

Zhenhua Tian

List of Publications by Year in descending order

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74
papers

2,371
citations

172457

29
h-index

214800

47
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75
all docs

75
docs citations

75
times ranked

1907
citing authors

#	ARTICLE	IF	CITATIONS
1	Wave numberâ€™s spiral acoustic tweezers for dynamic and reconfigurable manipulation of particles and cells. <i>Science Advances</i> , 2019, 5, eaau6062.	10.3	146
2	Dispersion tuning and route reconfiguration of acoustic waves in valley topological phononic crystals. <i>Nature Communications</i> , 2020, 11, 762.	12.8	135
3	Digital acoustofluidics enables contactless and programmable liquid handling. <i>Nature Communications</i> , 2018, 9, 2928.	12.8	134
4	Programmable Acoustic Metasurfaces. <i>Advanced Functional Materials</i> , 2019, 29, 1808489.	14.9	130
5	Lamb wave frequencyâ€™s wavenumber analysis and decomposition. <i>Journal of Intelligent Material Systems and Structures</i> , 2014, 25, 1107-1123.	2.5	106
6	Delamination detection and quantification on laminated composite structures with Lamb waves and wavenumber analysis. <i>Journal of Intelligent Material Systems and Structures</i> , 2015, 26, 1723-1738.	2.5	89
7	Lamb wave Structural Health Monitoring Using a Hybrid PZT-Laser Vibrometer Approach. <i>Structural Health Monitoring</i> , 2013, 12, 469-483.	7.5	79
8	A disposable acoustofluidic chip for nano/microparticle separation using unidirectional acoustic transducers. <i>Lab on A Chip</i> , 2020, 20, 1298-1308.	6.0	76
9	Acoustofluidic sonoporation for gene delivery to human hematopoietic stem and progenitor cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 10976-10982.	7.1	72
10	Crack imaging and quantification in aluminum plates with guided wave wavenumber analysis methods. <i>Ultrasonics</i> , 2015, 62, 203-212.	3.9	70
11	Guided wave phased array beamforming and imaging in composite plates. <i>Ultrasonics</i> , 2016, 68, 43-53.	3.9	69
12	Surface acoustic waves enable rotational manipulation of <i>Caenorhabditis elegans</i> . <i>Lab on A Chip</i> , 2019, 19, 984-992.	6.0	69
13	Harmonic acoustics for dynamic and selective particle manipulation. <i>Nature Materials</i> , 2022, 21, 540-546.	27.5	66
14	Acoustofluidic Holography for Micro- to Nanoscale Particle Manipulation. <i>ACS Nano</i> , 2020, 14, 14635-14645.	14.6	62
15	Generating multifunctional acoustic tweezers in Petri dishes for contactless, precise manipulation of bioparticles. <i>Science Advances</i> , 2020, 6, .	10.3	59
16	An acoustofluidic device for efficient mixing over a wide range of flow rates. <i>Lab on A Chip</i> , 2020, 20, 1238-1248.	6.0	56
17	Rapid guided wave delamination detection and quantification in composites using global-local sensing. <i>Smart Materials and Structures</i> , 2016, 25, 085042.	3.5	54
18	Guided wave imaging for detection and evaluation of impact-induced delamination in composites. <i>Smart Materials and Structures</i> , 2015, 24, 105019.	3.5	51

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19	Pulsed laser-scanning laser Doppler vibrometer (PL-SLDV) phased arrays for damage detection in aluminum plates. <i>Mechanical Systems and Signal Processing</i> , 2019, 121, 158-170.	8.0	46
20	Acoustic streaming vortices enable contactless, digital control of droplets. <i>Science Advances</i> , 2020, 6, eaba0606.	10.3	42
21	On-chip stool liquefaction <i>via</i> acoustofluidics. <i>Lab on A Chip</i> , 2019, 19, 941-947.	6.0	38
22	Electrochemical micro-aptasensors for exosome detection based on hybridization chain reaction amplification. <i>Microsystems and Nanoengineering</i> , 2021, 7, 63.	7.0	38
23	Rainbow trapping of ultrasonic guided waves in chirped phononic crystal plates. <i>Scientific Reports</i> , 2017, 7, 40004.	3.3	37
24	A Cell-Phone-Based Acoustofluidic Platform for Quantitative Point-of-Care Testing. <i>ACS Nano</i> , 2020, 14, 3159-3169.	14.6	36
25	Acoustohydrodynamic tweezers via spatial arrangement of streaming vortices. <i>Science Advances</i> , 2021, 7, .	10.3	34
26	Acoustofluidic multi-well plates for enrichment of micro/nano particles and cells. <i>Lab on A Chip</i> , 2020, 20, 3399-3409.	6.0	33
27	Acoustic tweezers based on circular, slanted-finger interdigital transducers for dynamic manipulation of micro-objects. <i>Lab on A Chip</i> , 2020, 20, 987-994.	6.0	32
28	Study on crack scattering in aluminum plates with Lamb wave frequency-wavenumber analysis. <i>Smart Materials and Structures</i> , 2013, 22, 065019.	3.5	31
29	Damage localization with fiber Bragg grating Lamb wave sensing through adaptive phased array imaging. <i>Structural Health Monitoring</i> , 2019, 18, 334-344.	7.5	31
30	Contactless, programmable acoustofluidic manipulation of objects on water. <i>Lab on A Chip</i> , 2019, 19, 3397-3404.	6.0	30
31	Visualization of solitary waves via laser Doppler vibrometry for heavy impurity identification in a granular chain. <i>Smart Materials and Structures</i> , 2013, 22, 035016.	3.5	29
32	Open source acoustofluidics. <i>Lab on A Chip</i> , 2019, 19, 2404-2414.	6.0	28
33	Core-skin debonding detection in honeycomb sandwich structures through guided wave wavefield analysis. <i>Journal of Intelligent Material Systems and Structures</i> , 2019, 30, 1306-1317.	2.5	28
34	Sonoporation: Past, Present, and Future. <i>Advanced Materials Technologies</i> , 2022, 7, .	5.8	28
35	Elastic Phased Diffraction Gratings for Manipulation of Ultrasonic Guided Waves in Solids. <i>Physical Review Applied</i> , 2019, 11, .	3.8	27
36	Fluorescence-based sorting of <i>Caenorhabditis elegans</i> <i>via</i> acoustofluidics. <i>Lab on A Chip</i> , 2020, 20, 1729-1739.	6.0	27

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37	Fabrication of tunable, high-molecular-weight polymeric nanoparticles <i>via</i> ultrafast acoustofluidic micromixing. Lab on A Chip, 2021, 21, 2453-2463.	6.0	27
38	Case study of guided wave propagation in a one-side water-immersed steel plate. Case Studies in Nondestructive Testing and Evaluation, 2015, 3, 1-8.	1.7	26
39	Acoustoelectronic nanotweezers enable dynamic and large-scale control of nanomaterials. Nature Communications, 2021, 12, 3844.	12.8	22
40	Low-frequency flexural wave based microparticle manipulation. Lab on A Chip, 2020, 20, 1281-1289.	6.0	21
41	Wavefront modulation and controlling for Lamb waves using surface bonded slice lenses. Journal of Applied Physics, 2017, 122, .	2.5	20
42	Acoustofluidic black holes for multifunctional in-droplet particle manipulation. Science Advances, 2022, 8, eabm2592.	10.3	17
43	Acoustofluidic Scanning Nanoscope with High Resolution and Large Field of View. ACS Nano, 2020, 14, 8624-8633.	14.6	16
44	Dispersion curve regression assisted wideband local wavenumber analysis for characterizing three-dimensional (3D) profile of hidden corrosion damage. Mechanical Systems and Signal Processing, 2021, 150, 107347.	8.0	14
45	Guided wave propagation study on laminated composites by frequency-wavenumber technique. , 2014, , .		11
46	Crack Detection and Evaluation in Grout Structures with Passive/Active Methods. Journal of Materials in Civil Engineering, 2016, 28, 04015168.	2.9	9
47	Crack detection with Lamb wave wavenumber analysis. , 2013, , .		8
48	Lamb Wave Propagation Study Using Frequency-Wavenumber Analysis. , 2012, , .		7
49	Guided Wave Delamination Detection and Quantification With Wavefield Data Analysis. , 2014, , .		6
50	Multi-site delamination detection and quantification in composites through guided wave based global-local sensing. AIP Conference Proceedings, 2017, , .	0.4	6
51	Lamb wave structural health monitoring using frequency-wavenumber analysis. AIP Conference Proceedings, 2013, , .	0.4	5
52	Water Level Sensing in a Steel Vessel Using A0 and Quasi-Scholte Waves. Journal of Sensors, 2017, 2017, 1-11.	1.1	5
53	Electrically Tunable Surface Acoustic Wave Propagation at MHz Frequencies Based on Carbon Nanotube Thin-Film Transistors. Advanced Functional Materials, 2021, 31, 2010744.	14.9	5
54	Ultrasonic gas accumulation detection and evaluation in nuclear cooling pipes. , 2012, , .		4

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55	Study on guided wave propagation in a water loaded plate with wavenumber analysis techniques. , 2014, , .		4
56	Guided wave damage detection with PZT-FBG sensing. , 2016, , .		3
57	Noncontact laser vibrometry-based fence-like arrays with wavefield filtering-assisted adaptive imaging algorithms for detecting multiple pits in a compact cluster. Structural Health Monitoring, 2020, , 147592172097692.	7.5	3
58	Gas Accumulation Detection in a Water Tank Using Lamb Waves. , 2012, , .		2
59	Single mode Lamb wave phased array beamforming with hybrid PZT-SLDV sensing. , 2014, , .		2
60	Wavenumber study of guided waves in aluminum honeycomb sandwich structures. Proceedings of SPIE, 2015, , .	0.8	2
61	Phased array beamforming and imaging in composite laminates using guided waves. , 2016, , .		2
62	A dual mode imaging array for damage detection in grout structures. , 2013, , .		1
63	Study of Guided Wave Propagation in Honeycomb Sandwich Structures. , 2014, , .		1
64	Damage Assessment in Metal Plates by Using Laser Vibrometer Measurements. Conference Proceedings of the Society for Experimental Mechanics, 2015, , 67-72.	0.5	1
65	Dual Mode Sensing of Crack Growth in Steel Bridge Structures. , 2012, , .		1
66	Guided Wave Sensing with Fiber Bragg Grating Optic Sensors and Embedment. , 0, , .		1
67	Simulation Study of Damage Identification Method Based on Lamb Wave Scattering in Aluminium Plate. Advanced Materials Research, 0, 383-390, 7362-7368.	0.3	0
68	Simulation Study of Damage Identification Method Based on Lamb Wave Scattering in Aluminium Plate. Advanced Materials Research, 0, 433-440, 2611-2618.	0.3	0
69	3D guided wave motion analysis on laminated composites. , 2014, , .		0
70	Damage Imaging and Quantification Using Spectral Field. , 2015, , .		0
71	Impact induced delamination detection and quantification with guided wavefield analysis. Proceedings of SPIE, 2015, , .	0.8	0
72	Damage Detection With Guided Waves and Fiber Bragg Grating Sensor Arrays. , 2016, , .		0

#	ARTICLE	IF	CITATIONS
73	Damage Detection in Thick Steel Plates Using Guided Ultrasonic Waves and Non-Contact Laser Vibrometry. , 2016, , .		0
74	Damage Detection in Composite Structures With Wavenumber Array Data Processing. , 2013, , .		0