

Hirohisa Hirai

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/3737260/publications.pdf>

Version: 2024-02-01

20
papers

190
citations

1040056

9
h-index

1125743

13
g-index

20
all docs

20
docs citations

20
times ranked

129
citing authors

#	ARTICLE	IF	CITATIONS
1	Structural difference between near interface oxides grown on Si and C faces of 4H-SiC characterized by infrared spectroscopy. Applied Physics Letters, 2013, 103, .	3.3	27
2	Difference of near-interface strain in SiO ₂ between thermal oxides grown on 4H-SiC by dry-O ₂ oxidation and H ₂ O oxidation characterized by infrared spectroscopy. Applied Physics Letters, 2017, 110, .	3.3	27
3	Ideal phonon-scattering-limited mobility in inversion channels of 4H-SiC(0001) MOSFETs with ultralow net doping concentrations. Applied Physics Letters, 2019, 115, .	3.3	22
4	Low temperature wet-O ₂ annealing process for enhancement of inversion channel mobility and suppression of ν instability on 4H-SiC (0001) Si-face. Applied Physics Letters, 2018, 113, .	3.3	18
5	Suppression of byproduct generation at 4H-SiC/SiO ₂ interface by the control of oxidation conditions characterized by infrared spectroscopy. Applied Physics Express, 2015, 8, 021401.	2.4	16
6	(Invited) Understanding of Growth Kinetics of Thermal Oxides on 4H-SiC (0001) for Control of MOS Characteristics. ECS Transactions, 2014, 61, 135-142.	0.5	14
7	Difference in electron mobility at 4H-SiC/SiO ₂ interfaces with various crystal faces originating from effective-field-dependent scattering. Applied Physics Letters, 2020, 117, .	3.3	11
8	Investigation of origins of the critically different MOS interface characteristics between dry-oxidized and wet-oxidized silicon carbide. Microelectronic Engineering, 2017, 178, 186-189.	2.4	10
9	Electrically detected magnetic resonance study on interface defects at nitrated Si-face, a-face, and m-face 4H-SiC/SiO ₂ interfaces. Applied Physics Letters, 2020, 116, .	3.3	10
10	Effects of high-temperature diluted-H ₂ annealing on effective mobility of SiC MOSFETs estimated by split capacitance-voltage technique. Japanese Journal of Applied Physics, 2017, 56, 111302.	1.5	7
11	Mobility-limiting Coulomb scattering in nitrated 4H-SiC inversion channel on 1.1 μm -face and 1.2 μm a-face characterized by Hall effect measurements. Applied Physics Letters, 2019, 115, 132106.	3.3	7
12	Effects of high-temperature diluted-H ₂ annealing on effective mobility of 4H-SiC MOSFETs with thermally-grown SiO ₂ . Japanese Journal of Applied Physics, 2016, 55, 04ER16.	1.5	3
13	Difference of Near-Interface SiO ₂ Structures between O ₂ -Oxidation and H ₂ O-Oxidation of 4H-SiC (0001) and Its Impact on MOS Interface Characteristics. ECS Transactions, 2017, 80, 123-128.	0.5	3
14	A New JTE Technique for Vertical GaN Power Devices by Conductivity Control Using Boron Implantation into p-Type Layer. , 2021, , .		3
15	Crystal-orientation-dependent flatband voltage of non-polar GaN MOS interfaces investigated using trench sidewall capacitors. Applied Physics Letters, 2021, 119, .	3.3	3
16	Dipole scattering at the interface: The origin of low mobility observed in SiC MOSFETs. Journal of Applied Physics, 2022, 131, .	2.5	3
17	Free carrier density enhancement of 4H-SiC Si-face MOSFET by Ba diffusion process and NO passivation. Japanese Journal of Applied Physics, 2021, 60, SBBD08.	1.5	2
18	1.2 kV GaN/SiC-based Hybrid High Electron Mobility Transistor with Non-destructive Breakdown. , 2021, , .		2

#	ARTICLE	IF	CITATIONS
19	Wafer-scale Fabrication of Vertical GaN p-n Diodes with Graded JTE Structures Using Multiple-zone Boron Implantation. , 2022, , .		2
20	FTIR-ATR Study on Near-Interface Structure of Thermal Oxides on 4H-SiC Substrates. ECS Transactions, 2013, 58, 317-323.	0.5	0