Ruochen Lu

List of Publications by Year
in descending order

86 papers	1,819 citations	331670 21 h-index	345221 36 g-index
86 all docs	86 docs citations	86 times ranked	528 citing authors

#	Article	IF	Citations
1	Surface Acoustic Wave Devices Using Lithium Niobate on Silicon Carbide. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 3653-3666.	4.6	93
2	A1 Resonators in 128Â° Y-cut Lithium Niobate with Electromechanical Coupling of 46.4%. Journal of Microelectromechanical Systems, 2020, 29, 313-319.	2.5	88
3	Accurate Extraction of Large Electromechanical Coupling in Piezoelectric MEMS Resonators. Journal of Microelectromechanical Systems, 2019, 28, 209-218.	2.5	80
4	4.5 GHz Lithium Niobate MEMS Filters With 10% Fractional Bandwidth for 5G Front-Ends. Journal of Microelectromechanical Systems, 2019, 28, 575-577.	2.5	77
5	5 Ghz lithium niobate MEMS resonators with high FoM of 153. , 2017, , .		75
6	Microwave Acoustic Devices: Recent Advances and Outlook. IEEE Journal of Microwaves, 2021, 1, 601-609.	6.5	75
7	Toward Ka Band Acoustics: Lithium Niobate Asymmetrical Mode Piezoelectric MEMS Resonators. , 2018, , .		70
8	10â€“60-GHz Electromechanical Resonators Using Thin-Film Lithium Niobate. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 5211-5220.	4.6	70
9	RF acoustic microsystems based on suspended lithium niobate thin films: advances and outlook. Journal of Micromechanics and Microengineering, 2021, 31, 114001.	2.6	55
10	Gigahertz Low-Loss and Wideband S0 Mode Lithium Niobate Acoustic Delay Lines. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2019, 66, 1373-1386.	3.0	49
11	Analysis and Removal of Spurious Response in SH0 Lithium Niobate MEMS Resonators. IEEE Transactions on Electron Devices, 2016, 63, 2066-2073.	3.0	46
12	High Q Antisymmetric Mode Lithium Niobate MEMS Resonators With Spurious Mitigation. Journal of Microelectromechanical Systems, 2020, 29, 135-143.	2.5	42
13	Low-Loss and Wideband Acoustic Delay Lines. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 1379-1391.	4.6	40
14	Nanowatt-Level Wakeup Receiver Front Ends Using MEMS Resonators for Impedance Transformation. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 1615-1627.	4.6	40
15	Enabling Higher Order Lamb Wave Acoustic Devices With Complementarily Oriented Piezoelectric Thin Films. Journal of Microelectromechanical Systems, 2020, 29, 1332-1346.	2.5	40
16	A Radio Frequency Nonreciprocal Network Based on Switched Acoustic Delay Lines. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 1516-1530.	4.6	37
17	GHz Broadband SH0 Mode Lithium Niobate Acoustic Delay Lines. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 402-412.	3.0	35
18	Scaling Acoustic Filters Towards 5G. , 2018, , .		33

#	Article	IF	Citations
19	Exploiting parallelism in resonators for large voltage gain in low power wake up radio front ends. , 2018, , .		33
20	5-GHz Antisymmetric Mode Acoustic Delay Lines in Lithium Niobate Thin Film. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 573-589.	4.6	31
21	Lithium Niobate MEMS Chirp Compressors for Near Zero Power Wake-Up Radios. Journal of Microelectromechanical Systems, 2017, 26, 1204-1215.	2.5	30
22	Optimized Resonators for Piezoelectric Power Conversion. IEEE Open Journal of Power Electronics, 2021, 2, 212-224.	5.7	30
23	Study of thermal nonlinearity in lithium niobate-based MEMS resonators. , 2015, , .		28
24	Lateral Spurious Mode Suppression in Lithium Niobate A1 Resonators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1930-1937.	3.0	27
25	Lithium Niobate Phononic Crystals for Tailoring Performance of RF Laterally Vibrating Devices. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 934-944.	3.0	26
26	RF Filters with Periodic Passbands for Sparse Fourier Transform-Based Spectrum Sensing. Journal of Microelectromechanical Systems, 2018, 27, 931-944.	2.5	25
27	A high FoM lithium niobate resonant transformer for passive voltage amplification. , 2017, , .		23
28	S0-Mode Lithium Niobate Acoustic Delay Lines with 1 dB Insertion Loss. , 2018, , .		22
29	Near-Zero Drift and High Electromechanical Coupling Acoustic Resonators at > 3.5 GHz. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 3706-3714.	4.6	21
30	Acoustic Loss in Thin-Film Lithium Niobate: An Experimental Study. Journal of Microelectromechanical Systems, 2021, 30, 632-641.	2.5	21
31	Low-Loss 5-GHz First-Order Antisymmetric Mode Acoustic Delay Lines in Thin-Film Lithium Niobate. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 541-550.	4.6	20
32	An SH0 lithium niobate correlator for orthogonal frequency coded spread spectrum communications. , 2017, , .		17
33	AÂFrequency Independent Framework for Synthesis of Programmable Non-reciprocal Networks. Scientific Reports, 2018, 8, 14655.	3.3	17
34	Temperature Stability Analysis of Thin-Film Lithium Niobate SH0 Plate Wave Resonators. Journal of Microelectromechanical Systems, 2019, 28, 799-809.	2.5	17
35	Gigahertz Low-Loss and High Power Handling Acoustic Delay Lines Using Thin-Film Lithium-Niobate-on-Sapphire. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 3246-3254.	4.6	17
36	Lithium niobate lateral overtone resonators for low power frequency-hopping applications. , 2018, , .		16

#	Article	IF	Citations
37	Aluminum Nitride Lamb Wave Delay Lines With Sub-6 dB Insertion Loss. Journal of Microelectromechanical Systems, 2019, 28, 569-571.	2.5	16
38	Piezoelectric RF resonant voltage amplifiers for IoT applications. , 2016, , .		15
39	Low Phase Noise RF Oscillators Based on Thin-Film Lithium Niobate Acoustic Delay Lines. Journal of Microelectromechanical Systems, 2020, 29, 129-131.	2.5	15
40	Surface Acoustic Wave Resonators Using Lithium Niobate on Silicon Carbide Platform. , 2020, , .		14
41	A non-resonant, gravity-induced micro triboelectric harvester to collect kinetic energy from low-frequency jiggling movements of human limbs. Journal of Micromechanics and Microengineering, 2014, 24, 065010.	2.6	13
42	A Piezoelectric Micromachined Ultrasonic Transducer Using Thin-Film Lithium Niobate. Journal of Microelectromechanical Systems, 2020, 29, 1412-1414.	2.5	13
43	An SH0 Lithium Niobate dispersive delay line for chirp compression-enabled low power radios. , 2017, , .		12
44	Lithium niobate MEMS devices and subsystems for radio frequency signal processing. , 2017, , .		12
45	1.7 GHz Y-Cut Lithium Niobate MEMS Resonators with FoM of336 andfQ of9.15Ã—10¹². , 2018, , .		12
46	A 1.65 GHz Lithium Niobate A1 Resonator with Electromechanical Coupling of 14% and Q of 3112. , 2019, , .		12
47	Q-enhanced Lithium Niobate SH0 Resonators with Optimized Acoustic Boundaries. , 2019, , .		12
48	A 150 MHz voltage controlled oscillator using lithium niobate RF-MEMS resonator. , 2017, , .		11
49	A Highly Reconfigurable Bit-Level Duty-Cycled TRF Receiver Achieving âˆ’106-dBm Sensitivity and 33-nW Average Power Consumption. IEEE Solid-State Circuits Letters, 2019, 2, 309-312.	2.0	11
50	A Unidirectional Transducer Design for Scaling GHz AlN-Based RF Microsystems. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 1250-1257.	3.0	11
51	A Wideband Oscillator Exploiting Multiple Resonances in Lithium Niobate MEMS Resonator. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 1854-1866.	3.0	11
52	Acoustic Loss of GHz Higher-Order Lamb Waves in Thin-Film Lithium Niobate: A Comparative Study. Journal of Microelectromechanical Systems, 2021, 30, 876-884.	2.5	10
53	A 15.8 GHz A6 Mode Resonator with Q of 720 in Complementarily Oriented Piezoelectric Lithium Niobate Thin Films. , 2021, , .		10
54	An A1 Mode Resonator at 12 GHz using 160nm Lithium Niobate Suspended Thin Film. , 2021, , .		10

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55	GHz Low-Loss Acoustic RF Couplers in Lithium Niobate Thin Film. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 1448-1461.	3.0	9
56	Fixed-Frequency Control of Piezoelectric Resonator DC-DC Converters for Spurious Mode Avoidance. IEEE Open Journal of Power Electronics, 2021, 2, 582-590.	5.7	9
57	Power-Efficient Ovenized Lithium Niobate SH0 Resonator Arrays with Passive Temperature Compensation. , 2019, , .		7
58	Boosting Qs of AlN Resonators by Redefining Acoustic Boundaries. , 2019, , .		7
59	Advancing Lithium Niobate Based Thin Film Devices for 5G Front-Ends. , 2019, , .		7
60	A 300-500 MHz Tunable Oscillator Exploiting Ten Overtones in Single Lithium Niobate Resonator. , 2019, , .		7
61	Low-Loss Unidirectional Acoustic Focusing Transducer in Thin-Film Lithium Niobate. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 2731-2737.	3.0	7
62	A Laterally Vibrating Lithium Niobate MEMS Resonator Array Operating at 500 Â°C in Air. Sensors, 2021, 21, 149.	3.8	7
63	5 GHz A1 Mode Lateral Overtone Bulk Acoustic Resonators in Thin-Film Lithium Niobate. , 2020, , .		7
64	Resonant Torsional Micro-Actuators Using Thin-Film Lithium Niobate. , 2019, , .		6
65	Mitigation of AO spurious modes in AlN MEMS resonators with SiO2 addendums. , 2016, , .		5
66	A Chip-Scale RF MEMS Gyrator via Hybridizing Lorentz-Force and Piezoelectric Transductions. , 2019, , .		5
67	Visualization of acoustic power flow in suspended thin-film lithium niobate phononic devices. Applied Physics Letters, 2021, 119, .	3.3	5
68	High speed mid-infrared detectors based on MEMS resonators and spectrally selective metamaterials. , 2016, , .		4
69	An SH0 lithium niobate trans-impedance chirp compressor with high voltage gain. , 2018, , .		4
70	Towards Digitally Addressable Delay Synthesis: GHZ Low-Loss Acoustic Delay Elements from 20 NS to 900 NS. , 2019, , .		4
71	A C-band Lithium Niobate MEMS Filter with 10% Fractional Bandwidth for 5G Front-ends. , 2019, , .		4
72	5 GHz Acoustic Delay Lines using Antisymmetric Mode in Lithium Niobate Thin Film. , 2019, , .		4

#	Article	IF	Citations
73	Thin-Film Lithium Niobate Acoustic Delay Line Oscillators. , 2020, , .		4
74	Thin-Film Lithium Niobate Based Piezoelectric Micromachined Ultrasound Transducers. , 2020, , .		3
75	Parametric excitation in geometrically optimized AlN contour mode resonators. , 2015, , .		2
76	Lithium niobate phononic crystals for radio frequency SH0 waves. , 2017, , .		2
77	A Radio Frequency Non-Reciprocal Network Based on Switched Low-Loss Acoustic Delay Lines. , 2018, , .		2
78	A Radio Frequency Comb Filter for Sparse Fourier Transform-Based Spectrum Sensing. , 2018, , .		2
79	5.4 GHz Acoustic Delay Lines in Lithium Niobate Thin Film with 3 dB Insertion Loss. , 2020, , .		2
80	8.5 GHz and 11.5 GHz Acoustic Delay Lines Using Higher-Order Lamb Modes in Lithium Niobate Thin Film. , 2020, , .		2
81	Low-Loss and High Power Handling Acoustic Delay Lines Using Thin-Film Lithium Niobate on Sapphire. , 2021, , .		2
82	Simultaneous wireless power transfer and communication to chip-scale devices. , 2017, , .		1
83	Enabling Channelizing Filters for High Impedance Nodes with Temperature Compensated Lamb-Wave Resonators. , 2020, , .		1
84	Power Flow Angles of GHz Propagating Acoustic Waves in Thin-Film Lithium Niobate. , 2021, , .		1
85	Suppression of Spurious Modes in Lithium Niobate A1 Resonators Using Dispersion Matching. , 2020, , .		1
86	A C-band Lithium Niobate MEMS Filter with 10% Fractional Bandwidth for 5G Front-ends. , 2019, , .		0