Chi On Chui

List of Publications by Year
in descending order

100 papers	4,126 citations	159525 30 h-index	123376 61 g-index
101 all docs	101 docs citations	101 times ranked	3482 citing authors

#	Article	IF	Citations
1	On the Correct Extraction of Interface Trap Density of MOS Devices With High-Mobility Semiconductor Substrates. IEEE Transactions on Electron Devices, 2008, 55, 547-556.	1.6	339
2	Germanium MOS capacitors incorporating ultrathin high-/spl kappa/ gate dielectric. IEEE Electron Device Letters, 2002, 23, 473-475.	2.2	316
3	Activation and diffusion studies of ion-implanted p and n dopants in germanium. Applied Physics Letters, 2003, 83, 3275-3277.	1.5	275
4	Engineering chemically abrupt high-k metal oxideâˆ•silicon interfaces using an oxygen-gettering metal overlayer. Journal of Applied Physics, 2004, 96, 3467-3472.	1.1	182
5	Germanium n-type shallow junction activation dependences. Applied Physics Letters, 2005, 87, 091909.	1.5	169
6	On the origin of enhanced sensitivity in nanoscale FET-based biosensors. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5111-5116.	3.3	161
7	Variability Impact of Random Dopant Fluctuation on Nanoscale Junctionless FinFETs. IEEE Electron Device Letters, 2012, 33, 767-769.	2.2	157
8	Effects of hydrogen annealing on heteroepitaxial-Ge layers on Si: Surface roughness and electrical quality. Applied Physics Letters, 2004, 85, 2815-2817.	1.5	146
9	Interfacial characteristics of HfO2 grown on nitrided Ge (100) substrates by atomic-layer deposition. Applied Physics Letters, 2004, 85, 2902-2904.	1.5	131
10	Local epitaxial growth of ZrO2 on Ge (100) substrates by atomic layer epitaxy. Applied Physics Letters, 2003, 83, 2647-2649.	1.5	126
11	High performance germanium MOSFETs. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2006, 135, 242-249.	1.7	126
12	Atomic Layer Deposition of High-<tex>$kappa$</tex>Dielectric for Germanium MOS Applicationsâ€"Substrate Surface Preparation. IEEE Electron Device Letters, 2004, 25, 274-276.	2.2	120
13	Nanoscale germanium MOS Dielectrics-part I: germanium oxynitrides. IEEE Transactions on Electron Devices, 2006, 53, 1501-1508.	1.6	120
14	Ge based high performance nanoscale MOSFETs. Microelectronic Engineering, 2005, 80, 15-21.	1.1	118
15	Effective dark current suppression with asymmetric MSM photodetectors in Group IV semiconductors. IEEE Photonics Technology Letters, 2003, 15, 1585-1587.	1.3	111
16	Scalability and Electrical Properties of Germanium Oxynitride MOS Dielectrics. IEEE Electron Device Letters, 2004, 25, 613-615.	2.2	102
17	Nanoscale germanium MOS Dielectrics-part II: high-/spl kappa/ gate dielectrics. IEEE Transactions on Electron Devices, 2006, 53, 1509-1516.	1.6	90
18	Fabrication of high-quality p-MOSFET in Ge grown heteroepitaxially on Si. IEEE Electron Device Letters, 2005, 26, 311-313.	2.2	83

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19	Wideband Frequency Reconfigurable Patch Antenna With Switchable Slots Based on Liquid Metal and 3-D Printed Microfluidics. IEEE Transactions on Antennas and Propagation, 2019, 67, 2886-2895.	3.1	78
20	Variability of Inversion-Mode and Junctionless FinFETs due to Line Edge Roughness. IEEE Electron Device Letters, 2011, 32, 1489-1491.	2.2	71
21	A Quasi-Analytical Model for Double-Gate Tunneling Field-Effect Transistors. IEEE Electron Device Letters, 2012, 33, 1468-1470.	2.2	66
22	Stochastic Variability in Silicon Double-Gate Lateral Tunnel Field-Effect Transistors. IEEE Transactions on Electron Devices, 2013, 60, 84-91.	1.6	66
23	A sub-400Â°C germanium MOSFET technology with high-Îº dielectric and metal gate. , 0, , .		65
24	High Mobility Materials and Novel Device Structures for High Performance Nanoscale MOSFETs. , 2006, , .		65
25	Characteristics and mechanism of tunable work function gate electrodes using a bilayer metal structure on SiO/sub 2/ and HfO/sub 2/. IEEE Electron Device Letters, 2005, 26, 445-447.	2.2	62
26	A stacked memory device on logic 3D technology for ultra-high-density data storage. Nanotechnology, 2011, 22, 254006.	1.3	48
27	Optimization of the Sensitivity of FET-Based Biosensors via Biasing and Surface Charge Engineering. IEEE Transactions on Electron Devices, 2012, 59, 3104-3110.	1.6	48
28	Device- and Circuit-Level Variability Caused by Line Edge Roughness for Sub-32-nm FinFET Technologies. IEEE Transactions on Electron Devices, 2012, 59, 2057-2063.	1.6	44
29	Electrostatic Modeling and Insights Regarding Multigate Lateral Tunneling Transistors. IEEE Transactions on Electron Devices, 2013, 60, 2712-2720.	1.6	43
30	Zirconia grown by ultraviolet ozone oxidation on germanium (100) substrates. Journal of Applied Physics, 2004, 96, 813-819.	1.1	40
31	Interactions Between Line Edge Roughness and Random Dopant Fluctuation in Nonplanar Field-Effect Transistor Variability. IEEE Transactions on Electron Devices, 2013, 60, 3277-3284.	1.6	35
32	Zirconia-germanium interface photoemission spectroscopy using synchrotron radiation. Journal of Applied Physics, 2005, 97, 113518.	1.1	34
33	Thermal analysis of heterogeneous 3D ICs with various integration scenarios. , 0, , .		29
34	Self-Locking Optoelectronic Tweezers for Single-Cell and Microparticle Manipulation across a Large Area in High Conductivity Media. Scientific Reports, 2016, 6, 22630.	1.6	29
35	Evaluation of Digital Circuit-Level Variability in Inversion-Mode and Junctionless FinFET Technologies. IEEE Transactions on Electron Devices, 2013, 60, 2186-2193.	1.6	27
36	Electro-thermal comparison and performance optimization of thin-body SOI and GOI MOSFETs. , 0, , .		25

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37	Modeling direct interband tunneling. II. Lower-dimensional structures. Journal of Applied Physics, 2014, 116, .	1.1	25
38	Density matrix modeling of quantum cascade lasers without an artificially localized basis: A generalized scattering approach. Physical Review B, 2017, 96, .	1.1	21
39	Leakage suppression by asymmetric area electrodes in metal-semiconductor-metal photodetectors. Applied Physics Letters, 2006, 88, 063506.	1.5	20
40	A germanium NMOSFET process integrating metal gate and improved hi-Î¹ dielectrics. , 0, , .		18
41	Validating cascading of crossbar circuits with an integrated device-circuit exploration. , 2009, , .		17
42	CMOS Junctionless Field-Effect Transistors Manufacturing Cost Evaluation. IEEE Transactions on Semiconductor Manufacturing, 2013, 26, 162-168.	1.4	16
43	Nanoscale Application-Specific Integrated Circuits. , 2011, , 215-275.		16
44	Modeling direct interband tunneling. I. Bulk semiconductors. Journal of Applied Physics, 2014, 116, .	1.1	15
45	Junctionless Silicon and In_{0.53}Ga_{0.47}As Transistorsâ€"Part II: Device Variability From Random Dopant Fluctuation. IEEE Transactions on Electron Devices, 2015, 62, 3208-3214.	1.6	15
46	Semiconductor Electronic Label-Free Assay for Predictive Toxicology. Scientific Reports, 2016, 6, 24982.	1.6	15
47	Tunneling Negative Differential Resistance-Assisted STT-RAM for Efficient Read and Write Operations. IEEE Transactions on Electron Devices, 2017, 64, 121-129.	1.6	15
48	Integrated Deviceâ€"Fabric Explorations and Noise Mitigation in Nanoscale Fabrics. IEEE Nanotechnology Magazine, 2012, 11, 687-700.	1.1	14
49	Dual stress capping layer enhancement study for hybrid orientation finFET CMOS technology. , 0, , .		13
50	Nanoscale Application Specific Integrated Circuits. , 2011, , .		12
51	Channel length dependent sensitivity of Schottky contacted silicon nanowire field-effect transistor sensors. Applied Physics Letters, 2012, 100, 123504.	1.5	10
52	Robust Density Matrix Simulation of Terahertz Quantum Cascade Lasers. IEEE Transactions on Terahertz Science and Technology, 2018, 8, 492-501.	2.0	10
53	Integration of Optical Polymer Pillars Chip I/O Interconnections with Si MSM Photodetectors. IEEE Transactions on Electron Devices, 2004, 51, 1084-1090.	1.6	9
54	Parameter Variability in Nanoscale Fabrics: Bottom-Up Integrated Exploration. , 2010, , .		8

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55	Schottky Contacted Nanowire Field-Effect Sensing Device With Intrinsic Amplification. IEEE Electron Device Letters, 2010, , .	2.2	7
56	PROCEED: A Pareto Optimization-Based Circuit-Level Evaluator for Emerging Devices. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2016, 24, 192-205.	2.1	7
57	PROCEED: A pareto optimization-based circuit-level evaluator for emerging devices. , 2014, , .		6
58	Leveraging nMOS Negative Differential Resistance for Low Power, High Reliability Magnetic Memory. IEEE Transactions on Electron Devices, 2017, 64, 4084-4090.	1.6	6
59	Novel T-channel nanowire FET with built-in signal amplification for pH sensing. , 2009, , .		5
60	Integrated nanosystems with junctionless crossed nanowire transistors. , 2011, , .		5
61	Modeling source-drain tunneling in ultimately scaled IIIâ€“V transistors. Applied Physics Letters, 2015, 106, .	1.5	5
62	Engineering finger-operated peristaltic pumps. Microfluidics and Nanofluidics, 2018, 22, 1.	1.0	5
63	Ultrathin high-Îº gate dielectric technology for germanium MOS applications. , 0, , .		4
64	Synthesized compact model and experimental results for substrate noise coupling in lightly doped processes. , 0, , .		4
65	3D integrable nanowire FET sensor with intrinsic sensitivity boost. , 2011, , .		4
66	Phase-Change Memory With Multifin Thin-Film-Transistor Driver Technology. IEEE Electron Device Letters, 2012, 33, 405-407.	2.2	4
67	Gate-Induced Source Tunneling FET (GISTFET). IEEE Transactions on Electron Devices, 2015, 62, 2390-2395.	1.6	4
68	Advanced Germanium MOS Devices. , 2007, , 363-386.		4
69	Advanced germanium MOSFET technologies with high-Îº gate dielectrics and shallow junctions. , 0, , .		3
70	Nanoscale Germanium MOS Dielectrics and Junctions. , 2007, , 295-361.		3
71	Insights and optimizations of tunnel field-effect transistor operation. , 2009, , .		3
72	Heterogeneous integration of epitaxial nanostructures: strategies and application drivers. , 2012, , .		3

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73	One-Time-Programmable Memory in LTPS TFT Technology With Metal-Induced Lateral Crystallization. IEEE Transactions on Electron Devices, 2012, 59, 145-150.	1.6	3
74	Variability in Nanoscale Fabrics. ACM Journal on Emerging Technologies in Computing Systems, 2013, 9, 1-24.	1.8	3
75	Carbon-ionogel supercapacitors for integrated microelectronics. Nanotechnology, 2016, 27, 035204.	1.3	3
76	PERFORMANCE LIMITATIONS OF Si CMOS AND ALTERNATIVES FOR NANOELECTRONICS. International Journal of High Speed Electronics and Systems, 2006, 16, 175-192.	0.3	2
77	Mechanism for excess noise in mixed tunneling and avalanche breakdown of silicon. Applied Physics Letters, 2010, 96, 263503.	1.5	2
78	An Evaluation Framework for Nanotransfer Printing-Based Feature-Level Heterogeneous Integration in VLSI Circuits. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2016, 24, 1858-1870.	2.1	2
79	Nanoparticles suppress fluid instabilities in the thermal drawing of ultralong nanowires. Nature Communications, 2020, 11, 5932.	5.8	2
80	Variability in Nanoscale FinFET Technologies. Lecture Notes in Nanoscale Science and Technology, 2013, , 159-203.	0.4	2
81	A novel self-aligned gate-last MOSFET process comparing high-K candidates. , 0, , .		1
82	Advanced Germanium MOS Devices and Technology. , 0, , .		1
83	High Mobility Compound Semiconductor Permeable Base Transistors with Suppressed Base Current. ECS Transactions, 2010, 33, 93-101.	0.3	1
84	On-chip variation sensor for systematic variation estimation in nanoscale fabrics. , 2012, , .		1
85	Nanomanufacturing Strategy for Aligned Assembly of Nanowire Arrays. Journal of Electronic Materials, 2012, 41, 935-943.	1.0	1
86	A systematic approach for hydrodynamic model calibration in the quasi-ballistic regime. Solid-State Electronics, 2013, 87, 90-97.	0.8	1
87	Scaled carbon-ionogel supercapacitors for electronic circuits. , 2014, , .		1
88	Understanding and optimization of the sensitivity of nanoscale FET-based biosensors. , 2014, , .		1
89	RF performance limits of ballistic Si field-effect transistors. , 2014, , .		1
90	A novel technique to reduce leakage in metal-semiconductormetal photodetectors. , 2005, , .		0

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91	High mobility Ge pMOS fabricated using a novel heteroepitaxial ge on Si growth method. , 2005, , .		0
92	Interface Layers for High-k/Ge Gate Stacks: Are They Necessary?. ECS Meeting Abstracts, 2006, , .	0.0	0
93	The low subthreshold swing possibility with asymmetries in double-gate SOI MOSFET. , 2008, , .		0
94	Low dissipation nanoscale transistor physics and operations. , 2008, , .		0
95	Integrated amplifying nanowire FET for surface and bulk sensing. , 2011, , .		0
96	Transient measurement approaches to differentiate non-specific binding in affinity-based bioanalytical assays. Journal of Applied Physics, 2012, 112, 024702.	1.1	0
97	Ultrasensitive biomolecular assays with amplifying nanowire FET biosensors. , 2013, , .		0
98	Nanowire field-programmable computing platform. , 2013, , .		0
99	Analog/RF Performance and Optimization of Vertical IIIâ€“V Double-Gate Transistor. IEEE Transactions on Electron Devices, 2013, 60, 1613-1618.	1.6	0
100	PERFORMANCE LIMITATIONS OF Si CMOS AND ALTERNATIVES FOR NANOELECTRONICS. , 2006, , .		0