# Edoardo Charbon

List of Publications by Year
in descending order



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|---|---|---|---|
| 219 papers | 7,442 citations | 53660<br>45 h-index | 76769<br>74 g-index |
| 225 all docs | 225 docs citations | 225 times ranked | 4008 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Design and characterization of a CMOS 3-D image sensor based on single photon avalanche diodes. IEEE Journal of Solid-State Circuits, 2005, 40, 1847-1854. | 3.5 | 293 |
| 2 | Cryo-CMOS Circuits and Systems for Quantum Computing Applications. IEEE Journal of Solid-State Circuits, 2018, 53, 309-321. | 3.5 | 276 |
| 3 | Single-photon avalanche diode imagers in biophotonics: review and outlook. Light: Science and Applications, 2019, 8, 87. | 7.7 | 269 |
| 4 | A 128 $imes$ 128 Single-Photon Image Sensor With Column-Level 10-Bit Time-to-Digital Converter Array. IEEE Journal of Solid-State Circuits, 2008, 43, 2977-2989. | 3.5 | 240 |
| 5 | Megapixel time-gated SPAD image sensor for 2D and 3D imaging applications. Optica, 2020, 7, 346. | 4.8 | 200 |
| 6 | Cryo-CMOS for quantum computing. , 2016, , . | | 157 |
| 7 | Characterization and Compact Modeling of Nanometer CMOS Transistors at Deep-Cryogenic Temperatures. IEEE Journal of the Electron Devices Society, 2018, 6, 996-1006. | 1.2 | 142 |
| 8 | A 30-frames/s, $252imes144$ SPAD Flash LiDAR With 1728 Dual-Clock 48.8-ps TDCs, and Pixel-Wise Integrated Histogramming. IEEE Journal of Solid-State Circuits, 2019, 54, 1137-1151. | 3.5 | 142 |
| 9 | A Time-Resolved, Low-Noise Single-Photon Image Sensor Fabricated in Deep-Submicron CMOS Technology. IEEE Journal of Solid-State Circuits, 2012, 47, 1394-1407. | 3.5 | 141 |
| 10 | Roadmap toward the 10 ps time-of-flight PET challenge. Physics in Medicine and Biology, 2020, 65, 21RM01. | 1.6 | 136 |
| 11 | CMOS-based cryogenic control of silicon quantum circuits. Nature, 2021, 593, 205-210. | 13.7 | 136 |
| 12 | A Single Photon Avalanche Diode Implemented in 130-nm CMOS Technology. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 863-869. | 1.9 | 133 |
| 13 | Single-photon imaging in complementary metal oxide semiconductor processes. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130100. | 1.6 | 110 |
| 14 | A 512 Ã— 512 SPAD Image Sensor With Integrated Gating for Widefield FLIM. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-12. | 1.9 | 109 |
| 15 | Real-time fluorescence lifetime imaging system with a 32 Ã— 32 013Î¼m CMOS low dark-count single-photon avalanche diode array. Optics Express, 2010, 18, 10257. | 1.7 | 108 |
| 16 | Single-Photon Synchronous Detection. IEEE Journal of Solid-State Circuits, 2009, 44, 1977-1989. | 3.5 | 96 |
| 17 | A low-noise single-photon detector implemented in a 130nm CMOS imaging process. Solid-State Electronics, 2009, 53, 803-808. | 0.8 | 95 |
| 18 | Watermarking-based copyright protection of sequential functions. IEEE Journal of Solid-State Circuits, 2000, 35, 434-440. | 3.5 | 94 |

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| 19 | Architecture and applications of a high resolution gated SPAD image sensor. Optics Express, 2014, 22, 17573. | 1.7 | 94 |
| 20 | A Single-Photon Avalanche Diode Array for Fluorescence Lifetime Imaging Microscopy. IEEE Journal of Solid-State Circuits, 2008, 43, 2546-2557. | 3.5 | 90 |
| 21 | Hybrid polymer microlens arrays with high numerical apertures fabricated using simple ink-jet printing technique. Optical Materials Express, 2011, 1, 259. | 1.6 | 89 |
| 22 | A 160×128 single-photon image sensor with on-pixel 55ps 10b time-to-digital converter. , 2011, , . | | 89 |
| 23 | A 1 Ã— 400 Backside-Illuminated SPAD Sensor With 49.7 ps Resolution, 30 pJ/Sample TDCs Fabricated in 3D CMOS Technology for Near-Infrared Optical Tomography. IEEE Journal of Solid-State Circuits, 2015, 50, 2406-2418. | 3.5 | 87 |
| 24 | Scaling silicon-based quantum computing using CMOS technology. Nature Electronics, 2021, 4, 872-884. | 13.1 | 84 |
| 25 | A 1024$,imes,$8, 700-ps Time-Gated SPAD Line Sensor for Planetary Surface Exploration With Laser Raman Spectroscopy and LIBS. IEEE Journal of Solid-State Circuits, 2014, 49, 179-189. | 3.5 | 83 |
| 26 | System Tradeoffs in Gamma-Ray Detection Utilizing SPAD Arrays and Scintillators. IEEE Transactions on Nuclear Science, 2010, 57, 2549-2557. | 1.2 | 81 |
| 27 | A 128-Channel, 8.9-ps LSB, Column-Parallel Two-Stage TDC Based on Time Difference Amplification for Time-Resolved Imaging. IEEE Transactions on Nuclear Science, 2012, 59, 2463-2470. | 1.2 | 81 |
| 28 | Advances in digital SiPMs and their application in biomedical imaging. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2016, 809, 31-52. | 0.7 | 78 |
| 29 | Measurement and modeling of microlenses fabricated on single-photon avalanche diode arrays for fill factor recovery. Optics Express, 2014, 22, 4202. | 1.7 | 70 |
| 30 | A wide spectral range single-photon avalanche diode fabricated in an advanced 180 nm CMOS technology. Optics Express, 2012, 20, 5849. | 1.7 | 66 |
| 31 | The performance of 2D array detectors for light sheet based fluorescence correlation spectroscopy. Optics Express, 2013, 21, 8652. | 1.7 | 66 |
| 32 | A High-PDE, Backside-Illuminated SPAD in 65/40-nm 3D IC CMOS Pixel With Cascoded Passive Quenching and Active Recharge. IEEE Electron Device Letters, 2017, 38, 1547-1550. | 2.2 | 66 |
| 33 | A Scalable Cryo-CMOS Controller for the Wideband Frequency-Multiplexed Control of Spin Qubits and Transmons. IEEE Journal of Solid-State Circuits, 2020, 55, 2930-2946. | 3.5 | 65 |
| 34 | Hybrid Small Animal Imaging System Combining Magnetic Resonance Imaging With Fluorescence Tomography Using Single Photon Avalanche Diode Detectors. IEEE Transactions on Medical Imaging, 2011, 30, 1265-1273. | 5.4 | 64 |
| 35 | A 32×32 50ps resolution 10 bit time to digital converter array in 130nm CMOS for time correlated imaging. , 2009, , . | | 61 |
| 36 | A Low Dark Count p-i-n Diode Based SPAD in CMOS Technology. IEEE Transactions on Electron Devices, 2016, 63, 65-71. | 1.6 | 61 |

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| 37 | A reconfigurable cryogenic platform for the classical control of quantum processors. Review of Scientific Instruments, 2017, 88, 045103. | 0.6 | 58 |
| 38 | A new single-photon avalanche diode in 90nm standard CMOS technology. Optics Express, 2010, 18, 22158. | 1.7 | 57 |
| 39 | Dynamic range extension for photon counting arrays. Optics Express, 2018, 26, 22234. | 1.7 | 57 |
| 40 | A 19.6 ps, FPGA-Based TDC With Multiple Channels for Open Source Applications. IEEE Transactions on Nuclear Science, 2013, 60, 2203-2208. | 1.2 | 56 |
| 41 | Toward One Giga Frames per Second â€" Evolution of in Situ Storage Image Sensors. Sensors, 2013, 13, 4640-4658. | 2.1 | 56 |
| 42 | Impact of Classical Control Electronics on Qubit Fidelity. Physical Review Applied, 2019, 12, . | 1.5 | 55 |
| 43 | A Modular, Direct Time-of-Flight Depth Sensor in 45/65-nm 3-D-Stacked CMOS Technology. IEEE Journal of Solid-State Circuits, 2019, 54, 3203-3214. | 3.5 | 55 |
| 44 | A Substrate Isolated CMOS SPAD Enabling Wide Spectral Response and Low Electrical Crosstalk. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 299-305. | 1.9 | 54 |
| 45 | High-Performance Back-Illuminated Three-Dimensional Stacked Single-Photon Avalanche Diode Implemented in 45-nm CMOS Technology. IEEE Journal of Selected Topics in Quantum Electronics, 2018, 24, 1-9. | 1.9 | 53 |
| 46 | Characterization and Modeling of Mismatch in Cryo-CMOS. IEEE Journal of the Electron Devices Society, 2020, 8, 263-273. | 1.2 | 50 |
| 47 | Wide-field time-gated SPAD imager for phasor-based FLIM applications. Methods and Applications in Fluorescence, 2020, 8, 024002. | 1.1 | 50 |
| 48 | Toward a 3-D Camera Based on Single Photon Avalanche Diodes. IEEE Journal of Selected Topics in Quantum Electronics, 2004, 10, 796-802. | 1.9 | 49 |
| 49 | A single photon avalanche diode array fabricated in 0.35-Î¼m CMOS and based on an event-driven readout for TCSPC experiments. , 2006, 6372, 212. | | 49 |
| 50 | A first single-photon avalanche diode fabricated in standard SOI CMOS technology with a full characterization of the device. Optics Express, 2015, 23, 13200. | 1.7 | 47 |
| 51 | 19.1 A Scalable Cryo-CMOS 2-to-20GHz Digitally Intensive Controller for 4Ã—32 Frequency Multiplexed Spin Qubits/Transmons in 22nm FinFET Technology for Quantum Computers. , 2020, , . | | 47 |
| 52 | A CMOS SPAD Imager with Collision Detection and 128 Dynamically Reallocating TDCs for Single-Photon Counting and 3D Time-of-Flight Imaging. Sensors, 2018, 18, 4016. | 2.1 | 45 |
| 53 | Characterization and Analysis of On-Chip Microwave Passive Components at Cryogenic Temperatures. IEEE Journal of the Electron Devices Society, 2020, 8, 448-456. | 1.2 | 45 |
| 54 | Fluorescence lifetime imaging with a megapixel SPAD camera and neural network lifetime estimation. Scientific Reports, 2020, 10, 20986. | 1.6 | 44 |

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| 55 | Multi-channel digital SiPMs: Concept, analysis and implementation. , 2012, , . | | 43 |
| 56 | Fast single-photon avalanche diode arrays for laser Raman spectroscopy. Optics Letters, 2011, 36, 3672. | 1.7 | 42 |
| 57 | Nonuniformity Analysis of a 65-kpixel CMOS SPAD Imager. IEEE Transactions on Electron Devices, 2016, 63, 57-64. | 1.6 | 42 |
| 58 | Quantum correlation measurement with single photon avalanche diode arrays. Optics Express, 2019, 27, 32863. | 1.7 | 42 |
| 59 | Modeling and Analysis of a Direct Time-of-Flight Sensor Architecture for LiDAR Applications. Sensors, 2019, 19, 5464. | 2.1 | 41 |
| 60 | FPGA implementation of a 32x32 autocorrelator array for analysis of fast image series. Optics Express, 2012, 20, 17767. | 1.7 | 39 |
| 61 | Quanta burst photography. ACM Transactions on Graphics, 2020, 39, . | 4.9 | 38 |
| 62 | Single Photon Counting UV Solar-Blind Detectors Using Silicon and III-Nitride Materials. Sensors, 2016, 16, 927. | 2.1 | 37 |
| 63 | A 4 Ã— 4 Ã— 416 digital SiPM array with 192 TDCs for multiple high-resolution timestamp acquisition. Journal of Instrumentation, 2013, 8, P05024-P05024. | 0.5 | 36 |
| 64 | A Cryogenic 1 GSa/s, Soft-Core FPGA ADC for Quantum Computing Applications. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 1854-1865. | 3.5 | 36 |
| 65 | A 256Ã—256 45/65nm 3D-stacked SPAD-based direct TOF image sensor for LiDAR applications with optical polar modulation for up to 18.6dB interference suppression. , 2018, , . | | 35 |
| 66 | Progress in single-photon avalanche diode image sensors in standard CMOS: From two-dimensional monolithic to three-dimensional-stacked technology. Japanese Journal of Applied Physics, 2018, 57, 1002A3. | 0.8 | 34 |
| 67 | High fill-factor miniaturized SPAD arrays with a guard-ring-sharing technique. Optics Express, 2020, 28, 13068. | 1.7 | 34 |
| 68 | Quantum information density scaling and qubit operation time constraints of CMOS silicon-based quantum computer architectures. Npj Quantum Information, 2017, 3, . | 2.8 | 33 |
| 69 | A Low-Noise CMOS SPAD Pixel With 12.1 Ps SPTR and 3 Ns Dead Time. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-9. | 1.9 | 33 |
| 70 | 13.2 A Fully-Integrated 40-nm 5-6.5 GHz Cryo-CMOS System-on-Chip with I/Q Receiver and Frequency Synthesizer for Scalable Multiplexed Readout of Quantum Dots. , 2021, , . | | 33 |
| 71 | A Cryogenic Broadband Sub-1-dB NF CMOS Low Noise Amplifier for Quantum Applications. IEEE Journal of Solid-State Circuits, 2021, 56, 2040-2053. | 3.5 | 33 |
| 72 | Compact solid-state CMOS single-photon detector array for in vivo NIR fluorescence lifetime oncology measurements. Biomedical Optics Express, 2016, 7, 1797. | 1.5 | 32 |

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| 73 | Toward a Full-Flexible and Fast-Prototyping TOF-PET Block Detector Based on TDC-on-FPGA. IEEE Transactions on Radiation and Plasma Medical Sciences, 2019, 3, 538-548. | 2.7 | 32 |
| 74 | A cryo-CMOS chip that integrates silicon quantum dots and multiplexed dispersive readout electronics. Nature Electronics, 2022, 5, 53-59. | 13.1 | 32 |
| 75 | UV-Sensitive Low Dark-Count PureB Single-Photon Avalanche Diode. IEEE Transactions on Electron Devices, 2014, 61, 3768-3774. | 1.6 | 31 |
| 76 | The Cryogenic Temperature Behavior of Bipolar, MOS, and DTMOS Transistors in Standard CMOS. IEEE Journal of the Electron Devices Society, 2018, 6, 263-270. | 1.2 | 30 |
| 77 | The electronic interface for quantum processors. Microprocessors and Microsystems, 2019, 66, 90-101. | 1.8 | 30 |
| 78 | Fluorescence lifetime biosensing with DNA microarrays and a CMOS-SPAD imager. Biomedical Optics Express, 2010, 1, 1302. | 1.5 | 29 |
| 79 | SPAD imagers for super resolution localization microscopy enable analysis of fast fluorophore blinking. Scientific Reports, 2017, 7, 44108. | 1.6 | 29 |
| 80 | Characterization and Model Validation of Mismatch in Nanometer CMOS at Cryogenic Temperatures. , 2018, , . | | 27 |
| 81 | Time estimation with multichannel digital silicon photomultipliers. Physics in Medicine and Biology, 2015, 60, 2435-2452. | 1.6 | 26 |
| 82 | 11.4 A 67,392-SPAD PVTB-compensated multi-channel digital SiPM with 432 column-parallel 48ps 17b TDCs for endoscopic time-of-flight PET. , 2015, , . | | 26 |
| 83 | The gigavision camera. , 2009, , . | | 25 |
| 84 | EndoTOFPET-US: a novel multimodal tool for endoscopy and positron emission tomography. Journal of Instrumentation, 2013, 8, C04002-C04002. | 0.5 | 25 |
| 85 | Deep-Cryogenic Voltage References in 40-nm CMOS. IEEE Solid-State Circuits Letters, 2018, 1, 110-113. | 1.3 | 25 |
| 86 | LinoSPAD: A Compact Linear SPAD Camera System with 64 FPGA-Based TDC Modules for Versatile 50 ps Resolution Time-Resolved Imaging. Instruments, 2017, 1, 6. | 0.8 | 23 |
| 87 | Inkjet printing of SU-8 for polymer-based MEMS a case study for microlenses. Proceedings of the IEEE International Conference on Micro Electro Mechanical Systems (MEMS), 2008, , . | 0.0 | 22 |
| 88 | RTS Noise Characterization in Single-Photon Avalanche Diodes. IEEE Electron Device Letters, 2010, 31, 692-694. | 2.2 | 22 |
| 89 | Photon-Counting Arrays for Time-Resolved Imaging. Sensors, 2016, 16, 1005. | 2.1 | 22 |
| 90 | Light-In-Flight Imaging by a Silicon Image Sensor: Toward the Theoretical Highest Frame Rate. Sensors, 2019, 19, 2247. | 2.1 | 22 |

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| 91 | A Wideband Low-Power Cryogenic CMOS Circulator for Quantum Applications. IEEE Journal of Solid-State Circuits, 2020, 55, 1224-1238. | 3.5 | 22 |
| 92 | Quantum Transport in 40-nm MOSFETs at Deep-Cryogenic Temperatures. IEEE Electron Device Letters, 2020, , 1-1. | 2.2 | 22 |
| 93 | CMOS SPAD Based on Photo-Carrier Diffusion Achieving PDP >40% From 440 to 580 nm at 4 V Excess Bias. IEEE Photonics Technology Letters, 2015, 27, 2445-2448. | 1.3 | 21 |
| 94 | 19.3 A 200dB FoM 4-to-5GHz Cryogenic Oscillator with an Automatic Common-Mode Resonance Calibration for Quantum Computing Applications. , 2020, , . | | 21 |
| 95 | Engineering Breakdown Probability Profile for PDP and DCR Optimization in a SPAD Fabricated in a Standard 55 nm BCD Process. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-10. | 1.9 | 21 |
| 96 | Pixel super-resolution with spatially entangled photons. Nature Communications, 2022, 13, . | 5.8 | 21 |
| 97 | Monolithic Silicon Chip for Immunofluorescence Detection on Single Magnetic Beads. Analytical Chemistry, 2010, 82, 49-52. | 3.2 | 20 |
| 98 | A $780 imes 800~{mu}hbox{m}^2$ Multichannel Digital Silicon Photomultiplier With Column-Parallel Time-to-Digital Converter and Basic Characterization. IEEE Transactions on Nuclear Science, 2014, 61, 44-52. | 1.2 | 20 |
| 99 | Widefield High Frame Rate Single-Photon SPAD Imagers for SPIM-FCS. Biophysical Journal, 2018, 114, 2455-2464. | 0.2 | 20 |
| 100 | Subthreshold Mismatch in Nanometer CMOS at Cryogenic Temperatures. IEEE Journal of the Electron Devices Society, 2020, 8, 797-806. | 1.2 | 20 |
| 101 | Fast-fluorescence dynamics in nonratiometric calcium indicators. Optics Letters, 2009, 34, 362. | 1.7 | 19 |
| 102 | 13.3 A 6-to-8GHz 0.17mW/Qubit Cryo-CMOS Receiver for Multiple Spin Qubit Readout in 40nm CMOS Technology. , 2021, , . | | 19 |
| 103 | Heralded Spectroscopy Reveals Excitonâ€"Exciton Correlations in Single Colloidal Quantum Dots. Nano Letters, 2021, 21, 6756-6763. | 4.5 | 19 |
| 104 | Light detection and ranging with entangled photons. Optics Express, 2022, 30, 3675. | 1.7 | 19 |
| 105 | Single-Photon Avalanche Diode Imagers Applied to Near-Infrared Imaging. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 291-298. | 1.9 | 18 |
| 106 | Full-field quantum imaging with a single-photon avalanche diode camera. Physical Review A, 2021, 103, . | 1.0 | 18 |
| 107 | Microparticle photometry in a CMOS microsystem combining magnetic actuation and in situ optical detection. Sensors and Actuators B: Chemical, 2008, 132, 411-417. | 4.0 | 17 |
| 108 | SPADnet: Embedded coincidence in a smart sensor network for PET applications. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 734, 122-126. | 0.7 | 17 |

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| 109 | 3D-Stacked CMOS SPAD Image Sensors: Technology and Applications. , 2018, , . | | 17 |
| 110 | Voltage References for the Ultra-Wide Temperature Range from 4.2K to 300K in 40-nm CMOS. , 2019, , . | | 17 |
| 111 | A Cryo-CMOS Digital Cell Library for Quantum Computing Applications. IEEE Solid-State Circuits Letters, 2020, 3, 310-313. | 1.3 | 17 |
| 112 | Reduction of Fixed-Position Noise in Position-Sensitive Single-Photon Avalanche Diodes. IEEE Transactions on Electron Devices, 2011, 58, 2354-2361. | 1.6 | 16 |
| 113 | Back-gate effects on DC performance and carrier transport in 22 nm FDSOI technology down to cryogenic temperatures. Solid-State Electronics, 2022, 193, 108296. | 0.8 | 16 |
| 114 | Mutually Coupled Time-to-Digital Converters (TDCs) for Direct Time-of-Flight (dTOF) Image Sensors. Sensors, 2018, 18, 3413. | 2.1 | 15 |
| 115 | Cryogenic low-dropout voltage regulators for stable low-temperature electronics. Cryogenics, 2018, 95, 11-17. | 0.9 | 15 |
| 116 | A Cryogenic CMOS Parametric Amplifier. IEEE Solid-State Circuits Letters, 2020, 3, 5-8. | 1.3 | 15 |
| 117 | Designing a DDS-Based SoC for High-Fidelity Multi-Qubit Control. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 5380-5393. | 3.5 | 15 |
| 118 | A Low-Jitter and Low-Spur Charge-Sampling PLL. IEEE Journal of Solid-State Circuits, 2022, 57, 492-504. | 3.5 | 15 |
| 119 | Dynamic time domain near-infrared optical tomography based on a SPAD camera. Biomedical Optics Express, 2020, 11, 5470. | 1.5 | 15 |
| 120 | In vitro and in vivo NIR fluorescence lifetime imaging with a time-gated SPAD camera. Optica, 2022, 9, 532. | 4.8 | 15 |
| 121 | Sub-10 ps Minimum Ionizing Particle Detection With Geiger-Mode APDs. Frontiers in Physics, 2022, 10, . | 1.0 | 15 |
| 122 | Sensor network architecture for a fully digital and scalable SPAD based PET system. , 2012, , . | | 14 |
| 123 | Fluorescent magnetic bead and cell differentiation/counting using a CMOS SPAD matrix. Sensors and Actuators B: Chemical, 2012, 174, 609-615. | 4.0 | 14 |
| 124 | Timing optimization of a H-tree based digital silicon photomultiplier. Journal of Instrumentation, 2013, 8, P09016-P09016. | 0.5 | 14 |
| 125 | Single-Photon, Time-Gated, Phasor-Based Fluorescence Lifetime Imaging through Highly Scattering Medium. ACS Photonics, 2020, 7, 68-79. | 3.2 | 14 |
| 126 | Cryo-CMOS for Analog/Mixed-Signal Circuits and Systems. , 2020, , . | | 14 |

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| 127 | INDEX: an inductance extractor for superconducting circuits. IEEE Transactions on Applied Superconductivity, 1993, 3, 2629-2632. | 1.1 | 13 |
| 128 | A 128-channel, 9ps column-parallel two-stage TDC based on time difference amplification for time-resolved imaging. , 2011, , . | | 13 |
| 129 | Cryogenic CMOS Circuits and Systems: Challenges and Opportunities in Designing the Electronic Interface for Quantum Processors. IEEE Microwave Magazine, 2021, 22, 60-78. | 0.7 | 13 |
| 130 | Multimodal imaging combining time-domain near-infrared optical tomography and continuous-wave fluorescence molecular tomography. Optics Express, 2020, 28, 9860. | 1.7 | 13 |
| 131 | The Michelangelo step: removing scalloping and tapering effects in high aspect ratio through silicon vias. Scientific Reports, 2021, 11, 3997. | 1.6 | 12 |
| 132 | A Scaling Law for SPAD Pixel Miniaturization. Sensors, 2021, 21, 3447. | 2.1 | 12 |
| 133 | A Cryo-CMOS Wideband Quadrature Receiver With Frequency Synthesizer for Scalable Multiplexed Readout of Silicon Spin Qubits. IEEE Journal of Solid-State Circuits, 2022, 57, 2374-2389. | 3.5 | 12 |
| 134 | Symbolic compaction with analogue constraints. International Journal of Circuit Theory and Applications, 1995, 23, 433-452. | 1.3 | 11 |
| 135 | A new ethylene glycol-silane monolayer for highly-specific DNA detection on Silicon Chips. Surface Science, 2010, 604, L71-L74. | 0.8 | 11 |
| 136 | Timing optimization utilizing order statistics and multichannel digital silicon photomultipliers. Optics Letters, 2014, 39, 552. | 1.7 | 11 |
| 137 | Characterization of bipolar transistors for cryogenic temperature sensors in standard CMOS. , 2016, , . | | 11 |
| 138 | First Near-Ultraviolet- and Blue-Enhanced Backside-Illuminated Single-Photon Avalanche Diode Based on Standard SOI CMOS Technology. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-6. | 1.9 | 11 |
| 139 | Image reconstruction for novel time domain near infrared optical tomography: towards clinical applications. Biomedical Optics Express, 2020, 11, 4723. | 1.5 | 11 |
| 140 | Humidity-sensitive oscillator fabricated in double poly CMOS technology. Sensors and Actuators B: Chemical, 1990, 1, 441-445. | 4.0 | 10 |
| 141 | A 1-<i>Î¼</i>W Radiation-Hard Front-End in a 0.18-<i>Î¼</i>m CMOS Process for the MALTA2 Monolithic Sensor. IEEE Transactions on Nuclear Science, 2022, 69, 1299-1309. | 1.2 | 10 |
| 142 | A Flexible Ultrathin-Body Single-Photon Avalanche Diode With Dual-Side Illumination. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 276-283. | 1.9 | 9 |
| 143 | A co-design methodology for scalable quantum processors and their classical electronic interface. , 2018, , . | | 9 |
| 144 | A 10-to-12 GHz 5 mW Charge-Sampling PLL Achieving 50 fsec RMS Jitter, -258.9 dB FOM and -65 dBc Reference Spur. , 2020, , . | | 9 |

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| 145 | On Analog Silicon Photomultipliers in Standard 55-nm BCD Technology for LiDAR Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-10. | 1.9 | 9 |
| 146 | A Cmos Microsystem Combining Magnetic Actuation and In-Situ Optical Detection of Microparticles. , 2007, , . | | 8 |
| 147 | A fully-integrated 780×800μm<sup>2</sup> multi-digital silicon photomultiplier with column-parallel time-to-digital converter. , 2012, , . | | 8 |
| 148 | Light Extraction Enhancement Techniques for Inorganic Scintillators. Crystals, 2021, 11, 362. | 1.0 | 8 |
| 149 | Single-photon avalanche diode imaging sensor for subsurface fluorescence LiDAR. Optica, 2021, 8, 1126. | 4.8 | 8 |
| 150 | Cryo-CMOS Electronics For Quantum Computing: Bringing Classical Electronics Closer To Qubits In Space And Temperature. IEEE Solid-State Circuits Magazine, 2021, 13, 54-68. | 0.5 | 8 |
| 151 | Optical-stack optimization for improved SPAD photon detection efficiency. , 2019, , . | | 8 |
| 152 | Cryogenic CMOS for Qubit Control and Readout. , 2022, , . | | 8 |
| 153 | First characterization of the SPADnet sensor: a digital silicon photomultiplier for PET applications. Journal of Instrumentation, 2013, 8, C12026-C12026. | 0.5 | 7 |
| 154 | Flexible ultrathin-body single-photon avalanche diode sensors and CMOS integration. Optics Express, 2016, 24, 3734. | 1.7 | 7 |
| 155 | An order-statistics-inspired, fully-digital readout approach for analog SiPM arrays. , 2016, , . | | 7 |
| 156 | A Hybrid Readout Solution for GaN-Based Detectors Using CMOS Technology. Sensors, 2018, 18, 449. | 2.1 | 7 |
| 157 | Plug-and-play TOF-PET Module Readout Based on TDC-on-FPGA and Gigabit Optical Fiber Network. , 2019, , . | | 7 |
| 158 | Towards Quantum 3D Imaging Devices. Applied Sciences (Switzerland), 2021, 11, 6414. | 1.3 | 7 |
| 159 | Theoretical minimum uncertainty of single-molecule localizations using a single-photon avalanche diode array. Optics Express, 2021, 29, 39920. | 1.7 | 7 |
| 160 | Cryogenic Characterization of 16 nm FinFET Technology for Quantum Computing. , 2021, , . | | 7 |
| 161 | 2.5 Hz sample rate time-domain near-infrared optical tomography based on SPAD-camera image tissue hemodynamics. Biomedical Optics Express, 2022, 13, 133. | 1.5 | 7 |
| 162 | A 65k pixel, 150k frames-per-second camera with global gating and micro-lenses suitable for fluorescence lifetime imaging. Proceedings of SPIE, 2014, 9141, . | 0.8 | 6 |

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| 163 | Fundamentals of a scalable network in SPADnet-based PET systems. , 2015, , . | | 6 |
| 164 | From the Quantum Moore's Law toward Silicon Based Universal Quantum Computing. , 2017, , . | | 6 |
| 165 | Hybrid superconductorâ€"semiconductor electronics. Nature Electronics, 2019, 2, 433-434. | 13.1 | 6 |
| 166 | Blumino: The First Fully Integrated Analog SiPM With On-Chip Time Conversion. IEEE Transactions on Radiation and Plasma Medical Sciences, 2021, 5, 671-678. | 2.7 | 6 |
| 167 | Cryo-CMOS Interfaces for Large-Scale Quantum Computers. , 2020, , . | | 6 |
| 168 | Guard-Ring-Free InGaAs/InP Single-Photon Avalanche Diode Based on a Novel One-Step Zn-Diffusion Technique. IEEE Journal of Selected Topics in Quantum Electronics, 2022, 28, 1-9. | 1.9 | 6 |
| 169 | A 500 Ã— 500 Dual-Gate SPAD Imager With 100% Temporal Aperture and 1 ns Minimum Gate Length for FLIM and Phasor Imaging Applications. IEEE Transactions on Electron Devices, 2022, 69, 2865-2872. | 1.6 | 6 |
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