Christian C Enz

List of Publications by Year
in descending order

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Version: 2024-02-01

86 papers	2,329 citations	304602 22 h-index	302012 39 g-index
87 all docs	87 docs citations	87 times ranked	1514 citing authors

#	Article	IF	Citations
1	Influence of Fin and Finger Number on TID Degradation of 16-nm Bulk FinFETs Irradiated to Ultrahigh Doses. IEEE Transactions on Nuclear Science, 2022, 69, 307-313.	1.2	7
2	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
3	DC response, low-frequency noise, and TID-induced mechanisms in 16-nm FinFETs for high-energy physics experiments. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2022, 1033, 166727.	0.7	9
4	Increased Device Variability Induced by Total Ionizing Dose in 16-nm Bulk nFinFETs. IEEE Transactions on Nuclear Science, 2022, 69, 1437-1443.	1.2	3
5	Generalized Boltzmann relations in semiconductors including band tails. Journal of Applied Physics, 2021, 129, .	1.1	9
6	A generalized EKV charge-based MOSFET model including oxide and interface traps. Solid-State Electronics, 2021, 177, 107951.	0.8	7
7	Power-Optimized Digitally Controlled Oscillator in 28-nm CMOS for Low-Power FMCW Radars. IEEE Microwave and Wireless Components Letters, 2021, 31, 965-968.	2.0	3
8	TID Degradation Mechanisms in 16-nm Bulk FinFETs Irradiated to Ultrahigh Doses. IEEE Transactions on Nuclear Science, 2021, 68, 1571-1578.	1.2	21
9	Nanowatt Acoustic Inference Sensing Exploiting Nonlinear Analog Feature Extraction. IEEE Journal of Solid-State Circuits, 2021, 56, 3123-3133.	3.5	18
10	In-depth Cryogenic Characterization of 22 nm FDSOI Technology for Quantum Computation. , 2021, , .		9
11	Cryogenic Characterization of 16 nm FinFET Technology for Quantum Computing. , 2021, , .		7
12	Cryogenic Characterization of 16 nm FinFET Technology for Quantum Computing. , 2021, , .		3
13	Theoretical Limit of Low Temperature Subthreshold Swing in Field-Effect Transistors. IEEE Electron Device Letters, 2020, 41, 276-279.	2.2	108
14	A 49 Î¼W 6th-Order Chebyshev SSF-Based Low-Pass Analog Filter for IEEE 802.11ax. , 2020, , .		1
15	Physical Model of Low-Temperature to Cryogenic Threshold Voltage in MOSFETs. IEEE Journal of the Electron Devices Society, 2020, 8, 780-788.	1.2	51
16	Inflection Phenomenon in Cryogenic MOSFET Behavior. IEEE Transactions on Electron Devices, 2020, 67, 1357-1360.	1.6	26
17	Experimental Verification of the Impact of Analog CMS on CIS Readout Noise. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 774-784.	3.5	10
18	Ionizing-Radiation Response and Low-Frequency Noise of 28-nm MOSFETs at Ultrahigh Doses. IEEE Transactions on Nuclear Science, 2020, 67, 1302-1311.	1.2	35

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19	A CMOS Image Sensor Pixel Combining Deep Sub-Electron Noise With Wide Dynamic Range. IEEE Electron Device Letters, 2020, 41, 880-883.	2.2	13
20	A 4-GHz Low-Power, Multi-User Approximate Zero-IF FM-UWB Transceiver for IoT. IEEE Journal of Solid-State Circuits, 2019, 54, 2462-2474.	3.5	19
21	An Ultra-Low Power PPG and mm-Resolution ToF PPD-Based CMOS Chip Towards All-in-One Photonic Sensors. IEEE Sensors Journal, 2019, 19, 11858-11866.	2.4	8
22	AC/DC Ratio Enhancement in Photoplethysmography Using a Pinned Photodiode. IEEE Electron Device Letters, 2019, 40, 1828-1831.	2.2	8
23	A 2.6 muW Monolithic CMOS Photoplethysmographic (PPG) Sensor Operating With 2 muW LED Power for Continuous Health Monitoring. IEEE Transactions on Biomedical Circuits and Systems, 2019, 13, 1243-1253.	2.7	22
24	Survey of Precision-Scalable Multiply-Accumulate Units for Neural-Network Processing. , 2019, , .		22
25	17.8 A 2.6Î¼W Monolithic CMOS Photoplethysmographic Sensor Operating with 2Î¼W LED Power. , 2019, , .		10
26	Characterization and modeling of 28-nm FDSOI CMOS technology down to cryogenic temperatures. Solid-State Electronics, 2019, 159, 106-115.	0.8	76
27	Review and Benchmarking of Precision-Scalable Multiply-Accumulate Unit Architectures for Embedded Neural-Network Processing. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2019, 9, 697-711.	2.7	50
28	Cryogenic MOSFET Threshold Voltage Model. , 2019, , .		35
29	Charge-Based Distortion Analysis of Nanoscale MOSFETs. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 453-462.	3.5	9
30	Influence of Halo Implantations on the Total Ionizing Dose Response of 28-nm pMOSFETs Irradiated to Ultrahigh Doses. IEEE Transactions on Nuclear Science, 2019, 66, 82-90.	1.2	29
31	Compact Modeling of Charge Transfer in Pinned Photodiodes for CMOS Image Sensors. IEEE Transactions on Electron Devices, 2019, 66, 160-168.	1.6	23
32	Characterization and Modeling of Gigarad-TID-Induced Drain Leakage Current of 28-nm Bulk MOSFETs. IEEE Transactions on Nuclear Science, 2019, 66, 38-47.	1.2	25
33	Charge-Based Modeling of Radiation Damage in Symmetric Double-Gate MOSFETs. IEEE Journal of the Electron Devices Society, 2018, 6, 85-94.	1.2	24
34	Characterization and Modeling of 28-nm Bulk CMOS Technology Down to 4.2 K. IEEE Journal of the Electron Devices Society, 2018, 6, 1007-1018.	1.2	107
35	An Accurate kTC Noise Analysis of CDS Circuits. , 2018, , .		4
36	28-nm Bulk and FDSOI Cryogenic MOSFET : (Invited Paper). , 2018, , .		1

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37	Design of Approximate Circuits by Fabrication of False Timing Paths: The Carry Cut-Back Adder. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2018, 8, 746-757.	2.7	18
38	Cryogenic MOS Transistor Model. IEEE Transactions on Electron Devices, 2018, 65, 3617-3625.	1.6	114
39	An Approximate Zero IF FM-UWB Receiver for High Density Wireless Sensor Networks. IEEE Transactions on Microwave Theory and Techniques, 2017, 65, 374-385.	2.9	11
40	Nanoscale MOSFET Modeling: Part 1: The Simplified EKV Model for the Design of Low-Power Analog Circuits. IEEE Solid-State Circuits Magazine, 2017, 9, 26-35.	0.5	54
41	Comprehensive noise analysis in PPG read-out chains. , 2017, , .		14
42	Cryogenic characterization of 28 nm bulk CMOS technology for quantum computing. , 2017, , .		61
43	Analysis of power consumption in LC oscillators based on the inversion coefficient. , 2017, , .		6
44	Characterization of GigaRad Total Ionizing Dose and Annealing Effects on 28-nm Bulk MOSFETs. IEEE Transactions on Nuclear Science, 2017, 64, 2639-2647.	1.2	41
45	Approximate FPGA Implementation of CORDIC for Tactile Data Processing Using Speculative Adders. , 2017, , .		10
46	Nanoscale MOSFET Modeling: Part 2: Using the Inversion Coefficient as the Primary Design Parameter. IEEE Solid-State Circuits Magazine, 2017, 9, 73-81.	0.5	34
47	Noise Reduction Techniques and Scaling Effects towards Photon Counting CMOS Image Sensors. Sensors, 2016, 16, 514.	2.1	19
48	A Sub-0.5 Electron Read Noise VGA Image Sensor in a Standard CMOS Process. IEEE Journal of Solid-State Circuits, 2016, 51, 2180-2191.	3.5	51
49	Design methodology for low power RF LNA based on the figure of merit and the inversion coefficient. Analog Integrated Circuits and Signal Processing, 2016, 87, 275-287.	0.9	3
50	Approximate 32-bit floating-point unit design with 53% power-area product reduction. , 2016, , .		30
51	Temporal Readout Noise Analysis and Reduction Techniques for Low-Light CMOS Image Sensors. IEEE Transactions on Electron Devices, 2016, 63, 72-78.	1.6	101
52	Nanoscale MOSFET modeling for low-power RF design using the inversion coefficient. , 2015, , .		7
53	Automatic generation of inexact digital circuits by gate-level pruning. , 2015, , .		19
54	Energy-efficient inexact speculative adder with high performance and accuracy control. , 2015, , .		22

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55	Energy-efficient digital design through inexact and approximate arithmetic circuits. , 2015, , .		6
56	RF Small-Signal and Noise Modeling Including Parameter Extraction of Nanoscale MOSFET From Weak to Strong Inversion. IEEE Transactions on Microwave Theory and Techniques, 2015, 63, 2173-2184.	2.9	36
57	Design methodology for low power RF LNA based on the figure of merit and the inversion coefficient. , 2014, , .		6
58	Highly energy-efficient and quality-tunable inexact FFT accelerators. , 2014, , .		10
59	BSIM6: Analog and RF Compact Model for Bulk MOSFET. IEEE Transactions on Electron Devices, 2014, 61, 234-244.	1.6	105
60	A 0.18 <formula formulatype="inline"><tex Notation="TeX">$mu {m m}$</tex></formula> Biosensor Front-End Based on <formula formulatype="inline"><tex Notation="TeX">$1/f$</tex></formula> Noise, Distortion Cancelation and Chopper Stabilization Techniques. IEEE Transactions on Biomedical Circuits and Systems, 2013, 7, 660-673.	2.7	19
61	Improving energy gains ofinexactDSP hardware throughreciprocative error compensation. , 2013, , .		8
62	Synthesizing Parsimonious Inexact Circuits through Probabilistic Design Techniques. Transactions on Embedded Computing Systems, 2013, 12, 1-26.	2.1	44
63	Why design reliable chips when faulty ones are even better. , 2013, , .		5
64	Designing Energy-Efficient Arithmetic Operators Using Inexact Computing. Journal of Low Power Electronics, 2013, 9, 141-153.	0.6	14
65	Algorithmic methodologies for ultra-efficient inexact architectures for sustaining technology scaling. , 2012, , .		29
66	Noise canceling chopper stabilized front-end for electrochemical biosensors with improved dynamic range. , 2012, , .		3
67	A low power 2.4 GHz front end with MEMS lattice based channel filtering at RF. , 2012, , .		2
68	A 2.4 GHz MEMS based sub-sampling receiver front-end with low power channel selection filtering at RF. , 2012, , .		4
69	A MEMS-based 2.4-GHz sub-sampling RF front-end for advanced healthcare applications. , 2011, , .		0
70	MEMS-based all-digital frequency synthesis for ultralow-power radio for WBAN and WSN applications. , 2011, , .		1
71	Energy parsimonious circuit design through probabilistic pruning. , 2011, , .		78
72	Parsimonious Circuits for Error-Tolerant Applications through Probabilistic Logic Minimization. Lecture Notes in Computer Science, 2011, , 204-213.	1.0	11

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73	Analysis of ultralow-power asynchronous ADCs. , 2010, , .		1
74	A 2.4-GHz BAW-Based Transceiver for Wireless Body Area Networks. IEEE Transactions on Biomedical Circuits and Systems, 2010, 4, 391-399.	2.7	39
75	A 290µA, 3.2MHz 4-bit phase ADC for constant envelope, ultra-low power radio. , 2010, , .		2
76	Analysis of a novel BAW-based power amplifier. , 2009, , .		2
77	A concurrent quadrature sub-sampling mixer for multiband receivers. , 2009, , .		9
78	A novel complex G_m-C IF sub-sampling mixer. , 2009, , .		1
79	A Narrowband Multi-Channel 2.4 GHz MEMS-Based Transceiver. IEEE Journal of Solid-State Circuits, 2009, 44, 228-239.	3.5	39
80	TD: Trends in Communication Circuits & Systems. , 2008, , .		0
81	Frequency synthesis for a low-power 2.4 GHz receiver using a BAW oscillator and a relaxation oscillator. Solid-State Circuits Conference, 2008 ESSCIRC 2008 34th European, 2007, , .	0.0	15
82	Building Blocks for an Ultra Low-Power MEMS-based Radio. , 2007, , .		5
83	Ultra low-power MEMS-based radio for wireless sensor networks. , 2007, , .		12
84	Sourceâ€“Drain Partitioning in MOSFET. IEEE Transactions on Electron Devices, 2007, 54, 1384-1393.	1.6	18
85	Noise Modeling in Lateral Nonuniform MOSFET. IEEE Transactions on Electron Devices, 2007, 54, 1994-2001.	1.6	15
86	Modelling and characterization of non-uniform substrate doping. Solid-State Electronics, 1997, 41, 1857-1861.	0.8	22