Donhee Ham

List of Publications by Year
in descending order

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73	4,148	201674	214800
papers	citations	27 h-index	47 g-index

79	79	79	5489
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Chipâ€“NMR biosensor for detection and molecular analysis of cells. Nature Medicine, 2008, 14, 869-874.	30.7	561
2	Stretchable Microfluidic Radiofrequency Antennas. Advanced Materials, 2010, 22, 2749-2752.	21.0	385
3	High-speed integrated nanowire circuits. Nature, 2005, 434, 1085-1085.	27.8	305
4	Vertical MoS₂ Double-Layer Memristor with Electrochemical Metallization as an Atomic-Scale Synapse with Switching Thresholds Approaching 100 mV. Nano Letters, 2019, 19, 2411-2417.	9.1	288
5	A crossbar array of magnetoresistive memory devices for in-memory computing. Nature, 2022, 601, 211-216.	27.8	214
6	CMOS nanoelectrode array for all-electrical intracellular electrophysiological imaging. Nature Nanotechnology, 2017, 12, 460-466.	31.5	212
7	A nanoelectrode array for obtaining intracellular recordings from thousands of connected neurons. Nature Biomedical Engineering, 2020, 4, 232-241.	22.5	171
8	Integrated cell manipulation systemâ€”CMOS/microfluidic hybrid. Lab on A Chip, 2007, 7, 331-337.	6.0	136
9	Palm NMR and 1-Chip NMR. IEEE Journal of Solid-State Circuits, 2011, 46, 342-352.	5.4	121
10	Vertically integrated, three-dimensional nanowire complementary metal-oxide-semiconductor circuits. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21035-21038.	7.1	116
11	An Atomically Thin Optoelectronic Machine Vision Processor. Advanced Materials, 2020, 32, e2002431.	21.0	111
12	Electrophoretic and field-effect graphene for all-electrical DNA array technology. Nature Communications, 2014, 5, 4866.	12.8	109
13	Scalable NMR spectroscopy with semiconductor chips. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11955-11960.	7.1	102
14	CMOS RF Biosensor Utilizing Nuclear Magnetic Resonance. IEEE Journal of Solid-State Circuits, 2009, 44, 1629-1643.	5.4	97
15	Neuromorphic electronics based on copying and pasting the brain. Nature Electronics, 2021, 4, 635-644.	26.0	94
16	Gigahertz Electromagnetic Structures via Direct Ink Writing for Radioâ€Frequency Oscillator and Transmitter Applications. Advanced Materials, 2017, 29, 1605198.	21.0	86
17	Virtual damping and einstein relation in oscillators. IEEE Journal of Solid-State Circuits, 2003, 38, 407-418.	5.4	85
18	Fast-Lock Hybrid PLL Combining Fractional-N and Integer-N Modes of Differing Bandwidths. IEEE Journal of Solid-State Circuits, 2008, 43, 379-389.	5.4	82

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19	Optimizing Nanoelectrode Arrays for Scalable Intracellular Electrophysiology. Accounts of Chemical Research, 2018, 51, 600-608.	15.6	78
20	Time-Domain CMOS Temperature Sensors With Dual Delay-Locked Loops for Microprocessor Thermal Monitoring. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2012, 20, 1590-1601.	3.1	75
21	Far-Infrared Graphene Plasmonic Crystals for Plasmonic Band Engineering. Nano Letters, 2014, 14, 2479-2484.	9.1	67
22	Ultra-Subwavelength Two-Dimensional Plasmonic Circuits. Nano Letters, 2012, 12, 2272-2277.	9.1	62
23	Measurement of collective dynamical mass of Dirac fermions in graphene. Nature Nanotechnology, 2014, 9, 594-599.	31.5	53
24	Reflection Soliton Oscillator. IEEE Transactions on Microwave Theory and Techniques, 2009, 57, 2344-2353.	4.6	36
25	Dual-DLL-based CMOS all-digital temperature sensor for microprocessor thermal monitoring. , 2009, , .		34
26	A Newtonian approach to extraordinarily strong negative refraction. Nature, 2012, 488, 65-69.	27.8	34
27	Optimization of CMOS-ISFET-Based Biomolecular Sensing: Analysis and Demonstration in DNA Detection. IEEE Transactions on Electron Devices, 2016, , 1-8.	3.0	28
28	Portable NMR with Parallelism. Analytical Chemistry, 2020, 92, 2112-2120.	6.5	28
29	Small NMR biomolecular sensors. Solid-State Electronics, 2013, 84, 13-21.	1.4	27
30	Synthesis of Highâ€Performance Monolayer Molybdenum Disulfide at Low Temperature. Small Methods, 2021, 5, e2000720.	8.6	27
31	Digital Background Calibration in Pipelined ADCs Using Commutated Feedback Capacitor Switching. IEEE Transactions on Circuits and Systems II: Express Briefs, 2008, 55, 877-881.	3.0	25
32	Gigahertz surface acoustic wave generation on ZnO thin films deposited by radio frequency magnetron sputtering on III-V semiconductor substrates. Journal of Vacuum Science & Technology B, 2008, 26, 1848-1851.	1.3	25
33	CMOS Mini Nuclear Magnetic Resonance System and its Application for Biomolecular Sensing. , 2008, , .		23
34	The Design of a CMOS Nanoelectrode Array With 4096 Current-Clamp/Voltage-Clamp Amplifiers for Intracellular Recording/Stimulation of Mammalian Neurons. IEEE Journal of Solid-State Circuits, 2020, 55, 2567-2582.	5.4	23
35	Multi-parametric functional imaging of cell cultures and tissues with a CMOS microelectrode array. Lab on A Chip, 2022, 22, 1286-1296.	6.0	20
36	Plasmonics with two-dimensional conductors. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130104.	3.4	19

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37	Ordered and chaotic electrical solitons: communication perspectives. , 2006, 44, 126-135.		17
38	Palm NMR and one-chip NMR. , 2010, , .		17
39	Extracellular recording of direct synaptic signals with a CMOS-nanoelectrode array. Lab on A Chip, 2020, 20, 3239-3248.	6.0	17
40	Phase Noise of Distributed Oscillators. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 2105-2117.	4.6	16
41	Two-path solid-state interferometry using ultra-subwavelength two-dimensional plasmonic waves. Applied Physics Letters, 2013, 102, .	3.3	16
42	Symmetry Engineering of Graphene Plasmonic Crystals. Nano Letters, 2015, 15, 5001-5009.	9.1	13
43	A 2.9-mW 11-b 20-MS/s pipelined ADC with dual-mode-based digital background calibration. , 2012, , .		11
44	Electrical Solitons for Microwave Systems: Harmonizing Nonlinearity and Dispersion with Nonlinear Transmission Line. IEEE Microwave Magazine, 2019, 20, 123-134.	0.8	10
45	Stretchable microfluidic electric circuit applied for radio frequency antenna. , 2011, , .		9
46	Fast-locking Hybrid PLL Synthesizer Combining Integer & Fractional Divisions. , 2007, , .		8
47	All-Digital Dynamic Self-Detection and Self-Compensation of Static Phase Offsets in Charge-Pump PLLs. , 2007, , .		5
48	A 200 x 256 Image Sensor Heterogeneously Integrating a 2D Nanomaterial-Based Photo-FET Array and CMOS Time-to-Digital Converters. , 2022, , .		5
49	Micro-NMR on CMOS for Biomolecular Sensing. , 2018, , 101-132.		4
50	The silicon that Moves and Feels Small Living Things. IEEE Solid-State Circuits Society Newsletter, 2007, 12, 4-9.	0.0	3
51	Integrated CMOS spectrometer for multi-dimensional NMR spectroscopy. , 2017, , .		3
52	CMOS interface with biological molecules and cells. , 2019, , .		3
53	CMOS Meets Bio. , 2006, , .		2
54	Introduction to the Special Issue on the 2008 IEEE International Solid-State Circuits Conference. IEEE Journal of Solid-State Circuits, 2009, 44, 3-6.	5.4	2

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55	Fully monolithic 18.7GHz 16Ps GaAs mode-locked oscillators. , 2011, , .		2
56	High-dimensional chaos from self-sustained collisions of solitons. Applied Physics Letters, 2014, 104, 244109.	3.3	2
57	Plasmonic mass and Johnsonâ€“Nyquist noise. Nanotechnology, 2015, 26, 354002.	2.6	2
58	Soliton and Nonlinear Wave Electronics. , 2008, , 159-184.		2
59	Passive&Active Control of Regenerative Standing&Soliton Waves. , 2006, , .		1
60	Picosecond electrical soliton oscillators & THz electronics. , 2007, , .		1
61	Surpassing Tradeoffs by Separation: Examples in Frequency Generation Circuits. , 2008, , .		1
62	Silicon RF NMR biomolecular sensor - review. , 2010, , .		1
63	Solid-State and biological systems interface. , 2012, , .		1
64	All-Electrical Graphene DNA Sensor Array. Methods in Molecular Biology, 2017, 1572, 169-187.	0.9	1
65	CMOS electronics probe inside a cellular network â€" Invited review paper. , 2018, , .		1
66	CMOS interface with biological molecules and cells : Invited review paper. , 2019, , .		1
67	CMOS-based Magnetic Cell Manipulation System. Integrated Circuits and Systems, 2007, , 103-144.	0.2	1
68	CHAPTER 6. Hardware Developments: Handheld NMR Systems for Biomolecular Sensing. New Developments in NMR, 2015, , 158-182.	0.1	1
69	Fast-locking Integer/Fractional-N Hybrid PLL Frequency Synthesizer. , 2006, , .		0
70	TD: Trends in Wireless Systems. , 2007, , .		0
71	Authors' Response [to comments on "On the self-generation of electrical soliton pulses"]. IEEE Journal of Solid-State Circuits, 2008, 43, 1492-1493.	5.4	0
72	Guest Editorialâ€"Selected Papers From the 2011 IEEE International Solid-State Circuits Conference (ISSCC). IEEE Transactions on Biomedical Circuits and Systems, 2011, 5, 501-502.	4.0	0

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73	Solid-state and biological systems interface. , 2012, , .		0