-64.	5.1	57
118	Topology optimization of 3D shell structures with porous infill. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 778-791.	1.5	57
119	Higherâ€order multiâ€resolution topology optimization using the finite cell method. International Journal for Numerical Methods in Engineering, 2017, 110, 903-920.	1.5	57
120	A comprehensive review of educational articles on structural and multidisciplinary optimization. Structural and Multidisciplinary Optimization, 2021, 64, 2827-2880.	1.7	57
121	Quasiperiodic mechanical metamaterials with extreme isotropic stiffness. Extreme Mechanics Letters, 2020, 34, 100596.	2.0	56
122	Additive manufacturing oriented topology optimization of structures with self-supported enclosed voids. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113385.	3.4	56
123	Topology optimization of compliant mechanisms with stress constraints and manufacturing error robustness. Computer Methods in Applied Mechanics and Engineering, 2019, 354, 397-421.	3.4	53
124	Toward the topology design of mechanisms that exhibit snap-through behavior. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 3973-4000.	3.4	52
125	Design of robust and efficient photonic switches using topology optimization. Photonics and Nanostructures - Fundamentals and Applications, 2012, 10, 153-165.	1.0	52
126	Topology optimization of fluidâ€“structure-interaction problems in poroelasticity. Computer Methods in Applied Mechanics and Engineering, 2013, 258, 55-62.	3.4	51

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127	Efficient reanalysis techniques for robust topology optimization. Computer Methods in Applied Mechanics and Engineering, 2012, 245-246, 217-231.	3.4	50
128	Closing the gap towards super-long suspension bridges using computational morphogenesis. Nature Communications, 2020, 11, 2735.	5.8	49
129	On reducing computational effort in topology optimization: how far can we go?. Structural and Multidisciplinary Optimization, 2011, 44, 25-29.	1.7	48
130	On the realization of the bulk modulus bounds for two-phase viscoelastic composites. Journal of the Mechanics and Physics of Solids, 2014, 63, 228-241.	2.3	48
131	Designing photonic topological insulators with quantum-spin-Hall edge states using topology optimization. Nanophotonics, 2019, 8, 1363-1369.	2.9	48
132	Designing meta material slabs exhibiting negative refraction using topology optimization. Structural and Multidisciplinary Optimization, 2016, 54, 469-482.	1.7	47
133	Optimization of piezoelectric bimorph actuators with active damping for static and dynamic loads. Structural and Multidisciplinary Optimization, 2009, 38, 171-183.	1.7	46
134	A â€œpoor manâ€™sâ€•approach to topology optimization of natural convection problems. Structural and Multidisciplinary Optimization, 2019, 59, 1105-1124.	1.7	46
135	Fundamental Limitations to Gain Enhancement in Periodic Media and Waveguides. Physical Review Letters, 2012, 108, 183903.	2.9	45
136	A monolithic approach for topology optimization of electrostatically actuated devices. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 4062-4075.	3.4	44
137	Topology optimization of two fluid heat exchangers. International Journal of Heat and Mass Transfer, 2020, 163, 120543.	2.5	43
138	Planar articulated mechanism design by graph theoretical enumeration. Structural and Multidisciplinary Optimization, 2004, 27, 295-299.	1.7	42
139	Inverse design of phononic crystals by topology optimization. Zeitschrift Fur Kristallographie - Crystalline Materials, 2005, 220, 895-905.	0.4	42
140	Time domain topology optimization of 3D nanophotonic devices. Photonics and Nanostructures - Fundamentals and Applications, 2014, 12, 23-33.	1.0	42
141	Revisiting density-based topology optimization for fluid-structure-interaction problems. Structural and Multidisciplinary Optimization, 2018, 58, 969-995.	1.7	42
142	A non-linear material interpolation for design of metallic nano-particles using topology optimization. Computer Methods in Applied Mechanics and Engineering, 2019, 343, 23-39.	3.4	42
143	Threeâ€dimensional manufacturing tolerant topology optimization with hundreds of millions of local stress constraints. International Journal for Numerical Methods in Engineering, 2021, 122, 548-578.	1.5	42
144	Interactive topology optimization on hand-held devices. Structural and Multidisciplinary Optimization, 2013, 47, 1-6.	1.7	41

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145	Inverse design of nanostructured surfaces for color effects. Journal of the Optical Society of America B: Optical Physics, 2014, 31, 164.	0.9	41
146	Articulated mechanism design with a degree of freedom constraint. International Journal for Numerical Methods in Engineering, 2004, 61, 1520-1545.	1.5	40
147	Imprinted silicon-based nanophotonics. Optics Express, 2007, 15, 1261.	1.7	40
148	Compliant thermal microactuators. Sensors and Actuators A: Physical, 1999, 76, 463-469.	2.0	39
149	Topology Optimized Cloak for Airborne Sound. Journal of Vibration and Acoustics, Transactions of the ASME, 2013, 135, .	1.0	39
150	Reproducing the hierarchy of disorder for Morpho-inspired, broad-angle color reflection. Scientific Reports, 2017, 7, 46023.	1.6	39
151	High-performance slow light photonic crystal waveguides with topology optimized or circular-hole based material layouts. Photonics and Nanostructures - Fundamentals and Applications, 2012, 10, 378-388.	1.0	37
152	Ultra-coherent nanomechanical resonators based on inverse design. Nature Communications, 2021, 12, 5766.	5.8	37
153	Topology Optimization of Stressed Capacitive RF MEMS Switches. Journal of Microelectromechanical Systems, 2013, 22, 206-215.	1.7	36
154	Design of segmented thermoelectric Peltier coolers by topology optimization. Applied Energy, 2019, 239, 1003-1013.	5.1	36
155	Topology optimization of compliant mechanisms considering stress constraints, manufacturing uncertainty and geometric nonlinearity. Computer Methods in Applied Mechanics and Engineering, 2020, 365, 112972.	3.4	36
156	Towards solving large-scale topology optimization problems with buckling constraints at the cost of linear analyses. Computer Methods in Applied Mechanics and Engineering, 2020, 363, 112911.	3.4	36
157	A web-based topology optimization program. Structural and Multidisciplinary Optimization, 2001, 22, 179-187.	1.7	35
158	Optimal design of robust piezoelectric microgrippers undergoing large displacements. Structural and Multidisciplinary Optimization, 2018, 57, 71-82.	1.7	35
159	A â€œpoor manâ€™sâ€•approach for high-resolution three-dimensional topology design for natural convection problems. Advances in Engineering Software, 2020, 140, 102736.	1.8	35
160	Topology optimized electrothermal polysilicon microgrippers. Microelectronic Engineering, 2008, 85, 1096-1099.	1.1	34
161	Topology optimization for optical projection lithography with manufacturing uncertainties. Applied Optics, 2014, 53, 2720.	0.9	34
162	Eigenvalue topology optimization via efficient multilevel solution of the frequency response. International Journal for Numerical Methods in Engineering, 2018, 115, 872-892.	1.5	34

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163	Topology optimization with linearized buckling criteria in 250 lines of Matlab. Structural and Multidisciplinary Optimization, 2021, 63, 3045-3066.	1.7	34
164	Local versus global stress constraint strategies in topology optimization: A comparative study. International Journal for Numerical Methods in Engineering, 2021, 122, 6003-6036.	1.5	34
165	Topology optimization of two-dimensional elastic wave barriers. Journal of Sound and Vibration, 2016, 376, 95-111.	2.1	33
166	Optimal truss and frame design from projected homogenization-based topology optimization. Structural and Multidisciplinary Optimization, 2018, 57, 1461-1474.	1.7	32
167	On the competition for ultimately stiff and strong architected materials. Materials and Design, 2021, 198, 109356.	3.3	32
168	Reduced-order methods for dynamic problems in topology optimization: A comparative study. Computer Methods in Applied Mechanics and Engineering, 2021, 387, 114149.	3.4	32
169	Broadband topology-optimized photonic crystal components for both TE and TM polarizations. Optics Express, 2005, 13, 8606.	1.7	31
170	On fully stressed design and p-norm measures in structural optimization. Structural and Multidisciplinary Optimization, 2017, 56, 731-736.	1.7	31
171	Topology optimization of metallic devices for microwave applications. International Journal for Numerical Methods in Engineering, 2010, 83, 228-248.	1.5	30
172	Shape optimization of the stokes flow problem based on isogeometric analysis. Structural and Multidisciplinary Optimization, 2013, 48, 965-977.	1.7	30
173	Compact 200 line MATLAB code for inverse design in photonics by topology optimization: tutorial. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 510.	0.9	30
174	Experimental validation of systematically designed acoustic hyperbolic meta material slab exhibiting negative refraction. Applied Physics Letters, 2016, 109, .	1.5	29
175	Topology optimization with flexible void area. Structural and Multidisciplinary Optimization, 2014, 50, 927-943.	1.7	28
176	Frequency response as a surrogate eigenvalue problem in topology optimization. International Journal for Numerical Methods in Engineering, 2018, 113, 1214-1229.	1.5	28
177	Experimental Validation of Topology Optimization for RF MEMS Capacitive Switch Design. Journal of Microelectromechanical Systems, 2013, 22, 1296-1309.	1.7	27
178	Shape morphing and topology optimization of fluid channels by explicit boundary tracking. International Journal for Numerical Methods in Fluids, 2018, 88, 296-313.	0.9	27
179	Inverse design of dispersion compensating optical fiber using topology optimization. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 88.	0.9	26
180	Topological material layout in plates for vibration suppression and wave propagation control. Structural and Multidisciplinary Optimization, 2009, 37, 585-594.	1.7	26

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181	Topology optimization for transient response of photonic crystal structures. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 2040.	0.9	26
182	Systematic Design of Metamaterials by Topology Optimization. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2009, , 151-159.	0.1	26
183	Inverse design of nanoparticles for enhanced Raman scattering. Optics Express, 2020, 28, 4444.	1.7	26
184	Plasmonic versus dielectric enhancement in thin-film solar cells. Applied Physics Letters, 2012, 100, 211914.	1.5	25
185	Simple optimal lattice structures for arbitrary loadings. Extreme Mechanics Letters, 2019, 29, 100447.	2.0	25
186	Design of segmented off-diagonal thermoelectric generators using topology optimization. Applied Energy, 2019, 236, 950-960.	5.1	25
187	Singularity aware de-homogenization for high-resolution topology optimized structures. Structural and Multidisciplinary Optimization, 2020, 62, 2279-2295.	1.7	25
188	On the similarities between micro/nano lithography and topology optimization projection methods. Structural and Multidisciplinary Optimization, 2013, 48, 717-730.	1.7	24
189	Optimization of extraordinary optical absorption in plasmonic and dielectric structures. Journal of the Optical Society of America B: Optical Physics, 2013, 30, 1154.	0.9	24
190	Optimal design of robust piezoelectric unimorph microgrippers. Applied Mathematical Modelling, 2018, 55, 1-12.	2.2	24
191	Design of one-dimensional optical pulse-shaping filters by time-domain topology optimization. Applied Physics Letters, 2009, 95, .	1.5	23
192	Topology optimization of ultra high resolution shell structures. Thin-Walled Structures, 2021, 160, 107349.	2.7	23
193	Simple single-scale microstructures based on optimal rank-3 laminates. Structural and Multidisciplinary Optimization, 2019, 59, 1021-1031.	1.7	22
194	Design and fabrication of compliant micromechanisms and structures with negative Poisson's ratio. , 0, , .		21
195	Improving the efficiency of solar cells by upconverting sunlight using field enhancement from optimized nano structures. Optical Materials, 2018, 83, 279-289.	1.7	21
196	Tailoring Materials for Specific Needs. Journal of Intelligent Material Systems and Structures, 1994, 5, 736-742.	1.4	20
197	Compliant electro-thermal microactuators. , 1999, , .		20
198	Tailoring dispersion properties of photonic crystal waveguides by topology optimization. Waves in Random and Complex Media, 2007, 17, 477-489.	1.6	20

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