

Ulrike Grossner

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

129
papers

1,562
citations

18
h-index

35
g-index

143
ext. papers

1,743
ext. citations

2.2
avg, IF

4.6
L-index

#	Paper	IF	Citations
129	Circuit-based Electrothermal Modeling of SiC Power Modules with Nonlinear Thermal Models. <i>IEEE Transactions on Power Electronics</i> , 2022 , 1-1	7.2	1
128	On the rectangular mesh and the decomposition of a Green's-function-based quadruple integral into elementary integrals. <i>Engineering Analysis With Boundary Elements</i> , 2022 , 134, 419-434	2.6	1
127	Heavy-ion induced single event effects and latent damages in SiC power MOSFETs. <i>Microelectronics Reliability</i> , 2022 , 128, 114423	1.2	2
126	Gate Characterization of Silicon Carbide and Silicon Power MOSFETs revisited. <i>IEEE Transactions on Power Electronics</i> , 2022 , 1-1	7.2	0
125	Characterization methods for defects and devices in silicon carbide. <i>Journal of Applied Physics</i> , 2022 , 131, 140903	2.5	2
124	Intrinsic and Extrinsic Electrically Active Point Defects in SiC 2021 , 137-168		1
123	Accuracy of Thermal Analysis for SiC Power Devices 2021 ,		3
122	Phosphorus implantation into 4H-SiC at room and elevated temperature. <i>Semiconductor Science and Technology</i> , 2021 , 36, 065002	1.8	0
121	Designing cryo-enzymatic reactions in subzero liquid water by lipidic mesophase nanoconfinement. <i>Nature Nanotechnology</i> , 2021 , 16, 802-810	28.7	3
120	Impact of Terrestrial Neutrons on the Reliability of SiC VD-MOSFET Technologies. <i>IEEE Transactions on Nuclear Science</i> , 2021 , 68, 634-641	1.7	7
119	Broadband Circuit-Oriented Electromagnetic Modeling for Power Electronics: 3-D PEEC Solver vs. RLCG-Solver. <i>Energies</i> , 2021 , 14, 2835	3.1	1
118	Design for Reliability of SiC Multichip Power Modules: The Effect of Variability 2021 ,		1
117	Influence of Process Variations on the Electrical Performance of SiC Power MOSFETs. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 230-235	2.9	4
116	Accurate Calculation of Partial Inductances for the Orthogonal PEEC Formulation. <i>IEEE Transactions on Electromagnetic Compatibility</i> , 2021 , 63, 82-92	2	5
115	Efficient Computation of Partial Elements in the Full-Wave Surface-PEEC Method. <i>IEEE Transactions on Electromagnetic Compatibility</i> , 2021 , 63, 1189-1201	2	3
114	Accuracy of Three Interterminal Capacitance Models for SiC Power MOSFETs Under Fast Switching. <i>IEEE Transactions on Power Electronics</i> , 2021 , 36, 9398-9410	7.2	8
113	Analysis of Current Capability of SiC Power MOSFETs Under Avalanche Conditions. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 4587-4592	2.9	2

112	Low-Energy Muons as a Tool for a Depth-Resolved Analysis of the SiO ₂ /4H-SiC Interface. <i>Materials Science Forum</i> , 2020 , 1004, 581-586	0.4	2
111	Heavy-Ion Microbeam Studies of Single-Event Leakage Current Mechanism in SiC VD-MOSFETs. <i>IEEE Transactions on Nuclear Science</i> , 2020 , 67, 1381-1389	1.7	15
110	Full-Wave Computation of the Electric Field in the Partial Element Equivalent Circuit Method Using Taylor Series Expansion of the Retarded Green's Function. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2020 , 68, 3242-3254	4.1	2
109	Lateral straggling of implanted aluminum in 4H-SiC. <i>Applied Physics Letters</i> , 2020 , 116, 012101	3.4	9
108	Spatially Resolved Diffusion of Aluminum in 4H-SiC During Postimplantation Annealing. <i>IEEE Transactions on Electron Devices</i> , 2020 , 67, 4360-4365	2.9	0
107	Short Circuit Robustness and Carrier Lifetime in Silicon Carbide MOSFETs 2020 ,		2
106	Tools for Broadband Electromagnetic Modeling of Power Semiconductor Packages and External Circuit Layouts 2020 ,		1
105	Muon Interaction with Negative-U and High-Spin-State Defects: Differentiating Between C and Si Vacancies in 4H-SiC. <i>Physical Review Applied</i> , 2020 , 14,	4.3	4
104	Accurate Temperature Estimation of SiC Power mosfets Under Extreme Operating Conditions. <i>IEEE Transactions on Power Electronics</i> , 2020 , 35, 1855-1865	7.2	25
103	Rigorous dc Solution of Partial Element Equivalent Circuit Models Including Conductive, Dielectric, and Magnetic Materials. <i>IEEE Transactions on Electromagnetic Compatibility</i> , 2020 , 62, 870-879	2	3
102	Surface Morphology of 4H-SiC after Thermal Oxidation. <i>Materials Science Forum</i> , 2019 , 963, 180-183	0.4	1
101	Interaction of low-energy muons with defect profiles in proton-irradiated Si and 4H-SiC. <i>Physical Review B</i> , 2019 , 100,	3.3	9
100	Circuit synthesis techniques of rational models of electromagnetic systems: A tutorial paper. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2019 , 32, e2612	1	4
99	High-Temperature Impact-Ionization Model for 4H-SiC. <i>IEEE Transactions on Electron Devices</i> , 2019 , 66, 1899-1904	2.9	8
98	Current Transport Mechanism for Heavy-Ion Degraded SiC MOSFETs. <i>IEEE Transactions on Nuclear Science</i> , 2019 , 66, 1702-1709	1.7	15
97	Time-Resolved Short Circuit Failure Analysis of SiC MOSFETs 2019 ,		4
96	Analytical Formulas for the Computation of the Electric Field in the Partial Element Equivalent Circuit Method With Conductive, Dielectric, and Magnetic Media. <i>IEEE Transactions on Magnetics</i> , 2019 , 55, 1-13	2	2
95	SiC Vertical-Channel n- and p-JFETs Fully Fabricated by Ion Implantation. <i>Materials Science Forum</i> , 2019 , 963, 841-844	0.4	3

94	Two-dimensional defect mapping of the SiO ₂ /4H-SiC interface. <i>Physical Review Materials</i> , 2019 , 3,	3.2	9
93	Silicon carbide X-ray beam position monitors for synchrotron applications. <i>Journal of Synchrotron Radiation</i> , 2019 , 26, 28-35	2.4	7
92	Lateral Stragglng of Ion Implantation Distributions in 4H-SiC Investigated by SIMS. <i>Materials Science Forum</i> , 2019 , 963, 437-440	0.4	3
91	Electrical charge state identification and control for the silicon vacancy in 4H-SiC. <i>Npj Quantum Information</i> , 2019 , 5,	8.6	38
90	Analysis of parameters determining nominal dynamic performance of 1.2 kV SiC power MOSFETs 2018 ,		3
89	A more accurate electromagnetic modeling of WBG power modules 2018 ,		5
88	Planar to Trench: Short Circuit Capability Analysis of 1.2 kV SiC MOSFETs. <i>Materials Science Forum</i> , 2018 , 924, 782-785	0.4	10
87	Exploring the behavior of parallel connected SiC power MOSFETs influenced by performance spread in circuit simulations 2018 ,		6
86	Effect of Negative Gate Bias on Single Pulse Avalanche Ruggedness of 1.2 kV Silicon Carbide MOSFETs. <i>Materials Science Forum</i> , 2018 , 924, 735-738	0.4	3
85	Simulation-Based Sensitivity Analysis of Conduction and Switching Losses for Silicon Carbide Power MOSFETs. <i>Materials Science Forum</i> , 2018 , 924, 693-696	0.4	5
84	Short Circuit Ruggedness of New Generation 1.2 kV SiC MOSFETs 2018 ,		4
83	Power Cycling of Commercial SiC MOSFETs 2018 ,		12
82	Continuous Compact Model of a SiC VDMOSFET Based on Surface Potential Theory. <i>Materials Science Forum</i> , 2018 , 924, 786-789	0.4	4
81	Electronic band structure of the buried SiO ₂ /SiC interface investigated by soft x-ray ARPES. <i>Applied Physics Letters</i> , 2017 , 110, 132101	3.4	5
80	Analysis of 4H-SiC MOS Capacitors on Macro-Stepped Surfaces. <i>Materials Science Forum</i> , 2017 , 897, 107-110	0.4	2
79	Comprehensive and Detailed Study on the Modeling of Commercial SiC Power MOSFET Devices Using TCAD. <i>Materials Science Forum</i> , 2017 , 897, 553-556	0.4	5
78	(Invited) Requirements for Highly Accurate Multiphysics Modeling of SiC Power MOSFETs and Power Modules. <i>ECS Transactions</i> , 2017 , 80, 89-100	1	3
77	Analysis of Thin Thermal Oxides on (0001) SiC Epitaxial Layers. <i>Materials Science Forum</i> , 2017 , 897, 119-124	0.4	1

76	Trade-off analysis of the p-base doping on ruggedness of SiC MOSFETs. <i>Microelectronics Reliability</i> , 2017 , 76-77, 267-271	1.2	9
75	Ni-Al-Ti Ohmic Contacts on Al Implanted 4H-SiC. <i>Materials Science Forum</i> , 2017 , 897, 391-394	0.4	6
74	Highly accurate virtual dynamic characterization of discrete SiC power devices 2017 ,		6
73	Modelling Challenges towards Virtual Prototyping of SiC based Power Modules. <i>Journal of Japan Institute of Electronics Packaging</i> , 2017 , 20, 432-436	0.1	
72	1950°C Annealing of Al+ Implanted 4H-SiC: Sheet Resistance Dependence on the Annealing Time. <i>Materials Science Forum</i> , 2016 , 858, 523-526	0.4	1
71	1950°C Post Implantation Annealing of Al+ Implanted 4H-SiC: Relevance of the Annealing Time. <i>ECS Journal of Solid State Science and Technology</i> , 2016 , 5, P534-P539	2	8
70	4H-SiC(0001) Surface Faceting during Interaction with Liquid Si. <i>Materials Science Forum</i> , 2016 , 858, 163-166	0.4	2
69	SiC Device Manufacturing: How Processing Impacts the Material and Device Properties. <i>Materials Science Forum</i> , 2015 , 821-823, 381-386	0.4	1
68	Al+ Ion Implanted On-Axis <0001> Semi-Insulating 4H-SiC. <i>Materials Science Forum</i> , 2015 , 821-823, 399-402	0.4	
67	Al+ Implanted 4H-SiC p+-i-n Diodes: Evidence for Post-Implantation-Annealing Dependent Defect Activation. <i>Materials Science Forum</i> , 2014 , 778-780, 657-660	0.4	4
66	Passivation in High-Power Si Devices - An Overview. <i>ECS Transactions</i> , 2013 , 50, 267-277	1	2
65	First-principles based kinetic modeling of effect of hydrogen on growth of carbon nanotubes. <i>Carbon</i> , 2011 , 49, 2508-2521	10.4	26
64	First-principles study on electronic structure, phase stability, and optical properties of In ₂ X ₂ O ₇ (X=C, Si, Ge or Sn). <i>Thin Solid Films</i> , 2011 , 519, 6561-6567	2.2	8
63	Evaluation of 4H-SiC Carbon Face Gate Oxide Reliability. <i>Materials Science Forum</i> , 2011 , 679-680, 354-357.	0.4	
62	Characterization of the SiO ₂ /SiC Interface with Impedance Spectroscopy. <i>Materials Science Forum</i> , 2009 , 615-617, 501-504	0.4	1
61	Interface States in 4H- and 6H-SiC MOS Capacitors: A Comparative Study between Conductance Spectroscopy and Thermal Dielectric Relaxation Current Technique. <i>Materials Science Forum</i> , 2009 , 615-617, 497-500	0.4	1
60	Carrier Removal in Electron Irradiated 4H and 6H SiC. <i>Materials Science Forum</i> , 2008 , 600-603, 425-428	0.4	9
59	Influence of Annealing on the Al ₂ O ₃ /4H-SiC Interface. <i>Materials Science Forum</i> , 2008 , 600-603, 767-770	0.4	1

58	Interfacial studies of Al ₂ O ₃ deposited on 4H-SiC(0001). <i>Surface and Interface Analysis</i> , 2008 , 40, 822-825	1.5	8
57	Carrier concentration and shallow electron states in Sb-doped hydrothermally grown ZnO. <i>Superlattices and Microstructures</i> , 2007 , 42, 294-298	2.8	4
56	Improvement of ZnO thin film properties by application of ZnO buffer layers. <i>Journal of Crystal Growth</i> , 2007 , 308, 93-98	1.6	31
55	Conductivity increase of ZnO:Ga films by rapid thermal annealing. <i>Superlattices and Microstructures</i> , 2007 , 42, 379-386	2.8	32
54	Hydrothermally Grown Single-Crystalline Zinc Oxide; Characterization and Modification. <i>Materials Research Society Symposia Proceedings</i> , 2007 , 1035, 1		5
53	Electrical characteristics of palladium Schottky contacts to hydrogen peroxide treated hydrothermally grown ZnO. <i>Applied Physics Letters</i> , 2007 , 91, 193507	3.4	64
52	Rearrangement of the oxide-semiconductor interface in annealed Al ₂ O ₃ /4H-SiC structures. <i>Applied Physics Letters</i> , 2007 , 91, 052907	3.4	12
51	Electrical properties of Al ₂ O ₃ /4H-SiC structures grown by atomic layer chemical vapor deposition. <i>Journal of Applied Physics</i> , 2007 , 102, 054513	2.5	37
50	Influence of growth conditions on irradiation induced defects in low doped 4H-SiC epitaxial layers. <i>Applied Physics Letters</i> , 2007 , 90, 062113	3.4	11
49	The Al ₂ O ₃ /4H-SiC Interface Investigated by Thermal Dielectric Relaxation Current Technique. <i>Materials Science Forum</i> , 2007 , 556-557, 537-540	0.4	2
48	XPS Study of the Electronic Properties of the Ce/4H-SiC Interface, and the Formation of the SiO ₂ /Ce ₂ Si ₂ O ₇ /4H-SiC Interface Structure upon Oxidation. <i>Materials Science Forum</i> , 2007 , 556-557, 549-554	0.4	1
47	X-Ray and AFM Analysis of Al ₂ O ₃ Deposited by ALCVD on n-Type 4H-SiC. <i>Materials Science Forum</i> , 2007 , 556-557, 683-686	0.4	4
46	Influence Of Growth Conditions on Irradiation Induced Defects in 4H-SiC. <i>Materials Science Forum</i> , 2007 , 556-557, 461-464	0.4	
45	High Temperature Annealing Study of Al ₂ O ₃ Deposited by ALCVD on n-Type 4H-SiC. <i>Materials Science Forum</i> , 2006 , 527-529, 1067-1070	0.4	7
44	Experimental Study of the Formation and Oxidation of the Sm/4H-SiC Surface Alloy. <i>Materials Science Forum</i> , 2006 , 527-529, 681-684	0.4	2
43	Long Distance Point Defect Migration in Irradiated SiC Observed by Deep Level Transient Spectroscopy. <i>Materials Science Forum</i> , 2006 , 527-529, 485-488	0.4	2
42	Electronic properties of the Sm/4H-SiC surface alloy. <i>Journal of Applied Physics</i> , 2006 , 99, 013703	2.5	13
41	Electronic properties of the Ce/4H-SiC interface studied by x-ray photoemission spectroscopy. <i>Journal of Applied Physics</i> , 2006 , 100, 053706	2.5	4

40	Ion Implantation Processing and Related Effects in SiC. <i>Materials Science Forum</i> , 2006 , 527-529, 781-786	0.4	11
39	Comparison of near-interface traps in Al ₂ O ₃ /4H-SiC and Al ₂ O ₃ /BiO ₂ /4H-SiC structures. <i>Applied Physics Letters</i> , 2006 , 89, 222103	3.4	25
38	Coulomb correlation effects in zinc monochalcogenides. <i>Journal of Applied Physics</i> , 2006 , 100, 043709	2.5	80
37	Annealing study of H ₂ O and O ₃ grown Al ₂ O ₃ deposited by atomic layer chemical vapour deposition on n-type 4H-SiC. <i>Physica Scripta</i> , 2006 , T126, 6-9	2.6	4
36	Study of annealing influence on electrical and morphological properties of ZnO:Ga thin films. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2006 , 3, 780-784		11
35	Electronic structure and band parameters for Zn (, S, Se, Te). <i>Journal of Crystal Growth</i> , 2006 , 287, 162-168		56
34	PEMOCVD of ZnO thin films, doped by Ga and some of their properties. <i>Superlattices and Microstructures</i> , 2006 , 39, 275-281	2.8	54
33	Strong Coulomb correlation effects in ZnO. <i>Solid State Communications</i> , 2006 , 139, 391-396	1.6	13
32	Oxidation of 4H-SiC covered with a SmSix surface alloy. <i>Surface Science</i> , 2006 , 600, 1300-1307	1.8	7
31	Structural and morphological properties of ZnO:Ga thin films. <i>Thin Solid Films</i> , 2006 , 515, 472-476	2.2	101
30	Carrier concentration and shallow electron states in In-doped hydrothermally grown ZnO. <i>Superlattices and Microstructures</i> , 2005 , 38, 364-368	2.8	5
29	Palladium Schottky barrier contacts to the (0001)- and (101 0)-face of hydrothermally grown n-ZnO. <i>AIP Conference Proceedings</i> , 2005 ,	0	3
28	Electrical Properties of Aluminium Oxide Films Grown by Atomic Layer Deposition on n-Type 4H-SiC. <i>Materials Science Forum</i> , 2005 , 483-485, 705-708	0.4	7
27	Deep acceptor states of platinum and iridium in 4H-silicon carbide. <i>Physical Review B</i> , 2004 , 70,	3.3	6
26	Palladium Schottky barrier contacts to hydrothermally grown n-ZnO and shallow electron states. <i>Applied Physics Letters</i> , 2004 , 85, 2259-2261	3.4	71
25	Investigation of Electronic States of Pd in 4H-SiC by Means of Radiotracer-DLTS. <i>Materials Science Forum</i> , 2004 , 457-460, 791-796	0.4	1
24	Zero- and Two-Dimensional Native Defects. <i>Advanced Texts in Physics</i> , 2004 , 3-25		7
23	Structural and optical properties of epitaxial CuGaS ₂ films on Si substrates. <i>Thin Solid Films</i> , 2003 , 431-432, 219-222	2.2	10

22	Optical properties of epitaxial CuGaS ₂ layers on Si(111). <i>Journal of Physics and Chemistry of Solids</i> , 2003 , 64, 1781-1785	3.9	22
21	Erbium-related band gap states in 4H and 6H silicon carbide. <i>Journal of Applied Physics</i> , 2003 , 93, 2289-2293	3.4	11
20	A Deep Erbium-Related Bandgap State in 4H Silicon Carbide. <i>Materials Science Forum</i> , 2003 , 433-436, 487-490	0.4	4
19	Epitaxial growth of CuGaS ₂ on Si(111). <i>Applied Physics Letters</i> , 2002 , 81, 156-158	3.4	25
18	Towards Quantum Structures in SiC. <i>Materials Science Forum</i> , 2002 , 389-393, 737-742	0.4	13
17	Interplay of Surface Structure, Bond Stacking and Heteropolytypic Growth of SiC. <i>Materials Science Forum</i> , 2001 , 353-356, 211-214	0.4	5
16	Native defects and complexes in SiC. <i>Journal of Physics Condensed Matter</i> , 2001 , 13, 9027-9037	1.8	17
15	Stability, reconstruction, and surface electronic states of group-III atoms on SiC(111). <i>Physical Review B</i> , 2001 , 64,	3.3	12
14	Dielectric and lattice-dynamical properties of III-nitrides. <i>Journal of Electronic Materials</i> , 2000 , 29, 281-289	0.4	4
13	Group-III Adsorption and Bond Stacking on SiC(111) Surfaces. <i>Materials Science Forum</i> , 2000 , 338-342, 427-430	0.4	
12	Adsorption of group III atoms on SiC(111) surfaces. <i>Surface Science</i> , 2000 , 454-456, 127-130	1.8	1
11	Dynamics and polarization of group-III nitride lattices: A first-principles study. <i>Physical Review B</i> , 2000 , 62, 8003-8011	3.3	98
10	Surface Energies and Surface Dipoles at III-Nitride(111) Surfaces in Dependence on Stoichiometry. <i>Physica Status Solidi (B): Basic Research</i> , 1999 , 216, 675-678	1.3	10
9	Theoretical study of As overlayers on InP(110) surface: optical properties. <i>Surface Science</i> , 1998 , 417, L1133-L1138	1.8	1
8	Ab initio calculation of the reflectance anisotropy of surfaces: The triangle method. <i>Physical Review B</i> , 1998 , 58, 4721-4727	3.3	10
7	Bond-rotation versus bond-contraction relaxation of (110) surfaces of group-III nitrides. <i>Physical Review B</i> , 1998 , 58, R1722-R1725	3.3	64
6	The effect of doping and growth stoichiometry on the core structure of a threading edge dislocation in GaN. <i>Applied Physics Letters</i> , 1998 , 73, 2751-2753	3.4	181
5	As on InP(110) studied within density-functional theory. <i>Physical Review B</i> , 1997 , 56, 6719-6726	3.3	9

- 4 Temperature Dependence of On-State Inter-Terminal Capacitances (C_{gs} and C_{gd}) of SiC MOSFETs and Frequency Limitations of their Measurements. *Materials Science Forum*,1062, 647-652 0.4
- 3 Stability, Evolution and Diffusion of Intrinsic Point Defects in 4H-SiC. *Materials Science Forum*,1062, 371-375 0.4
- 2 Phosphorous and Aluminum Implantation for MOSFET Manufacturing: Revisiting Implantation Dose Rate and Subsequent Surface Morphology. *Materials Science Forum*,1062, 263-267 0.4
- 1 Depth-Resolved Study of the SiO₂- SiC Interface Using Low-Energy Muon Spin Rotation Spectroscopy. *Materials Science Forum*,1062, 315-319 0.4