J-P Groby

List of Publications by Year
in descending order

87 papers	2,741 citations	186254 28 h-index	197805 49 g-index
88 all docs	88 docs citations	88 times ranked	1151 citing authors

#	Article	IF	Citations
1	Ultra-thin metamaterial for perfect and quasi-omnidirectional sound absorption. Applied Physics Letters, 2016, 109, .	3.3	280
2	Rainbow-trapping absorbers: Broadband, perfect and asymmetric sound absorption by subwavelength panels for transmission problems. Scientific Reports, 2017, 7, 13595.	3.3	258
3	Quasiperfect absorption by subwavelength acoustic panels in transmission using accumulation of resonances due to slow sound. Physical Review B, 2017, 95, .	3.2	142
4	Enhancing the absorption properties of acoustic porous plates by periodically embedding Helmholtz resonators. Journal of the Acoustical Society of America, 2015, 137, 273-280.	1.1	137
5	Absorption of sound by porous layers with embedded periodic arrays of resonant inclusions. Journal of the Acoustical Society of America, 2013, 134, 4670-4680.	1.1	131
6	The use of slow waves to design simple sound absorbing materials. Journal of Applied Physics, 2015, 117, 124903.	2.5	92
7	Using simple shape three-dimensional rigid inclusions to enhance porous layer absorption. Journal of the Acoustical Society of America, 2014, 136, 1139-1148.	1.1	75
8	Use of slow sound to design perfect and broadband passive sound absorbing materials. Journal of the Acoustical Society of America, 2016, 139, 1660-1671.	1.1	74
9	Enhancing the absorption coefficient of a backed rigid frame porous layer by embedding circular periodic inclusions. Journal of the Acoustical Society of America, 2011, 130, 3771-3780.	1.1	63
10	Sustainable sonic crystal made of resonating bamboo rods. Journal of the Acoustical Society of America, 2013, 133, 247-254.	1.1	59
11	Unidirectional zero sonic reflection in passive <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi mathvariant="script">PT</mml:mi></mml:math> -symmetric Willis media. Physical Review B, 2018, 98, .	3.2	56
12	Design of metaporous supercells by genetic algorithm for absorption optimization on a wide frequency band. Applied Acoustics, 2016, 102, 49-54.	3.3	55
13	Metadiffusers: Deep-subwavelength sound diffusers. Scientific Reports, 2017, 7, 5389.	3.3	52
14	Deterministic and statistical characterization of rigid frame porous materials from impedance tube measurements. Journal of the Acoustical Society of America, 2017, 142, 2407-2418.	1.1	48
15	Acoustic response of a rigid-frame porous medium plate with a periodic set of inclusions. Journal of the Acoustical Society of America, 2009, 126, 685-693.	1.1	45
16	Underwater metamaterial absorber with impedance-matched composite. Science Advances, 2022, 8, eabm4206.	10.3	42
17	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, 617-629.	1.1	40
18	Acoustic modeling of micro-lattices obtained by additive manufacturing. Applied Acoustics, 2020, 164, 107244.	3.3	39

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19	Asymptotic limits of some models for sound propagation in porous media and the assignment of the pore characteristic lengths. Journal of the Acoustical Society of America, 2016, 139, 2463-2474.	1.1	38
20	Analytical method for the ultrasonic characterization of homogeneous rigid porous materials from transmitted and reflected coefficients. Journal of the Acoustical Society of America, 2010, 127, 764-772.	1.1	37
21	Optimally graded porous material for broadband perfect absorption of sound. Journal of Applied Physics, 2019, 126, .	2.5	34
22	Total absorption peak by use of a rigid frame porous layer backed by a rigid multi-irregularities grating. Journal of the Acoustical Society of America, 2010, 127, 2865-2874.	1.1	33
23	Acoustic wave propagation in a macroscopically inhomogeneous porous medium saturated by a fluid. Applied Physics Letters, 2007, 90, 181901.	3.3	32
24	Tunable acoustic waveguides in periodic arrays made of rigid square-rod scatterers: theory and experimental realization. Journal Physics D: Applied Physics, 2013, 46, 305108.	2.8	31
25	Aerogel-based metasurfaces for perfect acoustic energy absorption. Applied Physics Letters, 2019, 115, .	3.3	31
26	Complex dispersion relation of surface acoustic waves at a lossy metasurface. Applied Physics Letters, 2017, 110, .	3.3	30
27	Absorption of a rigid frame porous layer with periodic circular inclusions backed by a periodic grating. Journal of the Acoustical Society of America, 2011, 129, 3035-3046.	1.1	29
28	Perfect Absorption in Mirror-Symmetric Acoustic Metascreens. Physical Review Applied, 2020, 14, .	3.8	29
29	A mode matching approach for modeling two dimensional porous grating with infinitely rigid or soft inclusions. Journal of the Acoustical Society of America, 2012, 131, 3841-3852.	1.1	28
30	Non-ambiguous recovery of Biot poroelastic parameters of cellular panels using ultrasonicwaves. Journal of Sound and Vibration, 2011, 330, 1074-1090.	3.9	26
31	Low frequency sound attenuation in a flow duct using a thin slow sound material. Journal of the Acoustical Society of America, 2016, 139, EL149-EL153.	1.1	26
32	Reproducibility of sound-absorbing periodic porous materials using additive manufacturing technologies: Round robin study. Additive Manufacturing, 2020, 36, 101564.	3.0	26
33	Perfect Absorption of Sound by Rigidly-Backed High-Porous Materials. Acta Acustica United With Acustica, 2018, 104, 396-409.	0.8	24
34	Propagation of acoustic waves in a one-dimensional macroscopically inhomogeneous poroelastic material. Journal of the Acoustical Society of America, 2011, 130, 1390-1398.	1.1	23
35	Spatial Laplace transform for complex wavenumber recovery and its application to the analysis of attenuation in acoustic systems. Journal of Applied Physics, 2016, 120, .	2.5	23
36	Limits of flexural wave absorption by open lossy resonators: reflection and transmission problems. New Journal of Physics, 2019, 21, 053003.	2.9	23

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37	Folded metaporous material for sub-wavelength and broadband perfect sound absorption. Applied Physics Letters, 2020, 117, .	3.3	23
38	A TIME DOMAIN METHOD FOR MODELING VISCOACOUSTIC WAVE PROPAGATION. Journal of Computational Acoustics, 2006, 14, 201-236.	1.0	22
39	Localization and characterization of simple defects in finite-sized photonic crystals. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2008, 25, 146.	1.5	22
40	Seismic motion in urban sites consisting of blocks in welded contact with a soft layer overlying a hard half-space. Geophysical Journal International, 2008, 172, 725-758.	2.4	21
41	Iridescent Perfect Absorption in Critically-Coupled Acoustic Metamaterials Using the Transfer Matrix Method. Applied Sciences (Switzerland), 2017, 7, 618.	2.5	21
42	How reproducible are methods to measure the dynamic viscoelastic properties of poroelastic media?. Journal of Sound and Vibration, 2018, 428, 26-43.	3.9	20
43	Acoustic response of a periodic distribution of macroscopic inclusions within a rigid frame porous plate. Waves in Random and Complex Media, 2008, 18, 409-433.	2.7	19
44	An application of the Peano series expansion to predict sound propagation in materials with continuous pore stratification. Journal of the Acoustical Society of America, 2012, 132, 208-215.	1.1	17
45	Acoustic wave propagation and internal fields in rigid frame macroscopically inhomogeneous porous media. Journal of Applied Physics, 2007, 102, .	2.5	15
46	3D-printed sound absorbing metafluid inspired by cereal straws. Scientific Reports, 2019, 9, 8496.	3.3	15
47	Design of acoustic metamaterials made of Helmholtz resonators for perfect absorption by using the complex frequency plane. Comptes Rendus Physique, 2020, 21, 713-749.	0.9	15
48	Spiral sound-diffusing metasurfaces based on holographic vortices. Scientific Reports, 2021, 11, 10217.	3.3	15
49	Graded and Anisotropic Porous Materials for Broadband and Angular Maximal Acoustic Absorption. Materials, 2020, 13, 4605.	2.9	14
50	Perfect, broadband, and sub-wavelength absorption with asymmetric absorbers: Realization for duct acoustics with 3D printed porous resonators. Journal of Sound and Vibration, 2022, 523, 116687.	3.9	14
51	Enhancing rigid frame porous layer absorption with three-dimensional periodic irregularities. Journal of the Acoustical Society of America, 2013, 133, 821-831.	1.1	13
52	Acoustic characterization of silica aerogel clamped plates for perfect absorption. Journal of Non-Crystalline Solids, 2018, 499, 283-288.	3.1	13
53	Use of specific Green's functions for solving direct problems involving a heterogeneous rigid frame porous medium slab solicited by acoustic waves. Mathematical Methods in the Applied Sciences, 2007, 30, 91-122.	2.3	12
54	Nonlocal boundary conditions for corrugated acoustic metasurface with strong near-field interactions. Journal of Applied Physics, 2018, 123, 091712.	2.5	12

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55	Experimental validation of deep-subwavelength diffusion by acoustic metadiffusers. Applied Physics Letters, 2019, 115, 081901.	3.3	12
56	Rapid additive manufacturing of optimized anisotropic metaporous surfaces for broadband absorption. Journal of Applied Physics, 2021, 129, 115102.	2.5	12
57	Wave transport in 1D stealthy hyperuniform phononic materials made of non-resonant and resonant scatterers. APL Materials, 2021, 9, .	5.1	12
58	Reconstruction of material properties profiles in one-dimensional macroscopically inhomogeneous rigid frame porous media in the frequency domain. Journal of the Acoustical Society of America, 2008, 124, 1591-1606.	1.1	11
59	Zero-phase propagation in realistic plate-type acoustic metamaterials. Applied Physics Letters, 2019, 115, .	3.3	11
60	Acoustic wave propagation in effective graded fully anisotropic fluid layers. Journal of the Acoustical Society of America, 2019, 146, 3400-3408.	1.1	11
61	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.	3.8	10
62	General method to retrieve all effective acoustic properties of fully-anisotropic fluid materials in three dimensional space. Journal of Applied Physics, 2019, 125, 025114.	2.5	10
63	Analytical modeling of one-dimensional resonant asymmetric and reciprocal acoustic structures as Willis materials. New Journal of Physics, 2021, 23, 053020.	2.9	10
64	Natural sonic crystal absorber constituted of seagrass (Posidonia Oceanica) fibrous spheres. Scientific Reports, 2021, 11, 711.	3.3	10
65	Two-dimensional ground motion at a soft viscoelastic layer/hard substratum site in response to SH cylindrical seismic waves radiated by deep and shallow line sources-II. Numerical results. Geophysical Journal International, 2005, 163, 192-224.	2.4	9
66	Characterization on Polyester Fibrous Panels and Their Homogeneity Assessment. Polymers, 2020, 12, 2098.	4.5	9
67	Doping of a plate-type acoustic metamaterial. Physical Review B, 2020, 102, .	3.2	9
68	Stealth and equiluminous materials for scattering cancellation and wave diffusion. Waves in Random and Complex Media, 0, , 1-19.	2.7	9
69	Nonreciprocal and even Willis couplings in periodic thermoacoustic amplifiers. Physical Review B, 2021, 104, .	3.2	9
70	Compact resonant systems for perfect and broadband sound absorption in wide waveguides in transmission problems. Scientific Reports, 2022, 12, .	3.3	9
71	Prediction of sound reflection by corrugated porous surfaces. Journal of the Acoustical Society of America, 2011, 129, 1696-1706.	1.1	8
72	Characterising poroelastic materials in the ultrasonic range - A Bayesian approach. Journal of Sound and Vibration, 2019, 456, 30-48.	3.9	8

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73	Localized interface modes in one-dimensional hyperuniform acoustic materials. Journal Physics D: Applied Physics, 2021, 54, 315303.	2.8	6
74	Experimental evidence of a hiding zone in a density-near-zero acoustic metamaterial. Journal of Applied Physics, 2021, 129, 145101.	2.5	5
75	The Transfer Matrix Method in Acoustics. Topics in Applied Physics, 2021, , 103-164.	0.8	5
76	Experimental demonstration of Willis coupling for elastic torsional waves. Wave Motion, 2022, 112, 102931.	2.0	5
77	Scattering of acoustic waves by macroscopically inhomogeneous poroelastic tubes. Journal of the Acoustical Society of America, 2012, 132, 477-486.	1.1	4
78	Optimal absorption of flexural energy in thin plates by critically coupling a locally resonant grating. Waves in Random and Complex Media, 0, , 1-23.	2.7	4
79	Metadiffusers for quasi-perfect and broadband sound diffusion. Applied Physics Letters, 2021, 119, .	3.3	4
80	Control of bending wave reflection at beam terminations by thermally tunable subwavelength resonators. Journal of Sound and Vibration, 2022, 530, 116918.	3.9	4
81	Estimation via Laser Ultrasonics of the Ultrasonic Attenuation in a Polycrystalline Aluminum Thin Plate Using Complex Wavenumber Recovery in the Vicinity of a Zero-Group-Velocity Lamb Mode. Applied Sciences (Switzerland), 2021, 11, 6924.	2.5	2
82	Non-locality of the Willis coupling in fluid laminates. Wave Motion, 2022, 110, 102892.	2.0	2
83	Slow-Sound-Based Delay-Line Acoustic Metamaterial. Physical Review Applied, 2022, 17, .	3.8	2
84	High broadband absorption of acoustic waves by elastic-framed metaporous layer. , 2016, , .		1
85	Asymmetric Metaporous Treatment: Optimization for Perfect Sound Absorption, 3D Printing, and Characterization with Air Flow. , 2021, , .		1
86	Scattering Evaluation of Equivalent Surface Impedances of Acoustic Metamaterials in Large FDTD Volumes Using RLC Circuit Modelling. Applied Sciences (Switzerland), 2021, 11, 8084.	2.5	0
87	Acoustic Metamaterial Absorbers. Topics in Applied Physics, 2021, , 167-204.	0.8	0