Elke Deckers

List of Publications by Citations

49 papers	626 citations	15 h-index	23 g-index
63 ext. papers	792 ext. citations	4.2 avg, IF	4.23 L-index

#	Paper	IF	Citations
49	The wave based method: An overview of 15 years of research. *Wave Motion*, **2014**, 51, 550-565	1.8	68
48	On the impact of damping on the dispersion curves of a locally resonant metamaterial: Modelling and experimental validation. *Journal of Sound and Vibration*, **2017**, 409, 1-23	3.9	48
47	Design and validation of metamaterials for multiple structural stop bands in waveguides. *Extreme Mechanics Letters*, **2017**, 12, 7-22	3.9	45
46	An efficient Wave Based Method for solving Helmholtz problems in three-dimensional bounded domains. *Engineering Analysis With Boundary Elements*, **2012**, 36, 63-75	2.6	42
45	A performance study of NURBS-based isogeometric analysis for interior two-dimensional time-harmonic acoustics. *Computer Methods in Applied Mechanics and Engineering*, **2016**, 305, 441-467	5.7	38
44	Probability that a band-gap extremum is located on the irreducible Brillouin-zone contour for the 17 different plane crystallographic lattices. *International Journal of Solids and Structures*, **2018**, 135, 26-36	3.1	34
43	Acoustic behavior of a rigidly backed poroelastic layer with periodic resonant inclusions by a multiple scattering approach. *Journal of the Acoustical Society of America*, **2016**, 139, 617-29	2.2	32
42	A Wave Based Method for the efficient solution of the 2D poroelastic Biot equations. *Computer Methods in Applied Mechanics and Engineering*, **2012**, 201-204, 245-262	5.7	30
41	A flexible approach for coupling NURBS patches in rotationless isogeometric analysis of Kirchhoff–Love shells. *Computer Methods in Applied Mechanics and Engineering*, **2017**, 325, 505-531	5.7	23
40	The impact of damping on the sound transmission loss of locally resonant metamaterial plates. *Journal of Sound and Vibration*, **2019**, 461, 114909	3.9	21
39	A direct hybrid Finite Element – Wave Based Method for the steady-state analysis of acoustic cavities with poro-elastic damping layers using the coupled Helmholtz–Biot equations. *Computer Methods in Applied Mechanics and Engineering*, **2013**, 263, 144-157	5.7	17
38	Influence of boundary conditions on the stop band effect in finite locally resonant metamaterial beams. *Journal of Sound and Vibration*, **2020**, 473, 115225	3.9	16
37	A Wave Based Method for the axisymmetric dynamic analysis of acoustic and poroelastic problems. *Computer Methods in Applied Mechanics and Engineering*, **2013**, 257, 1-16	5.7	16
36	Efficient treatment of stress singularities in poroelastic wave based models using special purpose enrichment functions. *Computers and Structures*, **2011**, 89, 1117-1130	4.5	16
35	Sound absorption of plates with micro-slits backed with air cavities: Analytical estimations, numerical calculations and experimental validations. *Applied Acoustics*, **2019**, 146, 261-279	3.1	16
34	Modelling Techniques for Vibro-Acoustic Dynamics of Poroelastic Materials. *Archives of Computational Methods in Engineering*, **2015**, 22, 183-236	7.8	15
33	An efficient Wave Based Method for 2D acoustic problems containing corner singularities. *Computer Methods in Applied Mechanics and Engineering*, **2012**, 241-244, 286-301	5.7	15

32	Reproducibility of sound-absorbing periodic porous materials using additive manufacturing technologies: Round robin study. *Additive Manufacturing*, **2020**, 36, 101564	6.1	13
31	Global optimisation methods for poroelastic material characterisation using a clamped sample in a Kundt tube setup. *Mechanical Systems and Signal Processing*, **2016**, 68-69, 462-478	7.8	12
30	A wave based method to predict the absorption, reflection and transmission coefficient of two-dimensional rigid frame porous structures with periodic inclusions. *Journal of Computational Physics*, **2016**, 312, 115-138	4.1	10
29	Bloch theorem for isogeometric analysis of periodic problems governed by high-order partial differential equations. *Computer Methods in Applied Mechanics and Engineering*, **2016**, 311, 743-763	5.7	10
28	Prediction of transmission, reflection and absorption coefficients of periodic structures using a hybrid Wave Based Finite Element unit cell method. *Journal of Computational Physics*, **2018**, 356, 282-302	4.1	10
27	Loose bolt detection in a complex assembly using a vibro-acoustic sensor array. *Mechanical Systems and Signal Processing*, **2019**, 130, 433-451	7.8	7
26	Obtaining manufactured geometries of deep-drawn components through a model updating procedure using geometric shape parameters. *Mechanical Systems and Signal Processing*, **2018**, 98, 382-401	7.8	7
25	Krylov subspaces recycling based model order reduction for acoustic BEM systems and an error estimator. *Computer Methods in Applied Mechanics and Engineering*, **2020**, 359, 112755	5.7	7
24	A direct hybrid finite element Wave based modelling technique for efficient analysis of poroelastic materials in steady-state acoustic problems. *Computer Methods in Applied Mechanics and Engineering*, **2016**, 304, 55-80	5.7	6
23	A hybrid Boundary Element-Wave Based Method for an efficient solution of bounded acoustic problems with inclusions. *Computer Methods in Applied Mechanics and Engineering*, **2015**, 283, 1260-1277	5.7	5
22	Reducing Vehicle Interior NVH by Means of Locally Resonant Metamaterial Patches on Rear Shock Towers		5
21	Formulation and validation of the shift cell technique for acoustic applications of poro-elastic materials described by the Biot theory. *Mechanical Systems and Signal Processing*, **2021**, 147, 107089	7.8	5
20	On the assembly of Archimedean spiral cavities for sound absorption applications: Design, optimization and experimental validation. *Mechanical Systems and Signal Processing*, **2021**, 147, 107102	7.8	5
19	Dynamic Metamaterials for Structural Stopband Creation. *SAE International Journal of Passenger Cars - Mechanical Systems*, **2016**, 9, 1013-1019	0.3	4
18	Force Isolation by Locally Resonant Metamaterials to Reduce NVH **2018**,		4
17	An explicit Wave based model as alternative to the DtN map for solving unbounded Helmholtz problems with the finite element method. *Engineering Analysis With Boundary Elements*, **2015**, 55, 58-66	2.6	4
16	A study of vibro-acoustic behaviour variation of thin sheet metal components manufactured through deep drawing process. *Applied Acoustics*, **2019**, 153, 110-126	3.1	3
15	The effect of generalised force correlations on the response statistics of a harmonically driven random system. *Journal of Sound and Vibration*, **2018**, 413, 456-466	3.9	3

14	Applications of an isogeometric indirect boundary element method and the importance of accurate geometrical representation in acoustic problems. *Engineering Analysis With Boundary Elements*, **2020**, 110, 124-136	2.6	3
13	Incommensurate vibro-acoustic performance due to in-process blank holder force variation during deep drawing process. *Applied Acoustics*, **2021**, 172, 107618	3.1	2
12	The acoustic insulation performance of infinite and finite locally resonant metamaterial and phononic crystal plates. *MATEC Web of Conferences*, **2019**, 283, 09003	0.3	1
11	Non-destructive structural integrity testing of finite plates based on the wave scattering at defects with sub-wavelength size. *Procedia Engineering*, **2017**, 199, 2020-2025		1
10	Vibro-Acoustic Metamaterials for Improved Interior NVH Performance in Vehicles. *SpringerBriefs in Applied Sciences and Technology*, **2021**, 31-51	0.4	1
9	Impact of the Unit Cell Choice on the Efficiency of Dispersion Curve Calculations Using Generalized Bloch Mode Synthesis. *Journal of Vibration and Acoustics, Transactions of the ASME*, **2022**, 144,	1.6	1
8	An Automatic Krylov subspaces Recycling technique for the construction of a global solution basis of non-affine parametric linear systems. *Computer Methods in Applied Mechanics and Engineering*, **2021**, 373, 113510	5.7	1
7	Low frequency tyre noise mitigation in a vehicle using metal 3D printed resonant metamaterials. *Mechanical Systems and Signal Processing*, **2022**, 179, 109335	7.8	1
6	Black box stability preserving reduction techniques in the Loewner framework for the efficient time domain simulation of dynamical systems with damping treatments. *Journal of Sound and Vibration*, **2022**, 529, 116922	3.9	0
5	Automatic model order reduction for systems with frequency-dependent material properties. *Computer Methods in Applied Mechanics and Engineering*, **2022**, 397, 115076	5.7	0
4	Selection of Small Sensor Arrays for Localization of Damage in Complex Assemblies Using Vibro-Acoustic Signals. *Lecture Notes in Mechanical Engineering*, **2020**, 263-282	0.4	
3	Angle-dependent reflection, transmission and absorption coefficients measurement using a 2D waveguide. *Applied Acoustics*, **2021**, 177, 107946	3.1	
2	Non-destructive testing based on vibrations in the low to mid-frequency range. *MATEC Web of Conferences*, **2018**, 211, 21001	0.3	
1	A hierarchical quantification of inter- & intra-batch vibro-acoustic variability of deep drawn parts. *Applied Acoustics*, **2022**, 192, 108702	3.1	