

# Abdelkrim Khelif

## List of Publications by Year in descending order

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147  
papers

6,259  
citations

76326

40  
h-index

69250

77  
g-index

148  
all docs

148  
docs citations

148  
times ranked

2529  
citing authors

#	ARTICLE	IF	CITATIONS
1	Guiding and bending of acoustic waves in highly confined phononic crystal waveguides. Applied Physics Letters, 2004, 84, 4400-4402.	3.3	423
2	Complete band gaps in two-dimensional phononic crystal slabs. Physical Review E, 2006, 74, 046610.	2.1	358
3	Evidence of Fano-Like Interference Phenomena in Locally Resonant Materials. Physical Review Letters, 2002, 88, 225502.	7.8	314
4	Evidence for complete surface wave band gap in a piezoelectric phononic crystal. Physical Review E, 2006, 73, 065601.	2.1	274
5	Trapping and guiding of acoustic waves by defect modes in a full-band-gap ultrasonic crystal. Physical Review B, 2003, 68, .	3.2	269
6	Tunable filtering and demultiplexing in phononic crystals with hollow cylinders. Physical Review E, 2004, 69, 046608.	2.1	263
7	Stimulated Brillouin scattering from multi-GHz-guided acoustic phonons in nanostructured photonic crystal fibres. Nature Physics, 2006, 2, 388-392.	16.7	263
8	Experimental observation of locally-resonant and Bragg band gaps for surface guided waves in a phononic crystal of pillars. Physical Review B, 2011, 83, .	3.2	219
9	Locally resonant surface acoustic wave band gaps in a two-dimensional phononic crystal of pillars on a surface. Physical Review B, 2010, 81, .	3.2	212
10	Full band gap for surface acoustic waves in a piezoelectric phononic crystal. Physical Review E, 2005, 71, 036607.	2.1	208
11	Evidence of large high frequency complete phononic band gaps in silicon phononic crystal plates. Applied Physics Letters, 2008, 92, .	3.3	194
12	Two-dimensional phononic crystal with tunable narrow pass band: Application to a waveguide with selective frequency. Journal of Applied Physics, 2003, 94, 1308-1311.	2.5	178
13	Transmission and dispersion relations of perfect and defect-containing waveguide structures in phononic band gap materials. Physical Review B, 2003, 68, .	3.2	178
14	Evanescent Bloch waves and the complex band structure of phononic crystals. Physical Review B, 2009, 80, .	3.2	162
15	Phononic crystal with low filling fraction and absolute acoustic band gap in the audible frequency range: A theoretical and experimental study. Physical Review E, 2002, 65, 056608.	2.1	138
16	Transmittivity through straight and stublike waveguides in a two-dimensional phononic crystal. Physical Review B, 2002, 65, .	3.2	128
17	Waveguiding inside the complete band gap of a phononic crystal slab. Physical Review E, 2007, 76, 056601.	2.1	100
18	Simultaneous two-dimensional phononic and photonic band gaps in opto-mechanical crystal slabs. Optics Express, 2010, 18, 9164.	3.4	100

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19	Raman-like light scattering from acoustic phonons in photonic crystal fiber. Optics Express, 2006, 14, 4141.	3.4	96
20	Complete phononic bandgaps and bandgap maps in two-dimensional silicon phononic crystal plates. Electronics Letters, 2007, 43, 898.	1.0	96
21	Acoustic channel drop tunneling in a phononic crystal. Applied Physics Letters, 2005, 87, 261912.	3.3	93
22	Phononic band-gap guidance of acoustic modes in photonic crystal fibers. Physical Review B, 2005, 71, .	3.2	80
23	Complete band gaps and deaf bands of triangular and honeycomb water-steel phononic crystals. Journal of Applied Physics, 2007, 101, 044903.	2.5	75
24	Stopping of acoustic waves by sonic polymer-fluid composites. Physical Review E, 2001, 63, 066605.	2.1	70
25	Guided elastic waves along a rod defect of a two-dimensional phononic crystal. Physical Review E, 2004, 69, 067601.	2.1	67
26	Local resonances in phononic crystals and in random arrangements of pillars on a surface. Journal of Applied Physics, 2013, 114, 104503.	2.5	66
27	Surface acoustic wave trapping in a periodic array of mechanical resonators. Applied Physics Letters, 2006, 89, 083515.	3.3	60
28	Broadband evolution of phononic-crystal-waveguide eigenstates in real- and k-spaces. Scientific Reports, 2013, 3, 3351.	3.3	57
29	Out-of-plane propagation of elastic waves in two-dimensional phononic band-gap materials. Physical Review E, 2003, 67, 065602.	2.1	56
30	Subwavelength focusing of surface acoustic waves generated by an annular interdigital transducer. Applied Physics Letters, 2008, 92, .	3.3	53
31	Elastic Metasurfaces for Deep and Robust Subwavelength Focusing and Imaging. Physical Review Applied, 2021, 15, .	3.8	53
32	Ultra-wide acoustic band gaps in pillar-based phononic crystal strips. Journal of Applied Physics, 2015, 118, .	2.5	49
33	Interaction of waveguide and localized modes in a phononic crystal. Europhysics Letters, 2005, 71, 570-575.	2.0	47
34	Scattering of surface acoustic waves by a phononic crystal revealed by heterodyne interferometry. Applied Physics Letters, 2007, 91, 083517.	3.3	46
35	Energy storage and dispersion of surface acoustic waves trapped in a periodic array of mechanical resonators. Journal of Applied Physics, 2009, 105, .	2.5	45
36	Polarization state and level repulsion in two-dimensional phononic crystals and waveguides in the presence of material anisotropy. Journal Physics D: Applied Physics, 2010, 43, 185401.	2.8	43

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37	Physics of band-gap formation and its evolution in the pillar-based phononic crystal structures. Journal of Applied Physics, 2014, 116, .	2.5	43
38	Acoustically induced transparency using Fano resonant periodic arrays. Journal of Applied Physics, 2015, 118, .	2.5	43
39	Highly selective electroplated nickel mask for lithium niobate dry etching. Journal of Applied Physics, 2009, 105, .	2.5	42
40	Acoustic confinement and waveguiding with a line-defect structure in phononic crystal slabs. Journal of Applied Physics, 2010, 108, 084515.	2.5	41
41	Superlensing effect for surface acoustic waves in a pillar-based phononic crystal with negative refractive index. Applied Physics Letters, 2014, 105, .	3.3	40
42	Experimental realization of a pillared metasurface for flexural wave focusing. APL Materials, 2021, 9, .	5.1	35
43	Surface acoustic waves in pillars-based two-dimensional phononic structures with different lattice symmetries. Journal of Applied Physics, 2012, 112, .	2.5	34
44	Subwavelength waveguiding of surface phonons in pillars-based phononic crystal. AIP Advances, 2014, 4, .	1.3	33
45	A perspective on elastic metastructures for energy harvesting. Applied Physics Letters, 2022, 120, .	3.3	30
46	Streaming and removal forces due to second-order sound field during megasonic cleaning of silicon wafers. Journal of Applied Physics, 2000, 88, 6821-6835.	2.5	28
47	Generally polarized acoustic waves trapped by high aspect ratio electrode gratings at the surface of a piezoelectric material. Journal of Applied Physics, 2001, 90, 2492-2497.	2.5	28
48	Coupling characteristics of localized phonons in photonic crystal fibers. Journal of Applied Physics, 2003, 94, 7944.	2.5	27
49	Octave omnidirectional band gap in a three-dimensional phononic crystal. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2010, 57, 1621-1625.	3.0	27
50	A perfect Fresnel acoustic reflector implemented by a Fano-resonant metascreen. Journal of Applied Physics, 2018, 123, .	2.5	27
51	All-angle negative refraction for surface acoustic waves in pillar-based two-dimensional phononic structures. New Journal of Physics, 2012, 14, 123030.	2.9	25
52	Experimental evidence of high-frequency complete elastic bandgap in pillar-based phononic slabs. Applied Physics Letters, 2014, 105, .	3.3	25
53	Guidance of surface elastic waves along a linear chain of pillars. AIP Advances, 2016, 6, .	1.3	23
54	Surface-Wave Coupling to Single Phononic Subwavelength Resonators. Physical Review Applied, 2017, 8, .	3.8	22

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55	Theoretical calculation of the acoustic force on a patterned silicon wafer during megasonic cleaning. <i>Journal of Applied Physics</i> , 2000, 88, 2423-2429.	2.5	21
56	Resonant Beam Steering and Carpet Cloaking Using an Acoustic Transformational Metascreen. <i>Physical Review Applied</i> , 2018, 10, .	3.8	21
57	Dipole states and coherent interaction in surface-acoustic-wave-coupled phononic resonators. <i>Nature Communications</i> , 2019, 10, 4583.	12.8	20
58	Modulation of the extraordinary optical transmission by surface acoustic waves. <i>Physical Review B</i> , 2007, 76, .	3.2	19
59	Design and experimental validation of a temperature-driven adaptive phononic crystal slab. <i>Smart Materials and Structures</i> , 2019, 28, 035007.	3.5	19
60	Second-order sound field during megasonic cleaning of patterned silicon wafers: Application to ridges and trenches. <i>Journal of Applied Physics</i> , 2001, 90, 4211-4218.	2.5	18
61	Fast FEM/BEM simulation of SAW devices via asymptotic waveform evaluation. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2004, 51, 359-363.	3.0	18
62	Theoretical analysis of damping effects of guided elastic waves at solid-fluid interfaces. <i>Journal of Applied Physics</i> , 2006, 99, 054907.	2.5	18
63	Observation of topological gravity-capillary waves in a water wave crystal. <i>New Journal of Physics</i> , 2019, 21, 083031.	2.9	18
64	Computation of dispersion diagrams for periodic porous materials modeled as equivalent fluids. <i>Mechanical Systems and Signal Processing</i> , 2020, 142, 106749.	8.0	18
65	Experimental Demonstration of a Multichannel Elastic Wave Filter in a Phononic Crystal Slab. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 4594.	2.5	18
66	Acoustic radiation-free surface phononic crystal resonator for in-liquid low-noise gravimetric detection. <i>Microsystems and Nanoengineering</i> , 2021, 7, 8.	7.0	18
67	Extensive tailorability of sound absorption using acoustic metamaterials. <i>Journal of Applied Physics</i> , 2018, 124, .	2.5	17
68	Evidence of a broadband gap in a phononic crystal strip. <i>Ultrasonics</i> , 2017, 78, 51-56.	3.9	16
69	Topological surface wave metamaterials for robust vibration attenuation and energy harvesting. <i>Mechanics of Advanced Materials and Structures</i> , 2022, 29, 4759-4767.	2.6	16
70	Experimental study of guiding and filtering of acoustic waves in a two dimensional ultrasonic crystal. <i>Zeitschrift Fur Kristallographie - Crystalline Materials</i> , 2005, 220, 836-840.	0.8	15
71	Extraordinary nonlinear transmission modulation in a doubly resonant acousto-optical structure. <i>Optica</i> , 2017, 4, 1245.	9.3	15
72	Support loss suppression in micromechanical resonators by the use of phononic band gap structures. , 2010, , .		13

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73	Computation of acoustic properties and design guidelines of periodic Biot-modeled foams. Applied Acoustics, 2020, 168, 107428.	3.3	13
74	In-plane confinement and waveguiding of surface acoustic waves through line defects in pillars-based phononic crystal. AIP Advances, 2011, 1, .	1.3	12
75	Towards Acoustic Radiation Free Lamb Wave Resonators for High-Resolution Gravimetric Biosensing. IEEE Sensors Journal, 2021, 21, 2725-2733.	4.7	12
76	Experimental evidence of ultrasonic opacity using the coupling of resonant cavities in a phononic membrane. Applied Physics Letters, 2013, 103, .	3.3	11
77	Evidence of Ultrasonic Band Gap in Aluminum Phononic Crystal Beam. Journal of Vibration and Acoustics, Transactions of the ASME, 2013, 135, .	1.6	11
78	Transmission and dispersion modes in phononic crystals with hollow cylinders: application to waveguide structure. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 2711-2715.	0.8	10
79	Equality of the energy and group velocities of bulk acoustic waves in piezoelectric media. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2005, 52, 1869-1871.	3.0	10
80	Elastic band gaps for surface modes in an ultrasonic lithium niobate phononic crystal. , 2006, 6182, 234.		10
81	Design guidelines of 1-3 piezoelectric composites dedicated to ultrasound imaging transducers, based on frequency band-gap considerations. Journal of the Acoustical Society of America, 2007, 122, 786-793.	1.1	10
82	Density-near-zero using the acoustically induced transparency of a Fano acoustic resonator. Europhysics Letters, 2016, 116, 46004.	2.0	9
83	Dyadic Green's functions of a laminar plate. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2004, 51, 1157-1164.	3.0	8
84	Enhanced acoustic pressure sensors based on coherent perfect absorber-laser effect. Journal of Applied Physics, 2021, 129, .	2.5	8
85	Improving surface acousto-optical interaction by high aspect ratio electrodes. Journal of Applied Physics, 2009, 106, .	2.5	7
86	Guiding and confinement of interface acoustic waves in solid-fluid pillar-based phononic crystals. AIP Advances, 2016, 6, 121703.	1.3	7
87	Surface acoustic wave guiding in a diffractionless high aspect ratio transducer. Applied Physics Letters, 2013, 102, .	3.3	6
88	Selective Band Gap to Suppress the Spurious Acoustic Mode in Film Bulk Acoustic Resonator Structures. Journal of Vibration and Acoustics, Transactions of the ASME, 2018, 140, .	1.6	6
89	Surface shear horizontal waves associated with a periodic array of wires deposited on a substrate. European Physical Journal B, 2001, 21, 437-445.	1.5	5
90	Nonlinear effects in locally resonant nanostrip phononic metasurface at GHz frequencies. Applied Physics Letters, 2021, 118, .	3.3	5

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91	Roughness induced surface acoustic resonances. Progress in Surface Science, 1995, 48, 301-311.	8.3	4
92	Theory of acoustic scattering by a supported wire. Journal of Applied Physics, 1997, 81, 7141-7147.	2.5	4
93	Fast FEM/BEM computation of SAW harmonic admittance and slowness curves. , 0, , .		4
94	Locally Resonant Structures for Low Frequency Surface Acoustic Band Gap Applications. Springer Series in Materials Science, 2013, , 43-59.	0.6	4
95	An acoustoelectric-induced tailorable coupled resonator surface acoustic waveguide. Journal Physics D: Applied Physics, 2021, 54, 225301.	2.8	4
96	Full band gaps for surface acoustic waves in piezoelectric phononic crystals. , 0, , .		3
97	Guiding and filtering acoustic waves in a two-dimensional phononic crystal. , 0, , .		3
98	Photonic and Phononic Band Gap Properties of Lithium Niobate. Springer Series in Materials Science, 2009, , 307-336.	0.6	3
99	Evanescent Bloch waves in phononic crystals. Proceedings of SPIE, 2009, , .	0.8	3
100	Phononic bandgaps in silicon plate with metallic pillars. Electronics Letters, 2012, 48, 1147-1148.	1.0	3
101	Reconfigurable locally resonant surface acoustic demultiplexing behavior in ZnO-based phononic crystal. Journal of Applied Physics, 2021, 129, 024901.	2.5	3
102	Shear Horizontal Phononic Metasurface for In-Liquid Gravimetric Biosensing. IEEE Electron Device Letters, 2021, 42, 915-918.	3.9	3
103	Elastic Vibrations of Planar and Deterministic Rough Surfaces. Acta Physica Polonica A, 1996, 89, 129-137.	0.5	3
104	Nonlinear Coupling of Phononic Resonators Induced by Surface Acoustic Waves. Physical Review Applied, 2021, 16, .	3.8	3
105	Localized and resonant acoustic waves associated with a periodic array of supported wires. Vacuum, 1999, 54, 309-313.	3.5	2
106	Lithium niobate phononic crystal for surface acoustic waves. , 2006, , .		2
107	P4L-3 Anisotropic Wave-Surface Shaped Annular Interdigital Transducer. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	2
108	The OmniSaw device concept (OmniSAW: Omnidirectional band gap for surface acoustic wave). , 2008, , .		2

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109	Preface to Special Topic: Selected Articles from Phononics 2015: The Third International Conference on Phononic Crystals/Metamaterials, Phonon Transport and Phonon Coupling, 31 May-5 June 2015, Paris, France. AIP Advances, 2016, 6, 121501.	1.3	2
110	Computational Problems and Numerical Techniques for the Analysis of Phononic Crystals. , 2016, , 85-107.		2
111	Future Prospects of Phononic Crystals and Phononic Metamaterials. , 2016, , 239-245.		2
112	Acoustic scattering by a wire deposited on a planar surface. Surface Science, 1996, 352-354, 1038-1042.	1.9	1
113	Theory of acoustic scattering by supported ridges at a solid-liquid interface. Physical Review E, 2002, 65, 036601.	2.1	1
114	Channel drop process of elastic wave in a two dimensional phononic crystal. , 0, , .		1
115	6E-2 Surface Acoustic Wave Trapping in a Periodic Array of High Aspect Ratio Electrodes. , 2006, , .		1
116	Full Band-Gap Silicon Phononic Crystals for Surface Acoustic Waves. , 2006, , 185.		1
117	Ultrasonic and hypersonic phononic crystals. Proceedings of SPIE, 2008, , .	0.8	1
118	Lithium niobate surface structuration for phononic crystal fabrication. , 2008, , .		1
119	A high-quality factor piezoelectric-on-substrate phononic crystal micromechanical resonator. , 2009, , .		1
120	VHF phononic band gap band pass filters using coupled resonator acoustic waveguides (CRAW). , 2011, , .		1
121	How diffraction limits ultrasonic screening in phononic plate composed of a periodic array of resonant slits. Comptes Rendus Physique, 2016, 17, 518-523.	0.9	1
122	Mapping acoustic field distributions of VHF to SHF SAW transducers using a Scanning Electron Microscope. , 2016, , .		1
123	Subwavelength sound screening by coupling space-coiled Fabry-Perot resonators. Europhysics Letters, 2017, 119, 36001.	2.0	1
124	Ultrasonic insulation using a Helmholtz-like phononic crystal with a slight filling factor. , 2019, , .		1
125	Nonreciprocity of Gigahertz Surface Acoustic Wave Based on Mode Conversion in an Inclined Phononic Crystal Heterojunction. Physical Review Applied, 2021, 16, .	3.8	1
126	Hypersonic band gaps in two-dimensional piezoelectric phononic crystal slabs. , 0, , .		0



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127	Silicon phononic crystal for surface acoustic waves. , 0, , .		0
128	Domains Inversion in LiNbO <sub>3</sub> Using Electron Beam Irradiation for Phononic Crystals. Applications of Ferroelectrics, IEEE International Symposium on, 2006, , .	0.0	0
129	4G-2 Acoustic Wave Band Gaps in Triangular and Honeycomb Lattice 2D Ultrasonic Crystals. , 2006, , .		0
130	P3J-1 Direct Observation of Surface Acoustic Wave Interaction with a Phononic Crystal. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	0
131	P0-11 Experimental Study of Complete Band Gaps and Waveguiding Inside Phononic Crystal Slabs. , 2007, , .		0
132	Comprehensive characterization of Surface acoustic wave trapping in a periodic array of high aspect ratio electrodes. Frequency Control Symposium and Exhibition, Proceedings of the IEEE International, 2007, , .	0.0	0
133	3E-3 Dispersion and Polarization of Surface Waves Trapped in High Aspect Ratio Electrode Arrays. Proceedings IEEE Ultrasonics Symposium, 2007, , .	0.0	0
134	Band structure of evanescent waves in phononic crystals. , 2008, , .		0
135	Two-dimensional phononic crystal slab defect mode micromechanical resonators. Proceedings of SPIE, 2009, , .	0.8	0
136	Elastic filter based on coupled resonator waveguides in phononic crystal slabs. Proceedings of SPIE, 2010, , .	0.8	0
137	VHF phononic band gap band pass filters using coupled resonator acoustic waveguides (CRAW). , 2011, , .		0
138	Is there really a sound line limit for surface waves in phononic crystals?. , 2011, , .		0
139	Selected examples in nano-sciences and nano-technologies at FEMTO-ST. International Journal of Nanotechnology, 2012, 9, 887.	0.2	0
140	Solid-fluid interaction in a pillar-based phononic crystal. , 2016, , .		0
141	Complete band gap in a pillar-based piezoelectric phononic crystal slab. , 2016, , .		0
142	Evidence of a large elastic band gap in a one-dimensional phononic crystal. , 2016, , .		0
143	Design and experimental validation of an adaptive phononic crystal using highly dissipative polymeric material interface. Proceedings of SPIE, 2017, , .	0.8	0
144	Notice of Removal: Coupling of mechanical resonators under surface acoustic wave excitation. , 2017, , .		0

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145	Investigation of Ultrasonic Opacity Based on Quarter-Wave Mode Resonance Using a Two-Dimensional Silicon Phononic Crystal. Lecture Notes in Networks and Systems, 2021, , 1044-1050.	0.7	0
146	Polarization States in 2D Phononic Crystals and Phononic Crystal Waveguides. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2010, , 341-347.	0.2	0
147	Experimental evidence of high spatial confinement of elastic energy in a phononic cantilever. Applied Physics Letters, 2021, 119, 203501.	3.3	0