

# Bruno Morvan

## List of Publications by Year in descending order

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62  
papers

1,063  
citations

471509

17  
h-index

414414

32  
g-index

63  
all docs

63  
docs citations

63  
times ranked

801  
citing authors

#	ARTICLE	IF	CITATIONS
1	Experimental Observation of Topologically Protected Helical Edge Modes in Patterned Elastic Plates. <i>Physical Review X</i> , 2018, 8, .	8.9	136
2	Proof of Concept for an Ultrasensitive Technique to Detect and Localize Sources of Elastic Nonlinearity Using Phononic Crystals. <i>Physical Review Letters</i> , 2017, 118, 214301.	7.8	128
3	Experimental demonstration of the negative refraction of a transverse elastic wave in a two-dimensional solid phononic crystal. <i>Applied Physics Letters</i> , 2010, 96, .	3.3	83
4	Lamb wave reflection at the free edge of a plate. <i>Journal of the Acoustical Society of America</i> , 2003, 113, 1417-1425.	1.1	72
5	Negative refraction of longitudinal waves in a two-dimensional solid-solid phononic crystal. <i>Physical Review B</i> , 2011, 83, .	3.2	55
6	Underwater metamaterial absorber with impedance-matched composite. <i>Science Advances</i> , 2022, 8, eabm4206.	10.3	42
7	Ultrasonic guided waves on a periodical grating: Coupled modes in the first Brillouin zone. <i>Journal of Applied Physics</i> , 2007, 101, 114906.	2.5	40
8	Controlling Bragg gaps induced by electric boundary conditions in phononic piezoelectric plates. <i>Applied Physics Letters</i> , 2016, 108, .	3.3	38
9	Interaction of Lamb waves on bonded composite plates with defects. <i>Composite Structures</i> , 2007, 79, 229-233.	5.8	32
10	Propagation of Lamb waves in a plate with a periodic grating: Interpretation by phonon. <i>Journal of the Acoustical Society of America</i> , 2005, 118, 2234-2239.	1.1	31
11	Hybridization bandgap induced by an electrical resonance in piezoelectric metamaterial plates. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	31
12	Tunable phononic structures using Lamb waves in a piezoceramic plate. <i>Physical Review B</i> , 2019, 99, .	3.2	27
13	Proof of concept of a frequency-preserving and time-invariant metamaterial-based nonlinear acoustic diode. <i>Scientific Reports</i> , 2019, 9, 9560.	3.3	26
14	Ultra-directional source of longitudinal acoustic waves based on a two-dimensional solid/solid phononic crystal. <i>Journal of Applied Physics</i> , 2014, 116, .	2.5	25
15	Numerical analysis of negative refraction of transverse waves in an elastic material. <i>Journal of Applied Physics</i> , 2008, 104, 064906.	2.5	24
16	Attenuation of lamb waves in the vicinity of a forbidden band in a phononic crystal. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2009, 56, 1960-1967.	3.0	23
17	Experimental Observation of a Large Low-Frequency Band Gap in a Polymer Waveguide. <i>Frontiers in Materials</i> , 2018, 5, .	2.4	19
18	Lamb wave attenuation in a rough plate. I. Analytical and experimental results in an anisotropic plate. <i>Journal of Applied Physics</i> , 2008, 104, .	2.5	17

#	ARTICLE	IF	CITATIONS
19	Experimental evidence of zero-angle refraction and acoustic wave-phase control in a two-dimensional solid/solid phononic crystal. <i>Physical Review B</i> , 2012, 86, .	3.2	16
20	Measurement of the effects of rough surfaces on Lamb waves propagation. <i>NDT and E International</i> , 2004, 37, 207-211.	3.7	15
21	Lamb wave attenuation in a rough plate. II. Analytical and numerical results in a fluid plate. <i>Journal of Applied Physics</i> , 2008, 104, .	2.5	15
22	Phononic crystals of poroelastic spheres. <i>Physical Review B</i> , 2016, 94, .	3.2	13
23	Mechanical and acoustical study of a structural bond: comparison theory/numerical simulations/experiment. <i>European Journal of Mechanics, A/Solids</i> , 2006, 25, 464-482.	3.7	12
24	Space-time-wave number-frequency $Z(x,t,k,f)$ analysis of SAW generation on fluid filled cylindrical shells. <i>Ultrasonics</i> , 2004, 42, 383-389.	3.9	11
25	Lamb wave propagation in a plate with a grooved surface with several spatial periodicities. <i>Ultrasonics</i> , 2006, 44, e1359-e1363.	3.9	11
26	Determination of epoxy film parameters in a three-layer metal/adhesive/metal structure. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2009, 56, 1955-1959.	3.0	11
27	A multiple-scale perturbation approach to mode coupling in periodic plates. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2013, 60, 395-401.	3.0	11
28	Experimental and numerical study of evanescent waves in the mini stopband of a 1D phononic crystal. <i>Ultrasonics</i> , 2013, 53, 313-319.	3.9	10
29	Piezoelectric phononic plates: retrieving the frequency band structure via all-electric experiments. <i>Smart Materials and Structures</i> , 2019, 28, 115046.	3.5	10
30	Analysis of a Phononic Crystal Constituted of Piezoelectric Layers Using Electrical Impedance Measurement. <i>Physics Procedia</i> , 2015, 70, 283-286.	1.2	9
31	Analysis of elastic waves transmitted through a 2-D phononic crystal exhibiting negative refraction. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2011, 58, 178-186.	3.0	8
32	Interaction of Lamb waves with a grating composed of two spatial periodicities: Study in dual space. <i>NDT and E International</i> , 2009, 42, 513-517.	3.7	5
33	Negative refraction of elastic waves in 2D phononic crystals: Contribution of resonant transmissions to the construction of the image of a point source. <i>AIP Advances</i> , 2011, 1, .	1.3	5
34	Theoretical and experimental analysis of a piezoelectric plate connected to a negative capacitance at MHz frequencies. <i>Smart Materials and Structures</i> , 2015, 24, 115032.	3.5	5
35	Magnetic-Sphere-Based Phononic Crystals. <i>Crystals</i> , 2016, 6, 78.	2.2	5
36	Acoustic properties of double-porosity granular polymers. <i>Physical Review B</i> , 2017, 95, .	3.2	4

#	ARTICLE	IF	CITATIONS
37	Characterization of evanescent ultrasonic waves in a band gap of a 1D phononic crystal. , 2009, , .		3
38	Study of an Hybridization Gap in a One Dimensional Piezoelectric Phononic Crystal. Physics Procedia, 2015, 70, 279-282.	1.2	3
39	Three-mode coupling of symmetric and antisymmetric lamb waves in plates with finite corrugations. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 524-530.	3.0	3
40	Tunability of the band structure of a piezoelectric phononic crystal using electrical negative capacitance. , 2015, , .		3
41	Editorial: Advances in Mechanical Metamaterials. Frontiers in Materials, 2018, 5, .	2.4	3
42	7F-1 Design of Band-Stop Filters Using PZT Layer On Silicon Substrate Phononic Crystals. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	2
43	Negative refraction of transverse waves in an elastic phononic crystal. , 2008, , .		2
44	Coupling of Shear Acoustic Waves by Gratings: Analytical and Experimental Analysis of Spatial Periodicity Effects. Acta Acustica United With Acustica, 2011, 97, 717-727.	0.8	2
45	Analysis of signals propagating in a phononic crystal PZT layer deposited on a silicon substrate. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2013, 60, 2607-2614.	3.0	2
46	Active control of a piezoelectric Phononic Crystal using electrical impedance. , 2014, , .		2
47	Tunable multidispersive bands of inductive origin in piezoelectric phononic plates. Journal of Applied Physics, 2021, 130, .	2.5	2
48	5K-1 F.E.M. Simulation of Lamb Wave Propagation: Application to the Thermo-Oxidative Ageing of Carbon-Epoxy Plates. , 2006, , .		1
49	Phonon phenomenon in the interaction of guided ultrasonic waves with a surface grating. Journal of Physics: Conference Series, 2007, 92, 012104.	0.4	1
50	Negatively refracted transverse waves : study of the ultrasonic field at the exit of an elastic phononic crystal. , 2009, , .		1
51	Negative refraction of longitudinal waves in an elastic phononic crystal. , 2010, , .		1
52	Experimental exploration of imaging properties of a two-dimensional flat lens made of phononic crystals. , 2011, , .		1
53	Finite element model for the assessment of the mesh resistance to opening of fishing nets. Ocean Engineering, 2016, 123, 303-313.	4.3	1
54	Hierarchical bio-inspired dissipative metamaterials for low frequency attenuation. , 2017, , .		1

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55	Decoherence of lamb waves by rough interface. , 0, , .		0
56	Propagation of Lamb Waves on Rough Plates : Analysis of the Beam Section. AIP Conference Proceedings, 2005, , .	0.4	0
57	P3K-1 Coupled Modes on a Rectangular Grating. , 2006, , .		0
58	Study of the Transmission of Ultrasonic Guided Wave at the Junction of Two Different Elastic Plates with the Presence of a Defect. Key Engineering Materials, 0, 482, 21-29.	0.4	0
59	Recent advances in the negative refraction of longitudinal waves in an elastic phononic crystal. , 2011, , .		0
60	Symmetric wave solutions in equilateral triangular solid bars. , 2016, , .		0
61	Tunable piezoelectric phononic crystal plates. , 2017, , .		0
62	Attenuation of Lamb waves in the vicinity of a forbidden band in a phononic crystal. Springer Proceedings in Physics, 2009, , 227-235.	0.2	0