# 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 | Stretchable Microwave Transmission Lines Using Liquidâ€Metal Embedded Elastomers. Advanced Engineering Materials, 2022, 24, . | 3.5 | 2 |
| 2 | A Compact SiGe Stacked Common-Base Dual-Band PA With 20/18.8 dBm P <sub>sat</sub> at 36/64 GHz Supporting Concurrent Modulation. IEEE Microwave and Wireless Components Letters, 2022, 32, 720-723. | 3.2 | 2 |
| 3 | Deep Learning-Enabled Inverse Design of 30â€“94 GHz P<sub>sat,3dB</sub> SiGe PA Supporting Concurrent Multiband Operation at Multi-Gb/s. IEEE Microwave and Wireless Components Letters, 2022, 32, 724-727. | 3.2 | 10 |
| 4 | 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 |
| 5 | 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 |
| 6 | Millimeter-Wave Physical Layer Security through Space-Time Modulated Transmitter Arrays. , 2022, , . | | 1 |
| 7 | Integrated Intelligent Electromagnetic Radiator Design for Future THz Communication: A Review. Chinese Journal of Electronics, 2022, 31, 499-515. | 1.5 | 4 |
| 8 | 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 |
| 9 | Dynamically Programmable Terahertz Holographic Metasurface using CMOS IC Tiling. , 2021, , . | | 1 |
| 10 | Integrated Terahertz Transceivers for Multi-node Link Discovery and Localization. , 2021, , . | | 1 |
| 11 | On-Chip Multi-Layer THz Power Generation with Beamforming Capability. , 2021, , . | | 0 |
| 12 | 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 |
| 13 | 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 |
| 14 | Real Time Cytokine Quantification in Wound Fluid Samples Using Nanowell Impedance Sensing. , 2021, , . | | 1 |
| 15 | 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 |
| 16 | 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 |
| 17 | Chip-Scale THz System for Single-Shot Angular Localization. , 2021, , . | | 0 |
| 18 | Reconfigurable Multifunctional Terahertz Holographic Metasurface using CMOS Chip Tiling. , 2021, , . | | 0 |

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|---|---|---|---|
| 19 | Spatio-temporal modulated mm-Wave arrays for physical layer security and resiliency against distributed eavesdropper attacks. , 2021, , . | | 5 |
| 20 | 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 |
| 21 | 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 |
| 22 | Spectrum-to-space mapping with 0.36 â€“ 0.4 THz on-chip transceiver for one-shot localization. , 2021, , . | | 0 |
| 23 | Universally Programmable Chip-scale TeraHertz Systems for Future Wireless Communication and Sensing. , 2021, , . | | 0 |
| 24 | 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 |
| 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 | 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 |
| 27 | 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 |
| 28 | Load Modulated Balanced mm-Wave CMOS PA with Integrated Linearity Enhancement for 5G applications. , 2020, , . | | 28 |
| 29 | Broadband PA Architectures with Asymmetrical Combining and Stacked PA cells across 50-70 GHz and 64-110 GHz in 250 nm InP. , 2020, , . | | 10 |
| 30 | A high-speed programmable and scalable terahertz holographic metasurface based on tiled CMOS chips. Nature Electronics, 2020, 3, 785-793. | 26.0 | 174 |
| 31 | Transformer-based Broadband mm-Wave InP PA across 42-62 GHz with Enhanced Linearity and Second Harmonic Engineering. , 2020, , . | | 6 |
| 32 | 4.6 Space-Time Modulated 71-to-76GHz mm-Wave Transmitter Array for Physically Secure Directional Wireless Links. , 2020, , . | | 19 |
| 33 | 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 |
| 34 | 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 |
| 35 | 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 |
| 36 | 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 |

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| 37 | Physically Secure Sub-THz Wireless Links. , 2020, , . | | 11 |
| 38 | Terahertz Chip-scale Systems. , 2020, , . | | 3 |
| 39 | Nano-optical CMOS Systems for Bio-molecular Sensing: In-vitro and In-vivo. , 2020, , . | | 0 |
| 40 | Physically Secure mm-Wave Wireless Links with Spatio-temporal Modulated Arrays. , 2020, , . | | 1 |
| 41 | Terahertz to bits and bits to terahertz. , 2020, , . | | 2 |
| 42 | 2D Magnetic Sensor Array for Real-time Cell Tracking and Multi-site Detection with Increased Robustness and Flow-rate. , 2019, , . | | 7 |
| 43 | Ingestible Bioelectronics: A Packaged, Bio-Molecular, Fluorescence-Based Sensor Array with Ultra-Low-Power Wireless Interface. , 2019, , . | | 5 |
| 44 | A 26-42 GHz Broadband, Back-off Efficient and Vswr Tolerant CMOS Power Amplifier Architecture for 5G Applications. , 2019, , . | | 32 |
| 45 | 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 |
| 46 | Integrated Circuits for Terahertz Communication Beyond 100 GHz: Are We There Yet?. , 2019, , . | | 19 |
| 47 | 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 |
| 48 | Programmable terahertz chip-scale sensing interface with direct digital reconfiguration at sub-wavelength scales. Nature Communications, 2019, 10, 2722. | 12.8 | 50 |
| 49 | Universal Terahertz Integrated Systems: Bridging the â€˜THzâ€™ and â€˜Applicationâ€™ Gap in the Next Decade. , 2019, , . | | 5 |
| 50 | 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 |
| 51 | 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 |
| 52 | Towards Universality in Terahertz Chip-scale Systems. , 2019, , . | | 0 |
| 53 | Fluorescence-based Multiplexed Biomolecular Systems in mm-scale Optics-free CMOS Chip: Nanoplasmonics in Embedded Electronics. , 2019, , . | | 2 |
| 54 | Chip-scale terahertz systems. , 2019, , . | | 0 |

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| 55 | 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 |
| 56 | Mm-Wave and THz Active Electromagnetic Systems on Chip: Circuits-EM-Systems Codesign Approach. , 2018, , . | | 0 |
| 57 | Multi-functional, Active and Information Processing Antenna Surfaces in Chip-scale THz Systems. , 2018, , . | | 1 |
| 58 | Terahertz integrated electronic and hybrid electronicâ€“photonic systems. Nature Electronics, 2018, 1, 622-635. | 26.0 | 444 |
| 59 | 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 |
| 60 | 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 |
| 61 | Wide-band THz Spectroscope in Silicon THz Combining Sub-wavelength Near-field Sensing and Robust Regression Analysis. , 2018, , . | | 1 |
| 62 | A Programmable Active THz Electromagnetic Surface on-Chip for Multi-functional Imaging. , 2018, , . | | 4 |
| 63 | 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 |
| 64 | 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 |
| 65 | 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 |
| 66 | Circuit-electromagnetics co-design: a new paradigm for silicon-based THz systems-on-chip. , 2018, , . | | 0 |
| 67 | 15.9 An integrated optical physically unclonable function using process-sensitive sub-wavelength photonic crystals in 65nm CMOS. , 2017, , . | | 6 |
| 68 | 27.8 Fully integrated optical spectrometer with 500-to-830nm range in 65nm CMOS. , 2017, , . | | 8 |
| 69 | Dynamic Waveform Shaping With Picosecond Time Widths. IEEE Journal of Solid-State Circuits, 2017, 52, 389-405. | 5.4 | 35 |
| 70 | 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 |
| 71 | 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 |
| 72 | A W-band SiGe power amplifier with P<inf>sat</inf> of 23 dBm and PAE of 16.8% at 95GHz. , 2017, , . | | 7 |

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| 75 | Nano-optical systems in CMOS. , 2017, , . | | 3 |
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| 79 | A Source-free Single-chip Terahertz Spectroscope through Sub-wavelength Sensing of Antenna Near-fields. , 2017, , . | | 1 |
| 80 | THz signal generation, radiation, and beam-forming in silicon. , 2016, , 485-518. | | 0 |
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| 82 | 20.2 A frequency-reconfigurable mm-Wave power amplifier with active-impedance synthesis in an asymmetrical non-isolated combiner. , 2016, , . | | 32 |
| 83 | 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 |
| 84 | 25.3 A 40-to-330GHz synthesizer-free THz spectroscope-on-chip exploiting electromagnetic scattering. , 2016, , . | | 2 |
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| 86 | 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 |
| 87 | Dynamic waveform shaping for reconfigurable radiated periodic signal generation with picosecond time-widths. , 2015, , . | | 11 |
| 88 | A fully integrated CMOS fluorescence biosensor with on-chip nanophotonic filter. , 2015, , . | | 20 |
| 89 | Methods for finding globally maximum-efficiency impedance matching networks with lossy passives. , 2015, , . | | 8 |
| 90 | A mm-Wave Segmented Power Mixer. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 1118-1129. | 4.6 | 13 |

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| 91 | 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 |
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| 93 | Integrated Self-Healing for mm-Wave Power Amplifiers. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 1301-1315. | 4.6 | 93 |
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| 97 | On-chip sensing and actuation methods for integrated self-healing mm-wave CMOS power amplifier. , 2012, , . | | 21 |
| 98 | A terahertz imaging receiver in 0.13μm SiGe BiCMOS technology. , 2011, , . | | 3 |
| 99 | Sub-THz beam-forming using near-field coupling of Distributed Active Radiator arrays. , 2011, , . | | 29 |
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| 106 | 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 |
| 107 | Self-healing for silicon-based mm-wave power amplifiers. , 0, , 419-456. | | 0 |