

Mattias Schevenels

List of Publications by Year in descending order

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59
papers

2,905
citations

279798

23
h-index

175258

52
g-index

59
all docs

59
docs citations

59
times ranked

1726
citing authors

#	ARTICLE	IF	CITATIONS
1	Efficient topology optimization in MATLAB using 88 lines of code. Structural and Multidisciplinary Optimization, 2011, 43, 1-16.	3.5	969
2	Robust topology optimization accounting for spatially varying manufacturing errors. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 3613-3627.	6.6	212
3	A 2.5D coupled FE-BE methodology for the dynamic interaction between longitudinally invariant structures and a layered halfspace. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 1536-1548.	6.6	168
4	A 2.5D coupled FE-BE model for the prediction of railway induced vibrations. Soil Dynamics and Earthquake Engineering, 2010, 30, 1500-1512.	3.8	153
5	Topology optimization with geometric uncertainties by perturbation techniques. International Journal for Numerical Methods in Engineering, 2012, 90, 1321-1336.	2.8	110
6	Topology optimization considering material and geometric uncertainties using stochastic collocation methods. Structural and Multidisciplinary Optimization, 2012, 46, 597-612.	3.5	102
7	Topology optimization of fail-safe structures using a simplified local damage model. Structural and Multidisciplinary Optimization, 2014, 49, 657-666.	3.5	95
8	The fictitious force method for efficient calculation of vibration from a tunnel embedded in a multi-layered half-space. Journal of Sound and Vibration, 2014, 333, 6996-7018.	3.9	82
9	EDT: An ElastoDynamics Toolbox for MATLAB. Computers and Geosciences, 2009, 35, 1752-1754.	4.2	73
10	Robust topology optimization of structures with imperfect geometry based on geometric nonlinear analysis. Computer Methods in Applied Mechanics and Engineering, 2015, 285, 452-467.	6.6	64
11	Robust design of large-displacement compliant mechanisms. Mechanical Sciences, 2011, 2, 175-182.	1.0	64
12	Robust topology optimization accounting for misplacement of material. Structural and Multidisciplinary Optimization, 2013, 47, 317-333.	3.5	61
13	Vibrations due to a test train at variable speeds in a deep bored tunnel embedded in London clay. Journal of Sound and Vibration, 2006, 293, 626-644.	3.9	60
14	Design and efficiency of a composite vibration isolating screen in soil. Soil Dynamics and Earthquake Engineering, 2012, 39, 113-127.	3.8	55
15	Determination of the material damping ratio in the soil from SASW tests using the half-power bandwidth method. Geophysical Journal International, 2010, 182, 1493-1508.	2.4	53
16	Efficient reanalysis techniques for robust topology optimization. Computer Methods in Applied Mechanics and Engineering, 2012, 245-246, 217-231.	6.6	50
17	A two-and-a-half-dimensional displacement-based PML for elastodynamic wave propagation. International Journal for Numerical Methods in Engineering, 2012, 90, 819-837.	2.8	37
18	Geotechnical characterization of a river dyke by surface waves. Near Surface Geophysics, 2011, 9, 515-527.	1.2	35

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19	Topology optimization of two-dimensional elastic wave barriers. Journal of Sound and Vibration, 2016, 376, 95-111.	3.9	33
20	Double wall barriers for the reduction of ground vibration transmission. Soil Dynamics and Earthquake Engineering, 2017, 97, 1-13.	3.8	33
21	Topology optimization of support structure layout in metal-based additive manufacturing accounting for thermal deformations. Structural and Multidisciplinary Optimization, 2020, 61, 2291-2303.	3.5	28
22	On the similarities between micro/nano lithography and topology optimization projection methods. Structural and Multidisciplinary Optimization, 2013, 48, 717-730.	3.5	24
23	A novel shape optimization approach for strained gridshells: Design and construction of a simply supported gridshell. Engineering Structures, 2019, 192, 166-180.	5.3	24
24	The influence of the depth of the ground water table on free field road traffic-induced vibrations. International Journal for Numerical and Analytical Methods in Geomechanics, 2004, 28, 395-419.	3.3	23
25	Predicting the sound insulation of finite double-leaf walls with a flexible frame. Applied Acoustics, 2018, 141, 93-105.	3.3	22
26	Stabil: An educational Matlab toolbox for static and dynamic structural analysis. Computer Applications in Engineering Education, 2021, 29, 1372-1389.	3.4	21
27	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
28	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
29	Optimum Design of Frame Structures From a Stock of Reclaimed Elements. Frontiers in Built Environment, 2020, 6, .	2.3	18
30	A probabilistic assessment of resolution in the SASW test and its impact on the prediction of ground vibrations. Geophysical Journal International, 2008, 172, 262-275.	2.4	17
31	Shape optimized inclined single and double wall wave barriers for ground vibration mitigation. Soil Dynamics and Earthquake Engineering, 2018, 112, 215-231.	3.8	15
32	The wave propagation in a beam on a random elastic foundation. Probabilistic Engineering Mechanics, 2007, 22, 150-158.	2.7	14
33	An optimality criteria based method for discrete design optimization taking into account buildability constraints. Structural and Multidisciplinary Optimization, 2014, 50, 755-774.	3.5	14
34	The generation of hierarchic structures via robust 3D topology optimisation. Advanced Engineering Informatics, 2017, 33, 440-455.	8.0	14
35	Mixed-integer linear programming approach for global discrete sizing optimization of frame structures. Structural and Multidisciplinary Optimization, 2018, 57, 579-593.	3.5	14
36	The Green's functions of a vertically inhomogeneous soil with a random dynamic shear modulus. Probabilistic Engineering Mechanics, 2007, 22, 100-111.	2.7	13

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37	Application of the Coupled Local Minimizers Method to the Optimization Problem in the Spectral Analysis of Surface Waves Method. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2008, 134, 1541-1553.	3.0	13
38	Global Size Optimization of Statically Determinate Trusses Considering Displacement, Member, and Joint Constraints. Journal of Structural Engineering, 2016, 142, 04015120.	3.4	13
39	On the equivalence of dynamic relaxation and the Newton-Raphson method. International Journal for Numerical Methods in Engineering, 2018, 113, 1531-1539.	2.8	12
40	A hybrid gradient-based/metaheuristic method for Eurocode-compliant size, shape and topology optimization of steel structures. Engineering Structures, 2021, 239, 112137.	5.3	9
41	Performance Assessment of Metaheuristic Algorithms for Structural Optimization Taking Into Account the Influence of Algorithmic Control Parameters. Frontiers in Built Environment, 2021, 7, .	2.3	7
42	A Comparative Study of the Structural Performance of Different Types of Reticulated Dome Subjected to Distributed Loads. Frontiers in Built Environment, 2020, 6, .	2.3	6
43	A fast and accurate dynamic relaxation approach for form-finding and analysis of bending-active structures. International Journal of Space Structures, 2019, 34, 40-53.	1.0	5
44	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
45	Density filtering regularization of finite element model updating problems. Mechanical Systems and Signal Processing, 2019, 128, 282-294.	8.0	4
46	Designing bending-active gridshells as falsework for concrete shells through numerical optimization. Engineering Structures, 2021, 240, 112352.	5.3	4
47	Gradient-based size, shape, and topology optimization of single-layer reticulated shells subject to distributed loads. Structural and Multidisciplinary Optimization, 2022, 65, 1.	3.5	4
48	Optimization in a realistic structural engineering context: Redesign of the Market Hall in Ghent. Engineering Structures, 2021, 228, 111473.	5.3	3
49	Shape optimization of studs in double-leaf plasterboard walls for maximal broadband sound insulation and minimal material use. Applied Acoustics, 2021, 183, 108307.	3.3	3
50	Performance Assessment of Metaheuristic Algorithms for Structural Optimization Taking into Account the Influence of Control Parameters. , 2019, , 93-101.		2
51	Broadband acoustic shape optimization of studs in double-leaf walls. Journal of Sound and Vibration, 2020, 485, 115562.	3.9	2
52	Double wall barriers as mitigation measures for ground vibration transmission. Procedia Engineering, 2017, 199, 2735-2740.	1.2	1
53	Mixed-Integer Linear Programming Reformulation Approach for Global Discrete Sizing Optimization of Trussed Steel Portal Frames. , 2018, , 738-754.		1
54	Optimal Design of Block Quay Walls. Frontiers in Built Environment, 2020, 6, .	2.3	1

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55	TOPOLOGY OPTIMIZATION OF WAVE BARRIERS FOR RAILWAY INDUCED VIBRATIONS IN BUILDINGS. , 2016, , .		1
56	A MIXED-INTEGER LINEAR PROGRAMMING APPROACH FOR GLOBAL DISCRETE SIZE OPTIMIZATION OF FRAME STRUCTURES. , 2016, , .		1
57	15.13: Discrete sizing optimization of trussed steel portal frames according to Eurocode 3. Ce/Papers, 2017, 1, 3990-3999.	0.3	0
58	TOPOLOGY OPTIMIZATION OF TWO-DIMENSIONAL WAVE BARRIERS FOR THE REDUCTION OF GROUND VIBRATION TRANSMISSION. , 2015, , .		0
59	Topology Optimization of Elastic Wave Barriers Using a Two-and-A-Half Dimensional Finite Element Methodology. , 2018, , 1906-1922.		0