

Akin Akturk

List of Publications by Year in descending order

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637
citing authors

#	ARTICLE	IF	CITATIONS
1	Radiation Effects in Commercial 1200 V 24 A Silicon Carbide Power MOSFETs. IEEE Transactions on Nuclear Science, 2012, 59, 3258-3264.	2.0	105
2	Single Event Effects in Si and SiC Power MOSFETs Due to Terrestrial Neutrons. IEEE Transactions on Nuclear Science, 2017, 64, 529-535.	2.0	73
3	Electron Transport and Velocity Oscillations in a Carbon Nanotube. IEEE Nanotechnology Magazine, 2007, 6, 469-474.	2.0	66
4	Device Modeling at Cryogenic Temperatures: Effects of Incomplete Ionization. IEEE Transactions on Electron Devices, 2007, 54, 2984-2990.	3.0	62
5	Reliability studies of SiC vertical power MOSFETs. , 2018, , .		43
6	Compact and Distributed Modeling of Cryogenic Bulk MOSFET Operation. IEEE Transactions on Electron Devices, 2010, 57, 1334-1342.	3.0	39
7	Terrestrial Neutron-Induced Failures in Silicon Carbide Power MOSFETs and Diodes. IEEE Transactions on Nuclear Science, 2018, 65, 1248-1254.	2.0	39
8	Self-Consistent Modeling of Heating and MOSFET Performance in 3-D Integrated Circuits. IEEE Transactions on Electron Devices, 2005, 52, 2395-2403.	3.0	38
9	Energy- and Time-Dependent Dynamics of Trap Occupation in 4H-SiC MOSFETs. IEEE Transactions on Electron Devices, 2008, 55, 2061-2070.	3.0	34
10	Characterization of Single-Photon Avalanche Diodes in a 0.5 μm Standard CMOS Processâ€”Part 1: Perimeter Breakdown Suppression. IEEE Sensors Journal, 2010, 10, 1682-1690.	4.7	34
11	Quantum Modeling and Proposed Designs of CNT-Embedded Nanoscale MOSFETs. IEEE Transactions on Electron Devices, 2005, 52, 577-584.	3.0	32
12	High field density-functional-theory based Monte Carlo: 4H-SiC impact ionization and velocity saturation. Journal of Applied Physics, 2009, 105, .	2.5	31
13	Reliability of SiC Power Devices against Cosmic Ray Neutron Single-Event Burnout. Materials Science Forum, 0, 924, 559-562.	0.3	28
14	Structure, bonding, and passivation of single carbon-related oxide hole traps near 4H-SiC/SiO ₂ interfaces. Journal of Applied Physics, 2014, 116, .	2.5	26
15	Terahertz Current Oscillations in Single-Walled Zigzag Carbon Nanotubes. Physical Review Letters, 2007, 98, 166803.	7.8	25
16	The effect of defects and their passivation on the density of states of the 4H-silicon-carbide/silicon-dioxide interface. Journal of Applied Physics, 2013, 113, 053703.	2.5	22
17	Predicting Cosmic Ray-Induced Failures in Silicon Carbide Power Devices. IEEE Transactions on Nuclear Science, 2019, 66, 1828-1832.	2.0	21
18	Compact modeling of 0.35 μm SOI CMOS technology node for 4K DC operation using Verilog-A. Microelectronic Engineering, 2010, 87, 2518-2524.	2.4	19

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19	Comparison of 4H-SiC impact ionization models using experiments and self-consistent simulations. Journal of Applied Physics, 2008, 104, 026101.	2.5	13
20	Increased CMOS inverter switching speed with asymmetrical doping. Solid-State Electronics, 2003, 47, 185-192.	1.4	10
21	Mixed-mode temperature modeling of full-chip based on individual non-isothermal device operations. Solid-State Electronics, 2005, 49, 1127-1134.	1.4	9
22	Coupled Simulation of Device Performance and Heating of Vertically Stacked Three-Dimensional Integrated Circuits. , 2005, , .		8
23	Effects of carbon-related oxide defects on the reliability of 4H-SiC MOSFETs. , 2014, , .		7
24	Coupled modeling of time-dependent full-chip heating and quantum non-isothermal device operation. , 2003, , .		6
25	Impact Ionization and Freeze-Out Model for Simulation of Low Gate Bias Kink Effect in SOI-MOSFETs Operating at Liquid He Temperature. , 2009, , .		6
26	Faster CMOS inverter switching obtained with channel engineered asymmetrical halo implanted MOSFETs. , 0, , .		4
27	Modeling the enhancement of nanoscale MOSFETs by embedding carbon nanotubes in the channel. , 0, , .		4
28	Device Performance and Package Induced Self Heating Effects At Cryogenic Temperatures. , 2006, , .		4
29	Unusually strong temperature dependence of graphene electron mobility. , 2008, , .		4
30	Effects of quantum confinement on interface trap occupation in 4H-SiC MOSFETs. , 2008, , .		4
31	Electron mobility of a semiconducting carbon nanotube. , 0, , .		3
32	Mixed-mode simulation of non-isothermal quantum device operation and full-chip heating. , 0, , .		2
33	Design and testing of a self-powered 3D integrated SOI CMOS system. Microelectronic Engineering, 2008, 85, 388-394.	2.4	2
34	Modeling of perimeter-gated silicon avalanche diodes fabricated in a standard single-well CMOS process. , 2009, , .		2
35	SPICE Modeling of Advanced Silicon Carbide High Temperature Integrated Circuits. Materials Science Forum, 0, 858, 1070-1073.	0.3	2
36	Mechanisms of Nitrogen Incorporation at 4H-SiC/SiO ₂ Interface during Nitric Oxide Passivation – A First Principles Study. Materials Science Forum, 2016, 858, 465-468.	0.3	2

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37	Energy Dependence of Atmospheric Neutron-Induced Failures in Silicon Carbide Power Devices. IEEE Transactions on Nuclear Science, 2022, 69, 900-907.	2.0	2
38	Investigation of Terrestrial Neutron Induced Failure Rates in Silicon Carbide JFET Based Cascode FETs. , 2022, , .		2
39	Low-Field Transport Model for Semiconducting Carbon Nanotubes. , 2005, , .		1
40	Effect of random surface charge distribution on transport in 4H-SiC MOSFETs. , 2009, , .		1
41	Controlled on-chip heat transfer for directed heating and temperature reduction. Solid-State Electronics, 2009, 53, 590-598.	1.4	1
42	Statistical vulnerability analysis to study intra-chip coupling of high power microwave signals. , 2011, , .		1
43	Nonlinear behavior of electrostatic discharge protection structures under high-power microwave excitation: Modeling and simulation. , 2011, , .		1
44	Transport Properties of Wide Band Gap Nanotubes. , 0, , .		0
45	Device Behavior Modeling for Carbon Nanotube Silicon-On-Insulator MOSFETs. , 2005, , .		0
46	An Efficient Inclusion of Self-Heating and Quantum Effects in SOI Device Simulations. , 0, , .		0
47	An Impulse-Response Based Methodology for Modeling Complex Interconnect Networks. , 0, , .		0
48	Numerical modeling of nanotube embedded chemicapacitive sensors. , 2007, , .		0
49	Controlled localized heating on integrated circuits for cold-ambient temperature applications. , 2007, , .		0
50	Numerical modeling of a deoxyribonucleic acid microassay: Carbon nanotube thin film transistor sensor. , 2008, , .		0
51	Self-consistent thermal and electrical analysis of silicon carbide power DMOSFET heating and cooling. , 2009, , .		0
52	Modeling the Effect of Conduction Band Density of States on Interface Trap Occupation and Its Influence on 4H-SiC MOSFET Performance. , 2009, , .		0
53	The effect of different passivations on near interface trap density of 4H-SiC/SiO ₂ /SiO ₂ structures. , 2011, , .		0
54	Density functional theory based simulation of carrier transport in silicon carbide and silicon carbide-silicon dioxide interfaces. , 2011, , .		0

#	ARTICLE	IF	CITATIONS
55	Identification and quantification of 4H-SiC (0001)/SiO ₂ interface defects by combining density functional and device simulations. , 2013, , .		0
56	Large Area Silicon Carbide Photodiode, and Monolithic Readout Design and Fabrication. Materials Science Forum, 0, 858, 1023-1027.	0.3	0
57	Single-Walled Zig-Zag Carbon Nanotube Steady-State Transport Characteristics. Journal of Computational and Theoretical Nanoscience, 2008, 5, 1138-1144.	0.4	0