Alexander Grill

List of Publications by Year
in descending order

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		1040056	713466
38	532	9	21
papers	citations	h-index	g-index

38	38	38	740
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Millikelvin temperature cryo-CMOS multiplexer for scalable quantum device characterisation. Quantum Science and Technology, 2022, 7, 015004.	5.8	9
2	Gate-Induced-Drain-Leakage (GIDL) in CMOS Enhanced by Mechanical Stress. IEEE Transactions on Electron Devices, 2022, 69, 2214-2217.	3.0	6
3	TCAD Modeling of Temperature Activation of the Hysteresis Characteristics of Lateral 4H-SiC MOSFETs. IEEE Transactions on Electron Devices, 2022, 69, 3290-3295.	3.0	1
4	Temperature Dependent Mismatch and Variability in a Cryo-CMOS Array with 30k Transistors. , 2022, , .		2
5	Significant Enhancement of HCD and TDDB in CMOS FETs by Mechanical Stress. , 2022, , .		1
6	On Superior Hot Carrier Robustness of Dynamically-Doped Field-Effect-Transistors. , 2022, , .		1
7	Understanding and Modeling Opposite Impacts of Self-Heating on Hot-Carrier Degradation in n- and p-Channel Transistors. , 2022, , .		4
8	Linking Room- and Low-Temperature Electrical Performance of MOS Gate Stacks for Cryogenic Applications. IEEE Electron Device Letters, 2022, 43, 674-677.	3.9	2
9	Modeling and Understanding the Compact Performance of hâ€BN Dualâ€Gated ReS 2 Transistor. Advanced Functional Materials, 2021, 31, 2100625.	14.9	9
10	Cyclic Thermal Effects on Devices of Twoâ€Dimensional Layered Semiconducting Materials. Advanced Electronic Materials, 2021, 7, 2100348.	5.1	4
11	The impact of self-heating and its implications on hot-carrier degradation â€“ A modeling study. Microelectronics Reliability, 2021, 122, 114156.	1.7	6
12	Hot-Electron-Induced Punch-Through (HEIP) Effect in p-MOSFET Enhanced by Mechanical Stress. IEEE Electron Device Letters, 2021, 42, 1424-1427.	3.9	9
13	Efficient Modeling of Charge Trapping at Cryogenic Temperaturesâ€"Part I: Theory. IEEE Transactions on Electron Devices, 2021, 68, 6365-6371.	3.0	6
14	Efficient Modeling of Charge Trapping at Cryogenic Temperaturesâ€"Part II: Experimental. IEEE Transactions on Electron Devices, 2021, 68, 6372-6378.	3.0	3
15	Quantum Mechanical Charge Trap Modeling to Explain BTI at Cryogenic Temperatures. , 2020, , .		4
16	On the impact of mechanical stress on gate oxide trapping. , 2020, , .		5
17	Reliability and Variability of Advanced CMOS Devices at Cryogenic Temperatures. , 2020, , .		31
18	Physical Model of Low-Temperature to Cryogenic Threshold Voltage in MOSFETs. IEEE Journal of the Electron Devices Society, 2020, 8, 780-788.	2.1	51

#	Article	IF	Citations
19	Mixed Hot-Carrier/Bias Temperature Instability Degradation Regimes in Full {<i>V</i> _G, <i>V</i> _D} Bias Space: Implications and Peculiarities. IEEE Transactions on Electron Devices, 2020, 67, 3315-3322.	3.0	20
20	A Compact Physics Analytical Model for Hot-Carrier Degradation. , 2020, , .		11
21	Advanced Electrical Characterization of Single Oxide Defects Utilizing Noise Signals. , 2020, , 229-257.		5
22	Modeling the Hysteresis of Current-Voltage Characteristics in 4H-SiC Transistors. , 2020, , .		3
23	Bi-Modal Variability of nFinFET Characteristics During Hot-Carrier Stress: A Modeling Approach. IEEE Electron Device Letters, 2019, 40, 1579-1582.	3.9	9
24	Stochastic Modeling of the Impact of Random Dopants on Hot-Carrier Degradation in n-FinFETs. IEEE Electron Device Letters, 2019, 40, 870-873.	3.9	6
25	Electrostatic Coupling and Identification of Single-Defects in GaN/AlGaN Fin-MIS-HEMTs. Solid-State Electronics, 2019, 156, 41-47.	1.4	6
26	Impact of Mixed Negative Bias Temperature Instability and Hot Carrier Stress on MOSFET Characteristicsâ€"Part II: Theory. IEEE Transactions on Electron Devices, 2019, 66, 241-248.	3.0	23
27	Border Trap Based Modeling of SiC Transistor Transfer Characteristics. , 2018, , .		3
28	Impact of the Device Geometric Parameters on Hot-Carrier Degradation in FinFETs. Semiconductors, 2018, 52, 1738-1742.	0.5	3
29	Analysis of the Features of Hot-Carrier Degradation in FinFETs. Semiconductors, 2018, 52, 1298-1302.	0.5	3
30	Characterization of Single Defects in Ultrascaled MoS_{2} Field-Effect Transistors. ACS Nano, 2018, 12, 5368-5375.	14.6	48
31	Characterization of Interface Defects With Distributed Activation Energies in GaN-Based MIS-HEMTs. IEEE Transactions on Electron Devices, 2017, 64, 1045-1052.	3.0	10
32	Superior NBTI in High-κ SiGe Transistorsâ€"Part II: Theory. IEEE Transactions on Electron Devices, 2017, 64, 2099-2105.	3.0	13
33	Dynamics of carrier transport via AlGaN barrier in AlGaN/GaN MIS-HEMTs. Applied Physics Letters, 2017, 110, 173502.	3.3	9
34	Superior NBTI in High- k SiGe Transistorsâ€"Part I: Experimental. IEEE Transactions on Electron Devices, 2017, 64, 2092-2098.	3.0	22
35	Characterization and modeling of single defects in GaN/AlGaN fin-MIS-HEMTs. , 2017, , .		7
36	Impact of Defectâ€Induced Strain on Device Properties. Advanced Engineering Materials, 2017, 19, 1600736.	3.5	2

#	Article	IF	Citations
37	The role of charge trapping in MoS ₂ /SiO ₂ and MoS ₂ /hBN field-effect transistors. 2D Materials, 2016, 3, 035004.	4.4	174
38	Investigation of quantum transport in nanoscaled GaN high electron mobility transistors. , 2014, , .		1