Jakob SÃ¸ndergaard Jensen

List of Publications by Year
in descending order

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88 papers	5,763 citations	101543 36 h-index	74163 75 g-index
89 all docs	89 docs citations	89 times ranked	3210 citing authors

#	Article	IF	Citations
1	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.	3.4	551
2	Topology optimization for nanoâ€photonics. Laser and Photonics Reviews, 2011, 5, 308-321.	8.7	492
3	Topology Optimized Architectures with Programmable Poisson's Ratio over Large Deformations. Advanced Materials, 2015, 27, 5523-5527.	21.0	380
4	Phononic band gaps and vibrations in one- and two-dimensional massâ€“spring structures. Journal of Sound and Vibration, 2003, 266, 1053-1078.	3.9	352
5	Topology optimization and fabrication of photonic crystal structures. Optics Express, 2004, 12, 1996.	3.4	269
6	Acoustic design by topology optimization. Journal of Sound and Vibration, 2008, 317, 557-575.	3.9	262
7	Systematic design of photonic crystal structures using topology optimization: Low-loss waveguide bends. Applied Physics Letters, 2004, 84, 2022-2024.	3.3	249
8	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.	2.1	199
9	Topology optimization of acousticâ€“structure interaction problems using a mixed finite element formulation. International Journal for Numerical Methods in Engineering, 2007, 70, 1049-1075.	2.8	171
10	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.	6.6	171
11	Low-frequency band gaps in chains with attached non-linear oscillators. International Journal of Non-Linear Mechanics, 2007, 42, 1186-1193.	2.6	157
12	On maximal eigenfrequency separation in two-material structures: the 1D and 2D scalar cases. Journal of Sound and Vibration, 2006, 289, 967-986.	3.9	154
13	Design of materials with prescribed nonlinear properties. Journal of the Mechanics and Physics of Solids, 2014, 69, 156-174.	4.8	143
14	Maximizing band gaps in plate structures. Structural and Multidisciplinary Optimization, 2006, 32, 263-275.	3.5	140
15	Broadband photonic crystal waveguide 60ï¿½ bend obtained utilizing topology optimization. Optics Express, 2004, 12, 5916.	3.4	135
16	Robust topology optimization of photonic crystal waveguides with tailored dispersion properties. Journal of the Optical Society of America B: Optical Physics, 2011, 28, 387.	2.1	133
17	Inertial amplification of continuous structures: Large band gaps from small masses. Journal of Applied Physics, 2016, 119, .	2.5	126
18	Topology optimization of dynamics problems with PadÃ© approximants. International Journal for Numerical Methods in Engineering, 2007, 72, 1605-1630.	2.8	81

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19	Topology optimization for transient wave propagation problems in one dimension. Structural and Multidisciplinary Optimization, 2008, 36, 585-595.	3.5	79
20	Topology optimization of periodic microstructures for enhanced dynamic properties of viscoelastic composite materials. Structural and Multidisciplinary Optimization, 2014, 49, 695-705.	3.5	77
21	On the consistency of adjoint sensitivity analysis for structural optimization of linear dynamic problems. Structural and Multidisciplinary Optimization, 2014, 49, 831-837.	3.5	69
22	Creating geometrically robust designs for highly sensitive problems using topology optimization. Structural and Multidisciplinary Optimization, 2015, 52, 737-754.	3.5	62
23	Topology design and fabrication of an efficient double 90/spl deg/ photonic Crystal waveguide bend. IEEE Photonics Technology Letters, 2005, 17, 1202-1204.	2.5	60
24	Analysis of Phononic Bandgap Structures With Dissipation. Journal of Vibration and Acoustics, Transactions of the ASME, 2013, 135, .	1.6	60
25	Topology optimised broadband photonic crystal Y-splitter. Electronics Letters, 2005, 41, 69.	1.0	59
26	Design of robust and efficient photonic switches using topology optimization. Photonics and Nanostructures - Fundamentals and Applications, 2012, 10, 153-165.	2.0	52
27	Topology optimization of acoustic mechanical interaction problems: a comparative review. Structural and Multidisciplinary Optimization, 2019, 60, 779-801.	3.5	50
28	Acoustical topology optimization for Zwickerâ€™s loudness model â€“ Application to noise barriers. Computer Methods in Applied Mechanics and Engineering, 2012, 237-240, 130-151.	6.6	48
29	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.	4.8	48
30	Structural optimization for nonlinear dynamic response. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140408.	3.4	46
31	Inverse design of phononic crystals by topology optimization. Zeitschrift Fur Kristallographie - Crystalline Materials, 2005, 220, 895-905.	0.8	42
32	Time domain topology optimization of 3D nanophotonic devices. Photonics and Nanostructures - Fundamentals and Applications, 2014, 12, 23-33.	2.0	42
33	Imprinted silicon-based nanophotonics. Optics Express, 2007, 15, 1261.	3.4	40
34	NON-LINEAR DYNAMICS OF THE FOLLOWER-LOADED DOUBLE PENDULUM WITH ADDED SUPPORT-EXCITATION. Journal of Sound and Vibration, 1998, 215, 125-142.	3.9	38
35	Optimization of nonlinear structural resonance using the incremental harmonic balance method. Journal of Sound and Vibration, 2015, 334, 239-254.	3.9	38
36	Efficient attenuation of beam vibrations by inertial amplification. European Journal of Mechanics, A/Solids, 2018, 71, 245-257.	3.7	38

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37	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.	2.0	37
38	Tailoring the nonlinear response of MEMS resonators using shape optimization. Applied Physics Letters, 2017, 110, .	3.3	37
39	FLUID TRANSPORT DUE TO NONLINEAR FLUIDâ€“STRUCTURE INTERACTION. Journal of Fluids and Structures, 1997, 11, 327-344.	3.4	36
40	Spaceâ€“time topology optimization for one-dimensional wave propagation. Computer Methods in Applied Mechanics and Engineering, 2009, 198, 705-715.	6.6	32
41	Reduced-order methods for dynamic problems in topology optimization: A comparative study. Computer Methods in Applied Mechanics and Engineering, 2021, 387, 114149.	6.6	32
42	Broadband topology-optimized photonic crystal components for both TE and TM polarizations. Optics Express, 2005, 13, 8606.	3.4	31
43	Topology optimization problems for reflection and dissipation of elastic waves. Journal of Sound and Vibration, 2007, 301, 319-340.	3.9	30
44	Topological material layout in plates for vibration suppression and wave propagation control. Structural and Multidisciplinary Optimization, 2009, 37, 585-594.	3.5	26
45	Topology optimization for transient response of photonic crystal structures. Journal of the Optical Society of America B: Optical Physics, 2010, 27, 2040.	2.1	26
46	Topology optimization of periodic microstructures for enhanced loss factor using acousticâ€“structure interaction. International Journal of Solids and Structures, 2017, 122-123, 59-68.	2.7	25
47	Buckling of an elastic beam with added high-frequency excitation. International Journal of Non-Linear Mechanics, 2000, 35, 217-227.	2.6	23
48	A Numerical Model of an Acoustic Metamaterial Using the Boundary Element Method Including Viscous and Thermal Losses. Journal of Computational Acoustics, 2017, 25, 1750006.	1.0	23
49	Multiscale molecular dynamics-FE modeling of polymeric nanocomposites reinforced with carbon nanotubes and graphene. Composite Structures, 2019, 217, 27-36.	5.8	23
50	Acoustical topology optimization of Zwickerâ€™s loudness with PadÃ© approximation. Computer Methods in Applied Mechanics and Engineering, 2013, 255, 40-66.	6.6	22
51	Articulated Pipes Conveying Fluid Pulsating with High Frequency. Nonlinear Dynamics, 1999, 19, 173-193.	5.2	20
52	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
53	Systematic design of slow-light photonic waveguides. Journal of the Optical Society of America B: Optical Physics, 2011, 28, 2374.	2.1	18
54	Optimization of hardening/softening behavior of plane frame structures using nonlinear normal modes. Computers and Structures, 2016, 164, 63-74.	4.4	17

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55	Efficient sound radiation using a bandgap structure. Applied Physics Letters, 2019, 115, .	3.3	17
56	Adaptive parametric model order reduction technique for optimization of vibro-acoustic models: Application to hearing aid design. Journal of Sound and Vibration, 2018, 424, 208-223.	3.9	14
57	Influence of Processing Conditions on the Mechanical Behavior of MWCNT Reinforced Thermoplastic Nanocomposites. Procedia CIRP, 2017, 66, 131-136.	1.9	13
58	Modal interaction and higher harmonic generation in a weakly nonlinear, periodic massâ€“spring chain. Wave Motion, 2017, 68, 149-161.	2.0	13
59	Interaction of nanofillers in injection-molded graphene/carbon nanotube reinforced PA66 hybrid nanocomposites. Journal of Polymer Engineering, 2018, 38, 971-981.	1.4	12
60	A practical multiscale approach for optimization of structural damping. Structural and Multidisciplinary Optimization, 2016, 53, 215-224.	3.5	11
61	A simple method for coupled acoustic-mechanical analysis with application to gradient-based topology optimization. Structural and Multidisciplinary Optimization, 2019, 59, 1567-1580.	3.5	11
62	Spectrally smooth and spatially uniform sound radiation from a thin plate structure using band gaps. Journal of Sound and Vibration, 2020, 471, 115187.	3.9	11
63	On nanostructured silicon success. Nature Photonics, 2016, 10, 142-143.	31.4	8
64	Topology optimization of nonlinear optical devices. Structural and Multidisciplinary Optimization, 2011, 43, 731-743.	3.5	7
65	Correlation of mechanical and electrical properties with processing variables in MWCNT reinforced thermoplastic nanocomposites. Journal of Composite Materials, 2018, 52, 3681-3697.	2.4	7
66	Achieving a flat, wideband frequency response of a loudspeaker unit by numerical optimization with requirements on its directivity. Journal of the Acoustical Society of America, 2021, 150, 663-672.	1.1	5
67	Estimation of Optimal Values for Lumped Elements in a Finite Element â€" Lumped Parameter Model of a Loudspeaker. Journal of Theoretical and Computational Acoustics, 2020, 28, 2050012.	1.1	5
68	Wavelength Selective 3D Topology Optimized Photonic Crystal Devices. , 2013, , .		4
69	Optimization of directional elastic energy propagation. Journal of Sound and Vibration, 2016, 379, 53-70.	3.9	4
70	Optimizing a distribution of resonators on a thin plate for the desired sound radiation. Journal of Sound and Vibration, 2021, 496, 115926.	3.9	4
71	Topology Optimization for Acoustic-Structure Interaction Problems. , 2006, , 355-364.		4
72	Topology-Optimized Slow-Light Couplers for Ring-Shaped Photonic Crystal Waveguide. , 2010, , .		4

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73	Analysis of enhanced modal damping ratio in porous materials using an acoustic-structure interaction model. AIP Advances, 2014, 4, 124304.	1.3	3
74	Shape optimization of the time-harmonic response of vibroacoustic devices using cut elements. Finite Elements in Analysis and Design, 2021, 196, 103608.	3.2	3
75	Topology Optimization of Wave-Propagation Problems. , 2006, , 387-390.		3
76	Topology-optimized and dispersion-tailored photonic crystal slow-light devices. Proceedings of SPIE, 2007, , .	0.8	2
77	Coupled Acoustic-Mechanical Bandgaps. Crystals, 2016, 6, 112.	2.2	2
78	Topology Optimization for Photonic Crystal Waveguide with Wide and Flat Bandwidths in Ultra-Fast All-Optical Switch (PC-SMZ). , 2006, , .		1
79	Topology Optimized Architectures with Programmable Poisson's Ratio over Large Deformations. , 2015, 27, 5523.		1
80	Topology optimization. , 2012, , 109-159.		1
81	Three dimensional vibroacoustic topology optimization of hearing instruments using cut elements. Journal of Sound and Vibration, 2022, 532, 116984.	3.9	1
82	Optical characterisation of photonic wire and photonic crystal waveguides fabricated using nanoimprint lithography. , 2006, , .		0
83	Systematic and robust design of photonic crystal waveguides by topology optimization. , 2010, , .		0
84	Modelling of active semiconductor photonic crystal waveguides and robust designs based on topology optimization. , 2011, , .		0
85	Comparison between different dispersion engineering methods in slow light photonic crystal waveguides. , 2011, , .		0
86	Topology optimization of ultra-fast nano-photonic switches. , 2011, , .		0
87	Contact parameter identification for vibrational response variability prediction. Applied Acoustics, 2018, 129, 291-305.	3.3	0
88	Fictitious domain models for topology optimization of time-harmonic problems. Structural and Multidisciplinary Optimization, 2021, 64, 871.	3.5	0