Songbin Gong

List of Publications by Year
in descending order

125 papers	2,884 citations	159585 30 h-index	223800 46 g-index
125 all docs	125 docs citations	125 times ranked	1195 citing authors

#	Article	IF	Citations
1	Design and Analysis of Lithiumâ€“Niobate-Based High Electromechanical Coupling RF-MEMS Resonators for Wideband Filtering. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 403-414.	4.6	234
2	Surface Acoustic Wave Devices Using Lithium Niobate on Silicon Carbide. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 3653-3666.	4.6	93
3	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
4	Accurate Extraction of Large Electromechanical Coupling in Piezoelectric MEMS Resonators. Journal of Microelectromechanical Systems, 2019, 28, 209-218.	2.5	80
5	GHz High-Q Lateral Overmoded Bulk Acoustic-Wave Resonators Using Epitaxial SiC Thin Film. Journal of Microelectromechanical Systems, 2012, 21, 253-255.	2.5	79
6	Figure-of-Merit Enhancement for Laterally Vibrating Lithium Niobate MEMS Resonators. IEEE Transactions on Electron Devices, 2013, 60, 3888-3894.	3.0	79
7	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
8	5 Ghz lithium niobate MEMS resonators with high FoM of 153. , 2017, , .		75
9	Microwave Acoustic Devices: Recent Advances and Outlook. IEEE Journal of Microwaves, 2021, 1, 601-609.	6.5	75
10	Three-dimensional radio-frequency transformers based on a self-rolled-up membrane platform. Nature Electronics, 2018, 1, 305-313.	26.0	71
11	Toward Ka Band Acoustics: Lithium Niobate Asymmetrical Mode Piezoelectric MEMS Resonators. , 2018, , .		70
12	10â€“60-GHz Electromechanical Resonators Using Thin-Film Lithium Niobate. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 5211-5220.	4.6	70
13	Ultra-Small, High-Frequency and Substrate-Immune Microtube Inductors Transformed from 2D to 3D. Scientific Reports, 2015, 5, 9661.	3.3	56
14	RF acoustic microsystems based on suspended lithium niobate thin films: advances and outlook. Journal of Micromechanics and Microengineering, 2021, 31, 114001.	2.6	55
15	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
16	Analysis and Removal of Spurious Response in SH0 Lithium Niobate MEMS Resonators. IEEE Transactions on Electron Devices, 2016, 63, 2066-2073.	3.0	46
17	High Q Antisymmetric Mode Lithium Niobate MEMS Resonators With Spurious Mitigation. Journal of Microelectromechanical Systems, 2020, 29, 135-143.	2.5	42
18	Low-Loss and Wideband Acoustic Delay Lines. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 1379-1391.	4.6	40

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19	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
20	Enabling Higher Order Lamb Wave Acoustic Devices With Complementarily Oriented Piezoelectric Thin Films. Journal of Microelectromechanical Systems, 2020, 29, 1332-1346.	2.5	40
21	Elimination of Spurious Modes in SH0 Lithium Niobate Laterally Vibrating Resonators. IEEE Electron Device Letters, 2015, 36, 1198-1201.	3.9	39
22	Realization of alignment-tolerant grating couplers for z-cut thin-film lithium niobate. Optics Express, 2019, 27, 15856.	3.4	39
23	Acoustically driven electromagnetic radiating elements. Scientific Reports, 2020, 10, 17006.	3.3	38
24	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
25	Monolithic Multi-Frequency Wideband RF Filters Using Two-Port Laterally Vibrating Lithium Niobate MEMS Resonators. Journal of Microelectromechanical Systems, 2014, 23, 1188-1197.	2.5	36
26	GHz Broadband SH0 Mode Lithium Niobate Acoustic Delay Lines. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 402-412.	3.0	35
27	Monolithic mtesla-level magnetic induction by self-rolled-up membrane technology. Science Advances, 2020, 6, eaay4508.	10.3	35
28	Scaling Acoustic Filters Towards 5G. , 2018, , .		33
29	Exploiting parallelism in resonators for large voltage gain in low power wake up radio front ends. , 2018, , .		33
30	A theoretical study of acoustically driven antennas. Journal of Applied Physics, 2020, 127, .	2.5	33
31	High performance fully etched isotropic microring resonators in thin-film lithium niobate on insulator platform. Optics Express, 2019, 27, 22025.	3.4	32
32	Harnessing Mode Conversion for Spurious Mode Suppression in AlN Laterally Vibrating Resonators. Journal of Microelectromechanical Systems, 2016, 25, 450-458.	2.5	31
33	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
34	Lithium Niobate MEMS Chirp Compressors for Near Zero Power Wake-Up Radios. Journal of Microelectromechanical Systems, 2017, 26, 1204-1215.	2.5	30
35	Fundamental electro-optic limitations of thin-film lithium niobate microring modulators. Optics Express, 2020, 28, 13731.	3.4	29
36	Study of thermal nonlinearity in lithium niobate-based MEMS resonators. , 2015, , .		28

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37	Lateral Spurious Mode Suppression in Lithium Niobate A1 Resonators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1930-1937.	3.0	27
38	Wideband Spurious-Free Lithium Niobate RF-MEMS Filters. Journal of Microelectromechanical Systems, 2017, 26, 820-828.	2.5	26
39	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
40	RF Filters with Periodic Passbands for Sparse Fourier Transform-Based Spectrum Sensing. Journal of Microelectromechanical Systems, 2018, 27, 931-944.	2.5	25
41	A high FoM lithium niobate resonant transformer for passive voltage amplification. , 2017, , .		23
42	Ultra-efficient and fully isotropic monolithic microring modulators in a thin-film lithium niobate photonics platform. Optics Express, 2020, 28, 29644.	3.4	23
43	S0-Mode Lithium Niobate Acoustic Delay Lines with 1 dB Insertion Loss. , 2018, , .		22
44	X-Band Miniature Filters Using Lithium Niobate Acoustic Resonators and Bandwidth Widening Technique. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 1602-1610.	4.6	22
45	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
46	Acoustic Loss in Thin-Film Lithium Niobate: An Experimental Study. Journal of Microelectromechanical Systems, 2021, 30, 632-641.	2.5	21
47	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
48	A Synthesis Approach to Acoustic Wave Ladder Filters and Duplexers Starting With Shunt Resonator. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 629-638.	4.6	20
49	Monolithic Heterogeneous Integration of 3D Radio Frequency Lâ”C Elements by Selfâ€Rolledâ€Up Membrane Nanotechnology. Advanced Functional Materials, 2020, 30, 2004034.	14.9	19
50	An SH0 lithium niobate correlator for orthogonal frequency coded spread spectrum communications. , 2017, , .		17
51	AÂFrequency Independent Framework for Synthesis of Programmable Non-reciprocal Networks. Scientific Reports, 2018, 8, 14655.	3.3	17
52	Temperature Stability Analysis of Thin-Film Lithium Niobate SH0 Plate Wave Resonators. Journal of Microelectromechanical Systems, 2019, 28, 799-809.	2.5	17
53	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
54	Micromachined sapphire GHz lateral overtone bulk acoustic resonators transduced by aluminum nitride. , 2012, , .		16

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55	Wideband RF Filters Using Medium-Scale Integration of Lithium Niobate Laterally Vibrating Resonators. IEEE Electron Device Letters, 2017, 38, 387-390.	3.9	16
56	Lithium niobate lateral overtone resonators for low power frequency-hopping applications. , 2018, , .		16
57	Aluminum Nitride Lamb Wave Delay Lines With Sub-6 dB Insertion Loss. Journal of Microelectromechanical Systems, 2019, 28, 569-571.	2.5	16
58	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
59	Efficient and wideband acousto-optic modulation on thin-film lithium niobate for microwave-to-photonic conversion. Photonics Research, 2021, 9, 1182.	7.0	15
60	Surface Acoustic Wave Resonators Using Lithium Niobate on Silicon Carbide Platform. , 2020, , .		14
61	Wideband Hybrid Monolithic Lithium Niobate Acoustic Filter in the K-Band. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1408-1417.	3.0	14
62	Tutorial: Piezoelectric and magnetoelectric N/MEMSâ€”Materials, devices, and applications. Journal of Applied Physics, 2022, 131, .	2.5	14
63	Arraying SH0 Lithium Niobate laterally vibrating resonators for mitigation of higher order spurious modes. , 2016, , .		13
64	A Piezoelectric Micromachined Ultrasonic Transducer Using Thin-Film Lithium Niobate. Journal of Microelectromechanical Systems, 2020, 29, 1412-1414.	2.5	13
65	An SH0 Lithium Niobate dispersive delay line for chirp compression-enabled low power radios. , 2017, , .		12
66	Lithium niobate MEMS devices and subsystems for radio frequency signal processing. , 2017, , .		12
67	A non-magnetic gyrator utilizing switched delay lines. , 2017, , .		12
68	A 1.65 GHz Lithium Niobate A1 Resonator with Electromechanical Coupling of 14% and Q of 3112. , 2019, , .		12
69	Q-enhanced Lithium Niobate SH0 Resonators with Optimized Acoustic Boundaries. , 2019, , .		12
70	A 150 MHz voltage controlled oscillator using lithium niobate RF-MEMS resonator. , 2017, , .		11
71	A 3.5 GHz AlN S1 lamb mode resonator. , 2017, , .		11
72	A Ku-Band Oscillator Utilizing Overtone Lithium Niobate RF-MEMS Resonator for 5G. IEEE Microwave and Wireless Components Letters, 2020, 30, 681-684.	3.2	11

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73	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
74	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
75	Integrated photonics for NASA applications. , 2019, , .		11
76	Weighted electrode configuration for electromechanical coupling enhancement in a new class of micromachined Lithium Niobate laterally vibrating resonators. , 2012, , .		10
77	Overmoded shear horizontal wave MEMS resonators using X-cut lithium niobate thin film. , 2014, , .		10
78	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
79	A 15.8 GHz A6 Mode Resonator with Q of 720 in Complementarily Oriented Piezoelectric Lithium Niobate Thin Films. , 2021, , .		10
80	An A1 Mode Resonator at 12 GHz using 160nm Lithium Niobate Suspended Thin Film. , 2021, , .		10
81	CMOS-compatible on-chip self-rolled-up inductors for RF/mm-wave applications. , 2017, , .		9
82	A Tunable Low-Power Oscillator Based on High-<inline-formula> <tex-math notation="LaTeX">Q </tex-math> </inline-formula> Lithium Niobate MEMS Resonators and 65-nm CMOS. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 5708-5723.	4.6	9
83	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
84	Compact MZI modulators on thin film Z-cut lithium niobate. Optics Express, 2022, 30, 4543.	3.4	9
85	Large frequency tuning of Lithium Niobate laterally vibrating MEMS resonators via electric boundary reconfiguration. , 2013, , .		8
86	Feasibility of Intraocular Projection for Treatment of Intractable Corneal Opacity. Cornea, 2019, 38, 523-527.	1.7	8
87	Hybrid Bandpass-Absorptive-Bandstop Magnetically Coupled Acoustic-Wave-Lumped-Element-Resonator Filters. IEEE Microwave and Wireless Components Letters, 2018, 28, 582-584.	3.2	7
88	Advancing Lithium Niobate Based Thin Film Devices for 5G Front-Ends. , 2019, , .		7
89	A 300-500 MHz Tunable Oscillator Exploiting Ten Overtones in Single Lithium Niobate Resonator. , 2019, , .		7
90	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

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91	Lithium Niobate for M/NEMS Resonators. Microsystems and Nanosystems, 2017, , 99-129.	0.1	7
92	A Laterally Vibrating Lithium Niobate MEMS Resonator Array Operating at 500 Â°C in Air. Sensors, 2021, 21, 149.	3.8	7
93	5 GHz A1 Mode Lateral Overtone Bulk Acoustic Resonators in Thin-Film Lithium Niobate. , 2020, , .		7
94	Mitigation of AO spurious modes in AlN MEMS resonators with SiO2 addendums. , 2016, , .		5
95	An X-band Lithium Niobate Acoustic RFFE Filter with FBW of 3.45% and IL of 2.7 dB. , 2020, , .		5
96	Visualization of acoustic power flow in suspended thin-film lithium niobate phononic devices. Applied Physics Letters, 2021, 119, .	3.3	5
97	High speed mid-infrared detectors based on MEMS resonators and spectrally selective metamaterials. , 2016, , .		4
98	A C-band Lithium Niobate MEMS Filter with 10% Fractional Bandwidth for 5G Front-ends. , 2019, , .		4
99	5 GHz Acoustic Delay Lines using Antisymmetric Mode in Lithium Niobate Thin Film. , 2019, , .		4
100	A 19 GHz Lithium Niobate Acoustic Filter with FBW of 2.4%. , 2020, , .		4
101	Thin-Film Lithium Niobate Acoustic Delay Line Oscillators. , 2020, , .		4
102	L- and X-Band Dual-Frequency Synthesizer Utilizing Lithium Niobate RF-MEMS and Open-Loop Frequency Dividers. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1994-2004.	3.0	4
103	A 14.7 GHz Lithium Niobate Acoustic Filter with Fractional Bandwidth of 2.93%. , 2020, , .		4
104	A Miniaturized Acoustic Dual-Band Bandpass Filter using Thin-Film Lithium Niobate. , 2021, , .		4
105	Simultaneous analog tuning of the series- and anti-resonances of acoustic wave resonators. , 2018, , .		3
106	Thin-Film Lithium Niobate Based Piezoelectric Micromachined Ultrasound Transducers. , 2020, , .		3
107	An Isotropic Lithium Niobate Microring Resonator with a 1.38-nm Wide Continuous Tuning Range using 80 V. , 2020, , .		3
108	Investigating Substrate Loss in MEMS Acoustic Resonators and On-Chip Inductors. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2022, 69, 2178-2189.	3.0	3

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109	Parametric excitation in geometrically optimized AlN contour mode resonators. , 2015, , .		2
110	Self-rolled-up tube transformers: Extreme miniaturization and performance enhancement. , 2015, , .		2
111	Lithium niobate phononic crystals for radio frequency SH0 waves. , 2017, , .		2
112	A Radio Frequency Non-Reciprocal Network Based on Switched Low-Loss Acoustic Delay Lines. , 2018, , .		2
113	A Radio Frequency Comb Filter for Sparse Fourier Transform-Based Spectrum Sensing. , 2018, , .		2
114	High-quality CoFe2O4 thin films with large coercivity grown via a wet chemical route. AIP Advances, 2019, 9, .	1.3	2
115	Characterization of an Electronic Corneal Prosthesis System. Current Eye Research, 2020, 45, 914-920.	1.5	2
116	5.4 GHz Acoustic Delay Lines in Lithium Niobate Thin Film with 3 dB Insertion Loss. , 2020, , .		2
117	Low-Loss and High Power Handling Acoustic Delay Lines Using Thin-Film Lithium Niobate on Sapphire. , 2021, , .		2
118	Understanding Substrate Loss in Microwave Acoustic Resonators. , 2021, , .		2
119	An Acoustic Resonator with Electromechanical Coupling of 16% and Low TCF at 5.4 GHz. , 2021, , .		2
120	Theory of Coupled Harmonics and Its Application to Resonant and Non-Resonant Electro-Optic Modulators. Journal of Lightwave Technology, 2020, 38, 5756-5767.	4.6	1
121	Power Flow Angles of GHz Propagating Acoustic Waves in Thin-Film Lithium Niobate. , 2021, , .		1
122	Suppression of Spurious Modes in Lithium Niobate A1 Resonators Using Dispersion Matching. , 2020, , .		1
123	Characterization of lithium niobate microdisk resonators with grating couplers. , 2017, , .		0
124	A C-band Lithium Niobate MEMS Filter with 10% Fractional Bandwidth for 5G Front-ends. , 2019, , .		0
125	An X-Band Oscillator Utilizing Overtone Lithium Niobate MEMS Resonator and 65-nm CMOS. , 2020, , .		0