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	Compact MZI modulators on thin film Z-cut lithium niobate. Optics Express, 2022, 30, 4543.	3.4	9
2	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
3	Tutorial: Piezoelectric and magnetoelectric N/MEMSâ€"Materials, devices, and applications. Journal of Applied Physics, 2022, 131, .	2.5	14
4	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
5	Wideband Hybrid Monolithic Lithium Niobate Acoustic Filter in the <i>K</i>-Band. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1408-1417.	3.0	14
6	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
7	Microwave Acoustic Devices: Recent Advances and Outlook. IEEE Journal of Microwaves, 2021, 1, 601-609.	6.5	75
8	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
9	Efficient and wideband acousto-optic modulation on thin-film lithium niobate for microwave-to-photonic conversion. Photonics Research, 2021, 9, 1182.	7.0	15
10	<i>L</i>- and <i>X</i>-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
11	Lateral Spurious Mode Suppression in Lithium Niobate A1 Resonators. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 1930-1937.	3.0	27
12	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
13	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
14	Acoustic Loss in Thin-Film Lithium Niobate: An Experimental Study. Journal of Microelectromechanical Systems, 2021, 30, 632-641.	2.5	21
15	RF acoustic microsystems based on suspended lithium niobate thin films: advances and outlook. Journal of Micromechanics and Microengineering, 2021, 31, 114001.	2.6	55
16	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
17	A Laterally Vibrating Lithium Niobate MEMS Resonator Array Operating at 500 Â°C in Air. Sensors, 2021, 21, 149.	3.8	7
18	Low-Loss and High Power Handling Acoustic Delay Lines Using Thin-Film Lithium Niobate on Sapphire. , 2021, , .		2

#	Article	IF	Citations
19	A 15.8 GHz A6 Mode Resonator with Q of 720 in Complementarily Oriented Piezoelectric Lithium Niobate Thin Films. , 2021, , .		10
20	Power Flow Angles of GHz Propagating Acoustic Waves in Thin-Film Lithium Niobate. , 2021, , .		1
21	A Miniaturized Acoustic Dual-Band Bandpass Filter using Thin-Film Lithium Niobate. , 2021, , .		4
22	Understanding Substrate Loss in Microwave Acoustic Resonators. , 2021, , .		2
23	An Acoustic Resonator with Electromechanical Coupling of 16% and Low TCF at 5.4 GHz. , 2021, , .		2
24	An A1 Mode Resonator at 12 GHz using 160nm Lithium Niobate Suspended Thin Film. , 2021, , .		10
25	Visualization of acoustic power flow in suspended thin-film lithium niobate phononic devices. Applied Physics Letters, 2021, 119, .	3.3	5
26	Characterization of an Electronic Corneal Prosthesis System. Current Eye Research, 2020, 45, 914-920.	1.5	2
27	Acoustically driven electromagnetic radiating elements. Scientific Reports, 2020, 10, 17006.	3.3	38
28	A Piezoelectric Micromachined Ultrasonic Transducer Using Thin-Film Lithium Niobate. Journal of Microelectromechanical Systems, 2020, 29, 1412-1414.	2.5	13
29	Enabling Higher Order Lamb Wave Acoustic Devices With Complementarily Oriented Piezoelectric Thin Films. Journal of Microelectromechanical Systems, 2020, 29, 1332-1346.	2.5	40
30	Surface Acoustic Wave Devices Using Lithium Niobate on Silicon Carbide. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 3653-3666.	4.6	93
31	Monolithic Heterogeneous Integration of 3D Radio Frequency Lâˆ'C Elements by Selfâ€Rolledâ€Up Membrane Nanotechnology. Advanced Functional Materials, 2020, 30, 2004034.	14.9	19
32	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
33	An X-band Lithium Niobate Acoustic RFFE Filter with FBW of 3.45% and IL of 2.7 dB. , 2020, , .		5
34	5.4 GHz Acoustic Delay Lines in Lithium Niobate Thin Film with 3 dB Insertion Loss. , 2020, , .		2
35	Surface Acoustic Wave Resonators Using Lithium Niobate on Silicon Carbide Platform. , 2020, , .		14
36	10â€"60-GHz Electromechanical Resonators Using Thin-Film Lithium Niobate. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 5211-5220.	4.6	70

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37	Thin-Film Lithium Niobate Based Piezoelectric Micromachined Ultrasound Transducers. , 2020, , .		3
38	A 19 GHz Lithium Niobate Acoustic Filter with FBW of 2.4%. , 2020, , .		4
39	Thin-Film Lithium Niobate Acoustic Delay Line Oscillators. , 2020, , .		4
40	A <i>Ku</i>-Band Oscillator Utilizing Overtone Lithium Niobate RF-MEMS Resonator for 5G. IEEE Microwave and Wireless Components Letters, 2020, 30, 681-684.	3.2	11
41	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
42	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
43	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
44	High Q Antisymmetric Mode Lithium Niobate MEMS Resonators With Spurious Mitigation. Journal of Microelectromechanical Systems, 2020, 29, 135-143.	2.5	42
45	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
46	GHz Broadband SH0 Mode Lithium Niobate Acoustic Delay Lines. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 402-412.	3.0	35
47	Monolithic mtesla-level magnetic induction by self-rolled-up membrane technology. Science Advances, 2020, 6, eaay4508.	10.3	35
48	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
49	A theoretical study of acoustically driven antennas. Journal of Applied Physics, 2020, 127, .	2.5	33
50	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
51	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
52	Fundamental electro-optic limitations of thin-film lithium niobate microring modulators. Optics Express, 2020, 28, 13731.	3.4	29
53	Ultra-efficient and fully isotropic monolithic microring modulators in a thin-film lithium niobate photonics platform. Optics Express, 2020, 28, 29644.	3.4	23
54	An X-Band Oscillator Utilizing Overtone Lithium Niobate MEMS Resonator and 65-nm CMOS. , 2020, , .		0

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55	A 14.7 GHz Lithium Niobate Acoustic Filter with Fractional Bandwidth of 2.93%. , 2020, , .		4
56	An Isotropic Lithium Niobate Microring Resonator with a 1.38-nm Wide Continuous Tuning Range using 80 V. , 2020, , .		3
57	Suppression of Spurious Modes in Lithium Niobate A1 Resonators Using Dispersion Matching. , 2020, , .		1
58	5 GHz A1 Mode Lateral Overtone Bulk Acoustic Resonators in Thin-Film Lithium Niobate. , 2020, , .		7
59	Aluminum Nitride Lamb Wave Delay Lines With Sub-6 dB Insertion Loss. Journal of Microelectromechanical Systems, 2019, 28, 569-571.	2.5	16
60	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
61	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
62	A 1.65 GHz Lithium Niobate A1 Resonator with Electromechanical Coupling of 14% and Q of 3112. , 2019, , .		12
63	Temperature Stability Analysis of Thin-Film Lithium Niobate SH0 Plate Wave Resonators. Journal of Microelectromechanical Systems, 2019, 28, 799-809.	2.5	17
64	Advancing Lithium Niobate Based Thin Film Devices for 5G Front-Ends. , 2019, , .		7
65	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
66	High-quality CoFe2O4 thin films with large coercivity grown via a wet chemical route. AIP Advances, 2019, 9, .	1.3	2
67	Low-Loss and Wideband Acoustic Delay Lines. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 1379-1391.	4.6	40
68	Accurate Extraction of Large Electromechanical Coupling in Piezoelectric MEMS Resonators. Journal of Microelectromechanical Systems, 2019, 28, 209-218.	2.5	80
69	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
70	Q-enhanced Lithium Niobate SH0 Resonators with Optimized Acoustic Boundaries. , 2019, , .		12
71	A C-band Lithium Niobate MEMS Filter with 10% Fractional Bandwidth for 5G Front-ends. , 2019, , .		4
72	A C-band Lithium Niobate MEMS Filter with 10% Fractional Bandwidth for 5G Front-ends. , 2019, , .		0

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73	Feasibility of Intraocular Projection for Treatment of Intractable Corneal Opacity. Cornea, 2019, 38, 523-527.	1.7	8
74	5 GHz Acoustic Delay Lines using Antisymmetric Mode in Lithium Niobate Thin Film. , 2019, , .		4
75	A 300-500 MHz Tunable Oscillator Exploiting Ten Overtones in Single Lithium Niobate Resonator. , 2019, , .		7
76	Integrated photonics for NASA applications. , 2019, , .		11
77	Realization of alignment-tolerant grating couplers for z-cut thin-film lithium niobate. Optics Express, 2019, 27, 15856.	3.4	39
78	High performance fully etched isotropic microring resonators in thin-film lithium niobate on insulator platform. Optics Express, 2019, 27, 22025.	3.4	32
79	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
80	A Radio Frequency Non-Reciprocal Network Based on Switched Low-Loss Acoustic Delay Lines. , 2018, , .		2
81	S0-Mode Lithium Niobate Acoustic Delay Lines with 1 dB Insertion Loss. , 2018, , .		22
82	Toward Ka Band Acoustics: Lithium Niobate Asymmetrical Mode Piezoelectric MEMS Resonators. , 2018, , .		70
83	A Radio Frequency Comb Filter for Sparse Fourier Transform-Based Spectrum Sensing. , 2018, , .		2
84	Scaling Acoustic Filters Towards 5G. , 2018, , .		33
85	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
86	Lithium niobate lateral overtone resonators for low power frequency-hopping applications. , 2018, , .		16
87	Exploiting parallelism in resonators for large voltage gain in low power wake up radio front ends. , 2018, , .		33
88	AÂFrequency Independent Framework for Synthesis of Programmable Non-reciprocal Networks. Scientific Reports, 2018, 8, 14655.	3.3	17
89	Three-dimensional radio-frequency transformers based on a self-rolled-up membrane platform. Nature Electronics, 2018, 1, 305-313.	26.0	71
90	Simultaneous analog tuning of the series- and anti-resonances of acoustic wave resonators. , 2018, , .		3

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91	RF Filters with Periodic Passbands for Sparse Fourier Transform-Based Spectrum Sensing. Journal of Microelectromechanical Systems, 2018, 27, 931-944.	2.5	25
92	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
93	An SH0 Lithium Niobate dispersive delay line for chirp compression-enabled low power radios. , 2017, , .		12
94	5 Ghz lithium niobate MEMS resonators with high FoM of 153. , 2017, , .		75
95	Wideband RF Filters Using Medium-Scale Integration of Lithium Niobate Laterally Vibrating Resonators. IEEE Electron Device Letters, 2017, 38, 387-390.	3.9	16
96	Wideband Spurious-Free Lithium Niobate RF-MEMS Filters. Journal of Microelectromechanical Systems, 2017, 26, 820-828.	2.5	26
97	A 150 MHz voltage controlled oscillator using lithium niobate RF-MEMS resonator. , 2017, , .		11
98	Lithium Niobate MEMS Chirp Compressors for Near Zero Power Wake-Up Radios. Journal of Microelectromechanical Systems, 2017, 26, 1204-1215.	2.5	30
99	Lithium niobate MEMS devices and subsystems for radio frequency signal processing. , 2017, , .		12
100	An SH0 lithium niobate correlator for orthogonal frequency coded spread spectrum communications. , 2017, , .		17
101	A high FoM lithium niobate resonant transformer for passive voltage amplification. , 2017, , .		23
102	Lithium niobate phononic crystals for radio frequency SH0 waves. , 2017, , .		2
103	A non-magnetic gyrator utilizing switched delay lines. , 2017, , .		12
104	A 3.5 GHz AlN S1 lamb mode resonator. , 2017, , .		11
105	Characterization of lithium niobate microdisk resonators with grating couplers. , 2017, , .		0
106	CMOS-compatible on-chip self-rolled-up inductors for RF/mm-wave applications. , 2017, , .		9
107	Lithium Niobate for M/NEMS Resonators. Microsystems and Nanosystems, 2017, , 99-129.	0.1	7
108	Mitigation of AO spurious modes in AlN MEMS resonators with SiO2 addendums. , 2016, , .		5

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109	Arraying SH0 Lithium Niobate laterally vibrating resonators for mitigation of higher order spurious modes. , 2016, , .		13
110	Harnessing Mode Conversion for Spurious Mode Suppression in AlN Laterally Vibrating Resonators. Journal of Microelectromechanical Systems, 2016, 25, 450-458.	2.5	31
111	Analysis and Removal of Spurious Response in SH0 Lithium Niobate MEMS Resonators. IEEE Transactions on Electron Devices, 2016, 63, 2066-2073.	3.0	46
112	High speed mid-infrared detectors based on MEMS resonators and spectrally selective metamaterials. , 2016, , .		4
113	Ultra-Small, High-Frequency and Substrate-Immune Microtube Inductors Transformed from 2D to 3D. Scientific Reports, 2015, 5, 9661.	3.3	56
114	Parametric excitation in geometrically optimized AlN contour mode resonators. , 2015, , .		2
115	Self-rolled-up tube transformers: Extreme miniaturization and performance enhancement. , 2015, , .		2
116	Elimination of Spurious Modes in SH0 Lithium Niobate Laterally Vibrating Resonators. IEEE Electron Device Letters, 2015, 36, 1198-1201.	3.9	39
117	Study of thermal nonlinearity in lithium niobate-based MEMS resonators. , 2015, , .		28
118	Overmoded shear horizontal wave MEMS resonators using X-cut lithium niobate thin film. , 2014, , .		10
119	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
120	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
121	Figure-of-Merit Enhancement for Laterally Vibrating Lithium Niobate MEMS Resonators. IEEE Transactions on Electron Devices, 2013, 60, 3888-3894.	3.0	79
122	Large frequency tuning of Lithium Niobate laterally vibrating MEMS resonators via electric boundary reconfiguration. , 2013, , .		8
123	Weighted electrode configuration for electromechanical coupling enhancement in a new class of micromachined Lithium Niobate laterally vibrating resonators. , 2012, , .		10
124	Micromachined sapphire GHz lateral overtone bulk acoustic resonators transduced by aluminum nitride. , 2012, , .		16
125	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