

Kaushik Sengupta

List of Publications by Citations

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78
papers

1,337
citations

19
h-index

34
g-index

108
ext. papers

1,921
ext. citations

6
avg, IF

5.56
L-index

#	Paper	IF	Citations
78	Terahertz integrated electronic and hybrid electronic-photonic systems. <i>Nature Electronics</i> , 2018 , 1, 622-635	28.4	224
77	A 0.28 THz Power-Generation and Beam-Steering Array in CMOS Based on Distributed Active Radiators. <i>IEEE Journal of Solid-State Circuits</i> , 2012 , 47, 3013-3031	5.5	175
76	Integrated Self-Healing for mm-Wave Power Amplifiers. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2013 , 61, 1301-1315	4.1	75
75	A high-speed programmable and scalable terahertz holographic metasurface based on tiled CMOS chips. <i>Nature Electronics</i> , 2020 , 3, 785-793	28.4	57
74	Silicon Integrated 280 GHz Imaging Chipset With 4×4 SiGe Receiver Array and CMOS Source. <i>IEEE Transactions on Terahertz Science and Technology</i> , 2015 , 5, 427-437	3.4	55
73	Simultaneously Broadband and Back-Off Efficient mm-Wave PAs: A Multi-Port Network Synthesis Approach. <i>IEEE Journal of Solid-State Circuits</i> , 2018 , 53, 2543-2559	5.5	42
72	Fully Integrated Fluorescence Biosensors On-Chip Employing Multi-Functional Nanoplasmonic Optical Structures in CMOS. <i>IEEE Journal of Solid-State Circuits</i> , 2017 , 52, 2388-2406	5.5	41
71	On-Chip THz Spectroscope Exploiting Electromagnetic Scattering With Multi-Port Antenna. <i>IEEE Journal of Solid-State Circuits</i> , 2016 , 51, 3049-3062	5.5	37
70	Distributed active radiation for THz signal generation 2011 ,		37
69	Frequency Reconfigurable mm-Wave Power Amplifier With Active Impedance Synthesis in an Asymmetrical Non-Isolated Combiner: Analysis and Design. <i>IEEE Journal of Solid-State Circuits</i> , 2017 , 52, 1990-2008	5.5	35
68	Programmable terahertz chip-scale sensing interface with direct digital reconfiguration at sub-wavelength scales. <i>Nature Communications</i> , 2019 , 10, 2722	17.4	31
67	Mutual Synchronization for Power Generation and Beam-Steering in CMOS With On-Chip Sense Antennas Near 200 GHz. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2015 , 63, 2867-2876	4.1	27
66	20.2 A frequency-reconfigurable mm-Wave power amplifier with active-impedance synthesis in an asymmetrical non-isolated combiner 2016 ,		25
65	Designing Optimal Surface Currents for Efficient On-Chip mm-Wave Radiators With Active Circuitry. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2016 , 64, 1976-1988	4.1	24
64	A fully-integrated self-healing power amplifier 2012 ,		24
63	. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2018 , 65, 257-269	3.9	23
62	Sub-THz beam-forming using near-field coupling of Distributed Active Radiator arrays 2011 ,		23

61	Multi-port Active Load Pulling for mm-Wave 5G Power Amplifiers: Bandwidth, Back-Off Efficiency, and VSWR Tolerance. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2020 , 68, 2998-3016	4.1	22
60	Dynamic Waveform Shaping With Picosecond Time Widths. <i>IEEE Journal of Solid-State Circuits</i> , 2017 , 52, 389-405	5.5	20
59	On-chip sensing and actuation methods for integrated self-healing mm-wave CMOS power amplifier 2012 ,		17
58	A 26-42 GHz Broadband, Back-off Efficient and Vswr Tolerant CMOS Power Amplifier Architecture for 5G Applications 2019 ,		16
57	A digital mm-Wave PA architecture with Simultaneous Frequency and back-off Reconfigurability 2017 ,		16
56	A fully integrated CMOS fluorescence biosensor with on-chip nanophotonic filter 2015 ,		16
55	Fully Integrated Optical Spectrometer in Visible and Near-IR in CMOS. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2017 , 11, 1176-1191	5.1	15
54	CMOS Optical PUFs Using Noise-Immune Process-Sensitive Photonic Crystals Incorporating Passive Variations for Robustness. <i>IEEE Journal of Solid-State Circuits</i> , 2018 , 53, 2709-2721	5.5	14
53	A 0.28THz 4 \times power-generation and beam-steering array 2012 ,		13
52	A NEW MEASURE OF LACUNARITY FOR GENERALIZED FRACTALS AND ITS IMPACT IN THE ELECTROMAGNETIC BEHAVIOR OF KOCH DIPOLE ANTENNAS. <i>Fractals</i> , 2006 , 14, 271-282	3.2	13
51	A mm-Wave Segmented Power Mixer. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2015 , 63, 1118-1129	4.1	12
50	29.9 A 4 \times Distributed Multi-Layer Oscillator Network for Harmonic Injection and THz Beamforming with 14dBm EIRP at 416GHz in a Lensless 65nm CMOS IC 2020 ,		12
49	Load Modulated Balanced mm-Wave CMOS PA with Integrated Linearity Enhancement for 5G applications 2020 ,		11
48	Integrated Circuits for Terahertz Communication Beyond 100 GHz: Are We There Yet? 2019 ,		10
47	Single-chip source-free terahertz spectroscopy across 0.04-0.99 THz: combining sub-wavelength near-field sensing and regression analysis. <i>Optics Express</i> , 2018 , 26, 7163-7175	3.3	10
46	Methods for finding globally maximum-efficiency impedance matching networks with lossy passives 2015 ,		8
45	A Nonlinear Transient Analysis of Regenerative Frequency Dividers. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2007 , 54, 2646-2660	3.9	8
44	Nano-plasmonics and electronics co-integration in CMOS enabling a pill-sized multiplexed fluorescence microarray system. <i>Biomedical Optics Express</i> , 2018 , 9, 5735-5758	3.5	8

43	27.8 Fully integrated optical spectrometer with 500-to-830nm range in 65nm CMOS 2017 ,		7
42	Antenna Preprocessing and Element-Pattern Shaping for Multi-Band mmWave Arrays: Multi-Port Transmitters and Antennas. <i>IEEE Journal of Solid-State Circuits</i> , 2020 , 1-1	5.5	7
41	Dynamic waveform shaping for reconfigurable radiated periodic signal generation with picosecond time-widths 2015 ,		7
40	Maximum frequency of operation of CMOS Static Frequency dividers: Theory and Design techniques 2006 ,		7
39	. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2021 , 69, 756-773	4.1	7
38	Secure space-time-modulated millimetre-wave wireless links that are resilient to distributed eavesdropper attacks. <i>Nature Electronics</i> , 2021 , 4, 827-836	28.4	6
37	Broadband PA Architectures with Asymmetrical Combining and Stacked PA cells across 50-70 GHz and 64-110 GHz in 250 nm InP 2020 ,		6
36	Integrated Angle-Insensitive Nanoplasmonic Filters for Ultraminiaturized Fluorescence Microarray in a 65 nm Digital CMOS Process. <i>ACS Photonics</i> , 2018 , 5, 4312-4322	6.3	6
35	Antenna Preprocessing and Element-Pattern Shaping for Multi-Band mmWave Arrays: Multi-Port Receivers and Antennas. <i>IEEE Journal of Solid-State Circuits</i> , 2020 , 1-1	5.5	5
34	A 19.1dBm segmented power-mixer based multi-Gbps mm-Wave transmitter in 32nm SOI CMOS 2014 ,		5
33	THz Prism: One-Shot Simultaneous Localization of Multiple Wireless Nodes With Leaky-Wave THz Antennas and Transceivers in CMOS. <i>IEEE Journal of Solid-State Circuits</i> , 2021 , 1-1	5.5	5
32	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 ,		5
31	A Hybrid THz Imaging System With a 100-Pixel CMOS Imager and a 3.25B.50 THz Quantum Cascade Laser Frequency Comb. <i>IEEE Solid-State Circuits Letters</i> , 2019 , 2, 151-154	2	5
30	A Multi-Port Dual Polarized Antenna Coupled mm-Wave CMOS Receiver with Element-level Pattern and Notch Programmability and Passive Interferer Rejection Capability 2019 ,		4
29	A W-band SiGe power amplifier with Psat of 23 dBm and PAE of 16.8% at 95GHz 2017 ,		4
28	Physically Secure Sub-THz Wireless Links 2020 ,		4
27	80B10-GHz Broadband Linear PA With 33% Peak PAE and Comparison of Stacked Common Base and Common Emitter PA in InP. <i>IEEE Microwave and Wireless Components Letters</i> , 2021 , 31, 756-759	2.6	4
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 ,		4

25	15.9 An integrated optical physically unclonable function using process-sensitive sub-wavelength photonic crystals in 65nm CMOS 2017 ,		3
24	Ingestible Bioelectronics: A Packaged, Bio-Molecular, Fluorescence-Based Sensor Array with Ultra-Low-Power Wireless Interface 2019 ,		3
23	Nano-optical systems in CMOS 2017 ,		3
22	A 44 To 64 GHz Broadband 90° Hybrid Doherty PA With Quasi Non-Foster Tuner in 0.13 μ m SiGe. <i>IEEE Microwave and Wireless Components Letters</i> , 2021 , 31, 760-763	2.6	3
21	Universal Terahertz Integrated Systems: Bridging the THz Band Application Gap in the Next Decade 2019 ,		3
20	A Programmable Active THz Electromagnetic Surface on-Chip for Multi-functional Imaging 2018 ,		3
19	Transformer-based Broadband mm-Wave InP PA across 42-62 GHz with Enhanced Linearity and Second Harmonic Engineering 2020 ,		2
18	4.6 Space-Time Modulated 71-to-76GHz mm-Wave Transmitter Array for Physically Secure Directional Wireless Links 2020 ,		2
17	2D Magnetic Sensor Array for Real-time Cell Tracking and Multi-site Detection with Increased Robustness and Flow-rate 2019 ,		2
16	CMOS-based Florescence Biosensor with Integrated Nanoplasmonic Filters 2017 ,		2
15	A terahertz imaging receiver in 0.13 μ m SiGe BiCMOS technology 2011 ,		2
14	A Hybrid THz Imaging System With a 100-Pixel CMOS Imager and a 3.25 μ m 50 THz Quantum Cascade Laser Frequency Comb 2019 ,		2
13	25.3 A 40-to-330GHz synthesizer-free THz spectroscope-on-chip exploiting electromagnetic scattering 2016 ,		1
12	THz silicon systems on chip: EM-Circuits-Systems codesign approach 2017 ,		1
11	Fluorescence-based Multiplexed Biomolecular Systems in mm-scale Optics-free CMOS Chip: Nanoplasmonics in Embedded Electronics 2019 ,		1
10	Visible and Near-IR Nano-optical Components and Systems in CMOS. <i>IEEE Open Journal of the Solid-State Circuits Society</i> , 2021 , 1-1		1
9	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 ,		1
8	Multi-functional, Active and Information Processing Antenna Surfaces in Chip-scale THz Systems 2018 ,		1

7	Wide-band THz Spectroscope in Silicon THz Combining Sub-wavelength Near-field Sensing and Robust Regression Analysis 2018 ,			1
6	Spatio-temporal modulated mm-Wave arrays for physical layer security and resiliency against distributed eavesdropper attacks 2021 ,			1
5	A Compact SiGe Stacked Common-Base Dual-Band PA With 20/18.8 dBm P_{sat} at 36/64 GHz Supporting Concurrent Modulation. <i>IEEE Microwave and Wireless Components Letters</i> , 2022 , 1-4	2.6		1
4	A 44-64-GHz mmWave Broadband Linear Doherty PA in Silicon With Quadrature Hybrid Combiner and Non-Foster Impedance Tuner. <i>IEEE Journal of Solid-State Circuits</i> , 2022 , 1-1	5.5		1
3	Deep Learning-Enabled Inverse Design of 30-94 GHz $P_{\text{sat}, 3\text{dB}}$ SiGe PA Supporting Concurrent Multiband Operation at Multi-Gb/s. <i>IEEE Microwave and Wireless Components Letters</i> , 2022 , 1-4	2.6		0
2	THz signal generation, radiation, and beam-forming in silicon: A circuit and electromagnetics co-design approach 2016 , 485-518			
1	Self-healing for silicon-based mm-wave power amplifiers 419-456			