Kaushik Sengupta

List of Publications by Year
in descending order

107	2,390	394421 19	289244 40
papers	citations	h-index	g-index

108	108	108	1792
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Terahertz integrated electronic and hybrid electronicâ€“photonic systems. Nature Electronics, 2018, 1, 622-635.	26.0	444
2	A 0.28 THz Power-Generation and Beam-Steering Array in CMOS Based on Distributed Active Radiators. IEEE Journal of Solid-State Circuits, 2012, 47, 3013-3031.	5.4	252
3	A high-speed programmable and scalable terahertz holographic metasurface based on tiled CMOS chips. Nature Electronics, 2020, 3, 785-793.	26.0	174
4	Integrated Self-Healing for mm-Wave Power Amplifiers. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 1301-1315.	4.6	93
5	Silicon Integrated 280 GHz Imaging Chipset With 4<formula formulatype="inline"><tex Notation="TeX">$imes$</tex> </formula>4 SiGe Receiver Array and CMOS Source. IEEE Transactions on Terahertz Science and Technology, 2015, 5, 427-437.	3.1	81
6	Fully Integrated Fluorescence Biosensors On-Chip Employing Multi-Functional Nanoplasmonic Optical Structures in CMOS. IEEE Journal of Solid-State Circuits, 2017, 52, 2388-2406.	5.4	68
7	Simultaneously Broadband and Back-Off Efficient mm-Wave PAs: A Multi-Port Network Synthesis Approach. IEEE Journal of Solid-State Circuits, 2018, 53, 2543-2559.	5.4	54
8	On-Chip THz Spectroscope Exploiting Electromagnetic Scattering With Multi-Port Antenna. IEEE Journal of Solid-State Circuits, 2016, 51, 3049-3062.	5.4	52
9	Frequency Reconfigurable mm-Wave Power Amplifier With Active Impedance Synthesis in an Asymmetrical Non-Isolated Combiner: Analysis and Design. IEEE Journal of Solid-State Circuits, 2017, 52, 1990-2008.	5.4	51
10	Distributed active radiation for THz signal generation. , 2011, , .		50
11	Programmable terahertz chip-scale sensing interface with direct digital reconfiguration at sub-wavelength scales. Nature Communications, 2019, 10, 2722.	12.8	50
12	Multi-port Active Load Pulling for mm-Wave 5G Power Amplifiers: Bandwidth, Back-Off Efficiency, and VSWR Tolerance. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 2998-3016.	4.6	40
13	Globally Optimal Matching Networks With Lossy Passives and Efficiency Bounds. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 257-269.	5.4	36
14	Mutual Synchronization for Power Generation and Beam-Steering in CMOS With On-Chip Sense Antennas Near 200 GHz. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 2867-2876.	4.6	35
15	Dynamic Waveform Shaping With Picosecond Time Widths. IEEE Journal of Solid-State Circuits, 2017, 52, 389-405.	5.4	35
16	Designing Optimal Surface Currents for Efficient On-Chip mm-Wave Radiators With Active Circuitry. IEEE Transactions on Microwave Theory and Techniques, 2016, 64, 1976-1988.	4.6	34
17	20.2 A frequency-reconfigurable mm-Wave power amplifier with active-impedance synthesis in an asymmetrical non-isolated combiner. , 2016, , .		32
18	A 26-42 GHz Broadband, Back-off Efficient and Vswr Tolerant CMOS Power Amplifier Architecture for 5G Applications. , 2019, , .		32

#	Article	IF	Citations
19	29.9 A 4Ã—4 Distributed Multi-Layer Oscillator Network for Harmonic Injection and THz Beamforming with 14dBm EIRP at 416GHz in a Lensless 65nm CMOS IC. , 2020, , .		31
20	A fully-integrated self-healing power amplifier. , 2012, , .		30
21	Sub-THz beam-forming using near-field coupling of Distributed Active Radiator arrays. , 2011, , .		29
22	A 0.28THz 4×4 power-generation and beam-steering array. , 2012, , .		29
23	CMOS Optical PUFs Using Noise-Immune Process-Sensitive Photonic Crystals Incorporating Passive Variations for Robustness. IEEE Journal of Solid-State Circuits, 2018, 53, 2709-2721.	5.4	28
24	Load Modulated Balanced mm-Wave CMOS PA with Integrated Linearity Enhancement for 5G applications. , 2020, , .		28
25	Secure spaceâ€“time-modulated millimetre-wave wireless links that are resilient to distributed eavesdropper attacks. Nature Electronics, 2021, 4, 827-836.	26.0	28
26	22.1 THz Prism: One-Shot Simultaneous Multi-Node Angular Localization Using Spectrum-to-Space Mapping with 360-to-400GHz Broadband Transceiver and Dual-Port Integrated Leaky-Wave Antennas. , 2021, , .		25
27	THz Prism: One-Shot Simultaneous Localization of Multiple Wireless Nodes With Leaky-Wave THz Antennas and Transceivers in CMOS. IEEE Journal of Solid-State Circuits, 2021, 56, 3840-3854.	5.4	24
28	A NEW MEASURE OF LACUNARITY FOR GENERALIZED FRACTALS AND ITS IMPACT IN THE ELECTROMAGNETIC BEHAVIOR OF KOCH DIPOLE ANTENNAS. Fractals, 2006, 14, 271-282.	3.7	23
29	On-chip sensing and actuation methods for integrated self-healing mm-wave CMOS power amplifier. , 2012, , .		21
30	A fully integrated CMOS fluorescence biosensor with on-chip nanophotonic filter. , 2015, , .		20
31	A digital mm-Wave PA architecture with Simultaneous Frequency and back-off Reconfigurability. , 2017, , .		20
32	Fully Integrated Optical Spectrometer in Visible and Near-IR in CMOS. IEEE Transactions on Biomedical Circuits and Systems, 2017, 11, 1176-1191.	4.0	19
33	Integrated Circuits for Terahertz Communication Beyond 100 GHz: Are We There Yet?. , 2019, , .		19
34	4.6 Space-Time Modulated 71-to-76GHz mm-Wave Transmitter Array for Physically Secure Directional Wireless Links. , 2020, , .		19
35	Single-chip source-free terahertz spectroscope across 004â€“099 THz: combining sub-wavelength near-field sensing and regression analysis. Optics Express, 2018, 26, 7163.	3.4	18
36	80â€“110-GHz Broadband Linear PA With 33% Peak PAE and Comparison of Stacked Common Base and Common Emitter PA in InP. IEEE Microwave and Wireless Components Letters, 2021, 31, 756-759.	3.2	18

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37	A 42â€“62 GHz Transformer-Based Broadband mm-Wave InP PA With Second-Harmonic Waveform Engineering and Enhanced Linearity. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 756-773.	4.6	18
38	Integrated Angle-Insensitive Nanoplasmonic Filters for Ultraminiaturized Fluorescence Microarray in a 65 nm Digital CMOS Process. ACS Photonics, 2018, 5, 4312-4322.	6.6	16
39	Nano-plasmonics and electronics co-integration in CMOS enabling a pill-sized multiplexed fluorescence microarray system. Biomedical Optics Express, 2018, 9, 5735.	2.9	14
40	A mm-Wave Segmented Power Mixer. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 1118-1129.	4.6	13
41	A Packaged Ingestible Bio-Pill with 15-Pixel Multiplexed Fluorescence Nucleic-Acid Sensor and Bi-Directional Wireless Interface for In-Vivo Bio-Molecular Sensing. , 2020, , .		12
42	Antenna Preprocessing and Element-Pattern Shaping for Multi-Band mmWave Arrays: Multi-Port Transmitters and Antennas. IEEE Journal of Solid-State Circuits, 2020, , 1-1.	5.4	12
43	A Programmable Terahertz Metasurface With Circuit-Coupled Meta-Elements in Silicon Chips: Creating Low-Cost, Large-Scale, Reconfigurable Terahertz Metasurfaces. IEEE Antennas and Propagation Magazine, 2022, 64, 110-122.	1.4	12
44	A Nonlinear Transient Analysis of Regenerative Frequency Dividers. IEEE Transactions on Circuits and Systems I: Regular Papers, 2007, 54, 2646-2660.	5.4	11
45	Dynamic waveform shaping for reconfigurable radiated periodic signal generation with picosecond time-widths. , 2015, , .		11
46	A Hybrid THz Imaging System With a 100-Pixel CMOS Imager and a 3.25â€“3.50 THz Quantum Cascade Laser Frequency Comb. IEEE Solid-State Circuits Letters, 2019, 2, 151-154.	2.0	11
47	Physically Secure Sub-THz Wireless Links. , 2020, , .		11
48	A 44â€“64-GHz mmWave Broadband Linear Doherty PA in Silicon With Quadrature Hybrid Combiner and Non-Foster Impedance Tuner. IEEE Journal of Solid-State Circuits, 2022, 57, 2320-2335.	5.4	11
49	Broadband PA Architectures with Asymmetrical Combining and Stacked PA cells across 50-70 GHz and 64-110 GHz in 250 nm InP. , 2020, , .		10
50	Antenna Preprocessing and Element-Pattern Shaping for Multi-Band mmWave Arrays: Multi-Port Receivers and Antennas. IEEE Journal of Solid-State Circuits, 2020, , 1-1.	5.4	10
51	A 44 To 64 GHz Broadband 90Â° Hybrid Doherty PA With Quasi Non-Foster Tuner in 0.13 Î¼m SiGe. IEEE Microwave and Wireless Components Letters, 2021, 31, 760-763.	3.2	10
52	Deep Learning-Enabled Inverse Design of 30â€“94 GHz P_{sat,3dB} SiGe PA Supporting Concurrent Multiband Operation at Multi-Gb/s. IEEE Microwave and Wireless Components Letters, 2022, 32, 724-727.	3.2	10
53	Maximum frequency of operation of CMOS Static Frequency dividers: Theory and Design techniques. , 2006, , .		9
54	A Multi-Port Dual Polarized Antenna Coupled mm-Wave CMOS Receiver with Element-level Pattern and Notch Programmability and Passive Interferer Rejection Capability. , 2019, , .		9

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55	Methods for finding globally maximum-efficiency impedance matching networks with lossy passives. , 2015, , .		8
56	27.8 Fully integrated optical spectrometer with 500-to-830nm range in 65nm CMOS. , 2017, , .		8
57	CMOS-Based Electrokinetic Microfluidics With Multi-Modal Cellular and Bio-Molecular Sensing for End-to-End Point-of-Care System. IEEE Transactions on Biomedical Circuits and Systems, 2021, 15, 1250-1267.	4.0	8
58	A W-band SiGe power amplifier with P<inf>sat</inf> of 23 dBm and PAE of 16.8% at 95GHz. , 2017, , .		7
59	2D Magnetic Sensor Array for Real-time Cell Tracking and Multi-site Detection with Increased Robustness and Flow-rate. , 2019, , .		7
60	A Hybrid THz Imaging System With a 100-Pixel CMOS Imager and a 3.25â€“3.50 THz Quantum Cascade Laser Frequency Comb. , 2019, , .		7
61	A 4 Ã— 4 Steerable 14-dBm EIRP Array on CMOS at 0.41 THz With a 2-D Distributed Oscillator Network. IEEE Journal of Solid-State Circuits, 2022, 57, 3125-3138.	5.4	7
62	A 19.1dBm segmented power-mixer based multi-Gbps mm-Wave transmitter in 32nm SOI CMOS. , 2014, , .		6
63	15.9 An integrated optical physically unclonable function using process-sensitive sub-wavelength photonic crystals in 65nm CMOS. , 2017, , .		6
64	Transformer-based Broadband mm-Wave InP PA across 42-62 GHz with Enhanced Linearity and Second Harmonic Engineering. , 2020, , .		6
65	Ingestible Bioelectronics: A Packaged, Bio-Molecular, Fluorescence-Based Sensor Array with Ultra-Low-Power Wireless Interface. , 2019, , .		5
66	Universal Terahertz Integrated Systems: Bridging the â€˜THzâ€™ and â€˜Applicationâ€™ Gap in the Next Decade. , 2019, , .		5
67	Spatio-temporal modulated mm-Wave arrays for physical layer security and resiliency against distributed eavesdropper attacks. , 2021, , .		5
68	A Programmable Active THz Electromagnetic Surface on-Chip for Multi-functional Imaging. , 2018, , .		4
69	18.2 CMOS-Driven Pneumatic-Free Scalable Microfluidics and Fluid Processing with Label-Free Cellular and Bio-Molecular Sensing Capability for an End-to-End Point-of-Care System. , 2021, , .		4
70	Integrated Intelligent Electromagnetic Radiator Design for Future THz Communication: A Review. Chinese Journal of Electronics, 2022, 31, 499-515.	1.5	4
71	A terahertz imaging receiver in 0.13μm SiGe BiCMOS technology. , 2011, , .		3
72	Programmable picosecond pulse generator in CMOS. , 2015, , .		3

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73	Nano-optical systems in CMOS. , 2017, , .		3
74	Terahertz Chip-scale Systems. , 2020, , .		3
75	Visible and Near-IR Nano-Optical Components and Systems in CMOS. IEEE Open Journal of the Solid-State Circuits Society, 2021, 1, 247-262.	2.7	3
76	Regenerative Frequency Divider with Synchronous Fractional Outputs. , 2007, , .		2
77	25.3 A 40-to-330GHz synthesizer-free THz spectroscope-on-chip exploiting electromagnetic scattering. , 2016, , .		2
78	THz silicon systems on chip: EM-Circuits-Systems codesign approach. , 2017, , .		2
79	CMOS-based Florescence Biosensor with Integrated Nanoplasmonic Filters. , 2017, , .		2
80	Fluorescence-based Multiplexed Biomolecular Systems in mm-scale Optics-free CMOS Chip: Nanoplasmonics in Embedded Electronics. , 2019, , .		2
81	Terahertz to bits and bits to terahertz. , 2020, , .		2
82	Stretchable Microwave Transmission Lines Using Liquidâ€Metal Embedded Elastomers. Advanced Engineering Materials, 2022, 24, .	3.5	2
83	A Compact SiGe Stacked Common-Base Dual-Band PA With 20/18.8 dBm P _{sat} at 36/64 GHz Supporting Concurrent Modulation. IEEE Microwave and Wireless Components Letters, 2022, 32, 720-723.	3.2	2
84	A compact self-similar power combining topology. , 2010, , .		1
85	Multi-functional, Active and Information Processing Antenna Surfaces in Chip-scale THz Systems. , 2018, , .		1
86	Wide-band THz Spectroscope in Silicon THz Combining Sub-wavelength Near-field Sensing and Robust Regression Analysis. , 2018, , .		1
87	Dynamically Programmable Terahertz Holographic Metasurface using CMOS IC Tiling. , 2021, , .		1
88	Integrated Terahertz Transceivers for Multi-node Link Discovery and Localization. , 2021, , .		1
89	Real Time Cytokine Quantification in Wound Fluid Samples Using Nanowell Impedance Sensing. , 2021, , .		1
90	A Source-free Single-chip Terahertz Spectroscope through Sub-wavelength Sensing of Antenna Near-fields. , 2017, , .		1

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91	Physically Secure mm-Wave Wireless Links with Spatio-temporal Modulated Arrays. , 2020, , .		1
92	Millimeter-Wave Physical Layer Security through Space-Time Modulated Transmitter Arrays. , 2022, , .		1
93	Distributed Active Radiator arrays for efficient doubling, filtering, and beam-forming. , 2011, , .		0
94	THz signal generation, radiation, and beam-forming in silicon. , 2016, , 485-518.		0
95	Self-healing for silicon-based mm-wave power amplifiers. , 0, , 419-456.		0
96	Session 8 â€" Biomedical circuits and systems. , 2017, , .		0
97	Mm-Wave and THz Active Electromagnetic Systems on Chip: Circuits-EM-Systems Codesign Approach. , 2018, , .		0
98	Guest Editorial: Special Section on the 48th European Solid-State Circuits Conference (ESSCIRC). IEEE Journal of Solid-State Circuits, 2019, 54, 1827-1829.	5.4	0
99	On-Chip Multi-Layer THz Power Generation with Beamforming Capability. , 2021, , .		0
100	Chip-Scale THz System for Single-Shot Angular Localization. , 2021, , .		0
101	Reconfigurable Multifunctional Terahertz Holographic Metasurface using CMOS Chip Tiling. , 2021, , .		0
102	Spectrum-to-space mapping with 0.36 â€" 0.4 THz on-chip transceiver for one-shot localization. , 2021, , .		0
103	Circuit-electromagnetics co-design: a new paradigm for silicon-based THz systems-on-chip. , 2018, , .		0
104	Towards Universality in Terahertz Chip-scale Systems. , 2019, , .		0
105	Chip-scale terahertz systems. , 2019, , .		0
106	Universally Programmable Chip-scale TeraHertz Systems for Future Wireless Communication and Sensing. , 2021, , .		0
107	Nano-optical CMOS Systems for Bio-molecular Sensing: In-vitro and In-vivo. , 2020, , .		0