

Zhenghua Qian

List of Publications by Year in descending order

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papers

813
citations

567144

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68
all docs

68
docs citations

68
times ranked

326
citing authors

#	ARTICLE	IF	CITATIONS
1	Electric potential and carrier distribution in a piezoelectric semiconductor nanowire in time-harmonic bending vibration. <i>Nano Energy</i> , 2018, 43, 22-28.	8.2	107
2	Two-dimensional equations for piezoelectric thin-film acoustic wave resonators. <i>International Journal of Solids and Structures</i> , 2017, 110-111, 170-177.	1.3	42
3	I-V characteristics of a piezoelectric semiconductor nanofiber under local tensile/compressive stress. <i>Journal of Applied Physics</i> , 2019, 126, .	1.1	37
4	Study on the influence of semiconductive property for the improvement of nanogenerator by wave mode approach. <i>Nano Energy</i> , 2018, 52, 474-484.	8.2	36
5	Accurate characterization of 3D dispersion curves and mode shapes of waves propagating in generally anisotropic viscoelastic/elastic plates. <i>International Journal of Solids and Structures</i> , 2018, 150, 52-65.	1.3	35
6	Dispersion curves, mode shapes, stresses and energies of SH and Lamb waves in layered elastic nanoplates with surface/interface effect. <i>International Journal of Engineering Science</i> , 2019, 142, 170-184.	2.7	31
7	Bending and free vibration analyses of antisymmetrically laminated carbon nanotube-reinforced functionally graded plates. <i>Journal of Composite Materials</i> , 2017, 51, 3111-3125.	1.2	27
8	Energy trapping of thickness-extensional modes in thin film bulk acoustic wave resonators. <i>Journal of Mechanical Science and Technology</i> , 2015, 29, 2767-2773.	0.7	26
9	Energy trapping of thickness-extensional modes in thin film bulk acoustic wave filters. <i>AIP Advances</i> , 2016, 6, .	0.6	23
10	A novel approach to surface defect detection. <i>International Journal of Engineering Science</i> , 2018, 133, 181-195.	2.7	22
11	Static and Dynamic Analysis of a Piezoelectric Semiconductor Cantilever Under Consideration of Flexoelectricity and Strain Gradient Elasticity. <i>Acta Mechanica Solida Sinica</i> , 2021, 34, 673-686.	1.0	20
12	An elastic electrode model for wave propagation analysis in piezoelectric layered structures of film bulk acoustic resonators. <i>Acta Mechanica Solida Sinica</i> , 2017, 30, 263-270.	1.0	19
13	Piezopotential in a composite cantilever of piezoelectric dielectrics and nonpiezoelectric semiconductors produced by shear force through e_{15} . <i>Materials Research Express</i> , 2019, 6, 115917.	0.8	19
14	Direct Probing of Dispersion Quality of ZrO ₂ Nanoparticles Coated by Polyelectrolyte at Different Concentrated Suspensions. <i>Nanoscale Research Letters</i> , 2015, 10, 456.	3.1	17
15	Circumferential defect detection using ultrasonic guided waves. <i>Engineering Computations</i> , 2020, 37, 1923-1943.	0.7	17
16	Waves in a generally anisotropic viscoelastic composite laminated bilayer: Impact of the imperfect interface from perfect to complete delamination. <i>International Journal of Solids and Structures</i> , 2020, 202, 262-277.	1.3	17
17	Propagation behavior of ultrasonic Love waves in functionally graded piezoelectric-piezomagnetic materials with exponential variation. <i>Mechanics of Materials</i> , 2020, 148, 103492.	1.7	16
18	Vibration optimization of ZnO thin film bulk acoustic resonator with ring electrodes. <i>AIP Advances</i> , 2016, 6, .	0.6	15

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19	Effects of aspect ratio on the mode couplings of thin-film bulk acoustic wave resonators. <i>AIP Advances</i> , 2017, 7, 055113.	0.6	15
20	A New Inductive Debris Sensor Based on Dual-Excitation Coils and Dual-Sensing Coils for Online Debris Monitoring. <i>Sensors</i> , 2021, 21, 7556.	2.1	14
21	Thickness-shear and thickness-twist modes in an AT-cut quartz acoustic wave filter. <i>Ultrasonics</i> , 2015, 58, 1-5.	2.1	12
22	Forced coupling vibration analysis of FBAR based on two-dimensional equations associated with state-vector approach. <i>AIP Advances</i> , 2018, 8, .	0.6	10
23	Influence of Surface Conductivity on Dispersion Curves, Mode Shapes, Stress, and Potential for Lamb Waves Propagating in Piezoelectric Plate. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2020, 67, 855-862.	1.7	10
24	A novel approach to quantitative predictions of high-frequency coupled vibrations in layered piezoelectric plates. <i>International Journal of Engineering Science</i> , 2020, 157, 103407.	2.7	10
25	An analytical approach to reconstruction of axisymmetric defects in pipelines using T(0, 1) guided waves. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2020, 41, 1479-1492.	1.9	10
26	Model and performance analysis of non-uniform piezoelectric semiconductor nanofibers. <i>Applied Mathematical Modelling</i> , 2022, 104, 628-643.	2.2	10
27	Suppression of Spurious Lateral Modes and Undesired Coupling Modes in Frame-Like FBARs by 2-D Theory. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2020, 67, 180-190.	1.7	9
28	Mechanical Manipulation of Electrical Behaviors of Piezoelectric Semiconductor Nanofibers by Time-Dependent Stresses. <i>Acta Mechanica Solida Sinica</i> , 2020, 33, 579-585.	1.0	9
29	A Semi-Analytical Solution for the Thickness-Vibration of Centrally Partially-Electroded Circular AT-Cut Quartz Resonators. <i>Sensors</i> , 2017, 17, 1820.	2.1	8
30	Trapped-Energy Thickness-Extensional Mode of a Partially Electroded ZnO Thin-Film Resonator. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2018, 65, 1669-1679.	1.7	8
31	Mode couplings in high-frequency thickness-extensional vibrations of ZnO thin film resonator based on weak boundary condition. <i>International Journal of Mechanical Sciences</i> , 2018, 148, 223-230.	3.6	8
32	Effects of edge and interior stresses on electrical behaviors of piezoelectric semiconductor films. <i>Ferroelectrics</i> , 2021, 571, 96-108.	0.3	8
33	Impact of PN junction inhomogeneity on the piezoelectric fields of acoustic waves in piezo-semiconductive fibers. <i>Ultrasonics</i> , 2022, 120, 106660.	2.1	8
34	Analysis of thickness-shear and thickness-twist modes of AT-cut quartz acoustic wave resonator and filter. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2015, 36, 1527-1538.	1.9	7
35	Three dimensional modified BEM analysis of forward scattering problems in elastic solids. <i>Engineering Analysis With Boundary Elements</i> , 2021, 122, 145-154.	2.0	7
36	Design of a new type of omnidirectional shear-horizontal EMAT by the use of half-ring magnets and PCB technology. <i>Ultrasonics</i> , 2021, 115, 106465.	2.1	7

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37	Noise processing of flaw reconstruction by wavelet transform in ultrasonic guided SH waves. <i>Meccanica</i> , 2017, 52, 2307-2328.	1.2	6
38	Effects of mode couplings on the vibration characteristics of partially electroded thin-film bulk acoustic wave resonators. <i>AIP Advances</i> , 2019, 9, 065203.	0.6	6
39	Two-Dimensional Coupling Vibration Analysis of Laterally Acoustically Coupled Two-Port Thin-Film Bulk Acoustic Resonators. <i>Acta Mechanica Solida Sinica</i> , 2020, 33, 464-478.	1.0	6
40	The Design of a Frame-Like ZnO FBAR Sensor for Achieving Uniform Mass Sensitivity Distributions. <i>Sensors</i> , 2020, 20, 2408.	2.1	6
41	Design Considerations for Frequency Shifts in a Laterally Finite FBAR Sensor in Contact With the Newtonian Liquid. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2020, 67, 2402-2412.	1.7	6
42	A convenient approach to tuning the local piezopotential of an extensional piezoelectric semiconductor fiber via composite structure design. <i>Nano Energy</i> , 2021, 90, 106626.	8.2	6
43	Selective Detection of Liquid Viscosity Using Acoustic Plate Waves with In-Plane Polarization. <i>Sensors</i> , 2022, 22, 2727.	2.1	6
44	Effects of unequal electrode pairs on an x-strip thickness-shear mode multi-channel quartz crystal microbalance. <i>Ultrasonics</i> , 2016, 72, 73-79.	2.1	5
45	Frequency Spectra of Coupling Vibration in High-Frequency Thickness-Shear ZnO Thin Film Resonator Applied in Sensing Field Based on the Hamilton Principle. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2019, 66, 1331-1339.	1.7	5
46	Forward and Inverse Analysis of Love Wave Scattering by Interface Cavities. <i>Journal of Theoretical and Computational Acoustics</i> , 2019, 27, 1850049.	0.5	5
47	A general approach for dispersion relations in multilayered structures with an arbitrary number of piezoelectric layers and elastic layers. <i>Acta Mechanica</i> , 2020, 231, 489-502.	1.1	5
48	Two-Dimensional Plate Theory for the Analysis of Coupling Vibrations in Shear Mode FBARs. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2020, 67, 1897-1908.	1.7	5
49	A Rapid and Accurate Technique With Updating Strategy for Surface Defect Inspection of Pipelines. <i>IEEE Access</i> , 2021, 9, 16041-16052.	2.6	5
50	Analysis of guided wave propagation in functionally graded magneto-electro elastic composite. <i>Waves in Random and Complex Media</i> , 0, , 1-19.	1.6	5
51	Effects of nonlinearity on transient processes in AT-cut quartz thickness-shear resonators. <i>Acta Mechanica Solida Sinica</i> , 2015, 28, 347-352.	1.0	4
52	Reconstruction of surface flaw shape using reflection data of guided Rayleigh surface waves. <i>International Journal of Applied Electromagnetics and Mechanics</i> , 2016, 52, 41-48.	0.3	4
53	Coupling Vibration Analysis of Trapped-Energy Rectangular Quartz Resonators by Variational Formulation of Mindlin's Theory. <i>Sensors</i> , 2018, 18, 986.	2.1	4
54	Lateral Size-Dependence in UHF Mode-Coupled ZnO FBARs to Suppress Undesirable Eigen-Modes and Weaken Mounting Effect. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2020, 67, 1647-1655.	1.7	4

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55	Multiple crossing points of Lamb wave propagating in a magneto-electro-elastic composite plate. <i>Archive of Applied Mechanics</i> , 2021, 91, 2781-2793.	1.2	4
56	A Theoretical Model for Analyzing the Thickness-Shear Vibration of a Circular Quartz Crystal Plate With Multiple Concentric Ring Electrodes. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2021, 68, 1808-1818.	1.7	3
57	Investigation of quasi lateral-field-excitation on $(\gamma\text{x}l)\text{-}17^\circ\text{LiNbO}_3$ single crystal. <i>Ultrasonics</i> , 2014, 54, 967-970.	2.1	2
58	Thickness-shear vibration of a Z-strip AT-cut quartz crystal plate with nonuniform electrode pairs. <i>Ferroelectrics</i> , 2017, 506, 48-62.	0.3	2
59	A semi-analytical solution for electric double layers near an elliptical cylinder. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2018, 34, 62-67.	1.5	2
60	Forward Analysis of Love-Wave Scattering due to a Cavity-Like Defect. <i>Shock and Vibration</i> , 2018, 2018, 1-11.	0.3	2
61	Effects of electric/magnetic impact on the transient fracture of interface crack in piezoelectric-piezomagnetic sandwich structure: anti-plane case. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2020, 41, 139-156.	1.9	2
62	A More Accurate Reconstruction Method for Detecting Large-Depth Defects in Plates Using SH Guided Waves. <i>Acta Mechanica Solida Sinica</i> , 2021, 34, 174-183.	1.0	2
63	Microstructural topology optimization of periodic beam structures based on the relaxed Saint-Venant solution. <i>Structural and Multidisciplinary Optimization</i> , 2021, 63, 1813-1837.	1.7	2
64	The properties of thickness-twist (TT) wave modes in a rotated Y-cut quartz plate with a functionally graded material top layer. <i>Ultrasonics</i> , 2016, 64, 62-68.	2.1	1
65	Electromechanical behaviors in piezotronic quantum wells based on a quantum-corrected phenomenological theory. <i>Journal of Applied Physics</i> , 2022, 131, 055702.	1.1	1
66	Resonance Analysis of Piezoelectric Bulk Acoustic Wave Devices Based on YCOB Crystals with Monoclinic Symmetry Excited by Lateral Electric Fields. <i>Crystals</i> , 2022, 12, 542.	1.0	1
67	Forward and Inverse Researches on Scattering of Ultrasonic Surface Waves by Near-Surface. , 2018, , .		0
68	Fracture behavior of an interface crack in a magnetoelectric sandwich structure under electric field: Effects of the poling directions. <i>Journal of Intelligent Material Systems and Structures</i> , 0, , 1045389X2110722.	1.4	0