

# Sarit Dhar

## List of Publications by Citations

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105  
papers

2,733  
citations

30  
h-index

50  
g-index

122  
ext. papers

2,995  
ext. citations

2.5  
avg, IF

4.92  
L-index

#	Paper	IF	Citations
105	Modified Deal Grove model for the thermal oxidation of silicon carbide. <i>Journal of Applied Physics</i> , <b>2004</b> , 95, 4953-4957	2.5	182
104	Silicon carbide: A unique platform for metal-oxide-semiconductor physics. <i>Applied Physics Reviews</i> , <b>2015</b> , 2, 021307	17.3	176
103	Bonding at the SiC-SiO <sub>2</sub> interface and the effects of nitrogen and hydrogen. <i>Physical Review Letters</i> , <b>2007</b> , 98, 026101	7.4	156
102	Density of interface states, electron traps, and hole traps as a function of the nitrogen density in SiO <sub>2</sub> on SiC. <i>Journal of Applied Physics</i> , <b>2009</b> , 105, 124506	2.5	136
101	Role of self-trapped holes in the photoconductive gain of Gallium oxide Schottky diodes. <i>Journal of Applied Physics</i> , <b>2016</b> , 119, 103102	2.5	118
100	Chemical properties of oxidized silicon carbide surfaces upon etching in hydrofluoric acid. <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 16808-13	16.4	100
99	Enhanced Inversion Mobility on 4H-SiC $\overline{112}$ Using Phosphorus and Nitrogen Interface Passivation. <i>IEEE Electron Device Letters</i> , <b>2013</b> , 34, 181-183	4.4	85
98	Inversion layer carrier concentration and mobility in 4H-SiC metal-oxide-semiconductor field-effect transistors. <i>Journal of Applied Physics</i> , <b>2010</b> , 108, 054509	2.5	83
97	Interface Passivation for Silicon Dioxide Layers on Silicon Carbide. <i>MRS Bulletin</i> , <b>2005</b> , 30, 288-292	3.2	67
96	Interface trap passivation for SiO <sub>2</sub> /C-terminated 4H-SiC. <i>Journal of Applied Physics</i> , <b>2005</b> , 98, 014902	3.2	66
95	Effect of nitric oxide annealing on the interface trap density near the conduction band edge of 4H-SiC at the oxide/(112 0) 4H-SiC interface. <i>Applied Physics Letters</i> , <b>2004</b> , 84, 1498-1500	3.4	64
94	High-Mobility Stable 4H-SiC MOSFETs Using a Thin PSG Interfacial Passivation Layer. <i>IEEE Electron Device Letters</i> , <b>2013</b> , 34, 175-177	4.4	62
93	High mobility 4H-SiC (0001) transistors using alkali and alkaline earth interface layers. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 182107	3.4	56
92	Increase in oxide hole trap density associated with nitrogen incorporation at the SiO <sub>2</sub> /SiC interface. <i>Journal of Applied Physics</i> , <b>2008</b> , 103, 124513	2.5	53
91	Electron capture and emission properties of interface states in thermally oxidized and NO-annealed SiO <sub>2</sub> /4H-SiC. <i>Journal of Applied Physics</i> , <b>2008</b> , 103, 033701	2.5	48
90	High Channel Mobility 4H-SiC MOSFETs by Antimony Counter-Doping. <i>IEEE Electron Device Letters</i> , <b>2014</b> , 35, 894-896	4.4	46
89	Pressure dependence of SiO <sub>2</sub> growth kinetics and electrical properties on SiC. <i>Journal of Applied Physics</i> , <b>2008</b> , 103, 023522	2.5	46

88	Analysis of temperature dependent forward characteristics of Ni/ $\text{Ga}_2\text{O}_3$ Schottky diodes. <i>Semiconductor Science and Technology</i> , <b>2016</b> , 31, 115002	1.8	45
87	Graphitic features on SiC surface following oxidation and etching using surface enhanced Raman spectroscopy. <i>Applied Physics Letters</i> , <b>2004</b> , 85, 3495-3497	3.4	44
86	Si/SiO <sub>2</sub> and SiC/SiO <sub>2</sub> Interfaces for MOSFETs [Challenges and Advances. <i>Materials Science Forum</i> , <b>2006</b> , 527-529, 935-948	0.4	43
85	High-resolution elemental profiles of the silicon dioxide/H-silicon carbide interface. <i>Journal of Applied Physics</i> , <b>2005</b> , 97, 104920	2.5	43
84	. <i>IEEE Transactions on Electron Devices</i> , <b>2013</b> , 60, 2361-2367	2.9	42
83	Development of 15 kV 4H-SiC IGBTs. <i>Materials Science Forum</i> , <b>2012</b> , 717-720, 1135-1138	0.4	42
82	Ultrashallow defect states at SiO <sub>2</sub> /H-SiC interfaces. <i>Applied Physics Letters</i> , <b>2008</b> , 92, 102112	3.4	42
81	Performance, Reliability, and Robustness of 4H-SiC Power DMOSFETs. <i>Materials Science Forum</i> , <b>2010</b> , 645-648, 969-974	0.4	39
80	Delivery of lethal dsRNAs in insect diets by branched amphiphilic peptide capsules. <i>Journal of Controlled Release</i> , <b>2018</b> , 273, 139-146	11.7	37
79	Critical Issues for MOS Based Power Devices in 4H-SiC. <i>Materials Science Forum</i> , <b>2009</b> , 615-617, 743-748	0.4	37
78	Static Performance of 20 A, 1200 V 4H-SiC Power MOSFETs at Temperatures of 187°C to 300°C. <i>Journal of Electronic Materials</i> , <b>2012</b> , 41, 910-914	1.9	33
77	High-mobility enhancement-mode 4H-SiC lateral field-effect transistors utilizing atomic layer deposited Al <sub>2</sub> O <sub>3</sub> gate dielectric. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 152113	3.4	32
76	A Study on Pre-Oxidation Nitrogen Implantation for the Improvement of Channel Mobility in 4H-SiC MOSFETs. <i>IEEE Transactions on Electron Devices</i> , <b>2010</b> , 57, 1195-1200	2.9	31
75	Suppression of interface state generation upon electron injection in nitrided oxides grown on 4H-SiC. <i>Applied Physics Letters</i> , <b>2007</b> , 91, 153503	3.4	29
74	Thermal characterization of gallium oxide Schottky barrier diodes. <i>Review of Scientific Instruments</i> , <b>2018</b> , 89, 114903	1.7	29
73	Origins of Low-Frequency Noise and Interface Traps in 4H-SiC MOSFETs. <i>IEEE Electron Device Letters</i> , <b>2013</b> , 34, 117-119	4.4	28
72	Effects of Bias on the Irradiation and Annealing Responses of 4H-SiC MOS Devices. <i>IEEE Transactions on Nuclear Science</i> , <b>2011</b> , 58, 2925-2929	1.7	28
71	High electron mobility due to sodium ions in the gate oxide of SiC-metal-oxide-semiconductor field-effect transistors. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 023702	2.5	27

70	Atomic-scale origins of bias-temperature instabilities in SiC/BiO <sub>2</sub> structures. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 063507	3.4	27
69	Total Dose Radiation Response of Nitrided and Non-nitrided SiO <sub>2</sub> /4H-SiC MOS Capacitors. <i>IEEE Transactions on Nuclear Science</i> , <b>2006</b> , 53, 3687-3692	1.7	27
68	Nitridation anisotropy in SiO <sub>2</sub> /4H-SiC. <i>Journal of Applied Physics</i> , <b>2005</b> , 97, 074902	2.5	27
67	Interface trapping in (2001) Ga <sub>2</sub> O <sub>3</sub> MOS capacitors with deposited dielectrics. <i>Applied Physics Letters</i> , <b>2018</b> , 112, 192108	3.4	26
66	Nitrogen and Hydrogen Induced Trap Passivation at the SiO <sub>2</sub> /4H-SiC Interface. <i>Materials Science Forum</i> , <b>2006</b> , 527-529, 949-954	0.4	26
65	. <i>IEEE Transactions on Device and Materials Reliability</i> , <b>2012</b> , 12, 391-398	1.6	22
64	Chitosan solid electrolyte as electric double layer in multilayer MoS <sub>2</sub> transistor for low-voltage operation. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2015</b> , 212, 2219-2225	1.6	21
63	Kinetics of nitrogen incorporation at the SiO <sub>2</sub> /4H-SiC interface during an NO passivation. <i>Applied Surface Science</i> , <b>2014</b> , 317, 593-597	6.7	19
62	Electron trapping in 4H-SiC MOS capacitors fabricated by pre-oxidation nitrogen implantation. <i>Journal of Applied Physics</i> , <b>2011</b> , 109, 114505	2.5	19
61	Atomic origin of high-temperature electron trapping in metal-oxide-semiconductor devices. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 143504	3.4	18
60	Tuning the threshold voltage from depletion to enhancement mode in a multilayer MoS <sub>2</sub> transistor via oxygen adsorption and desorption. <i>Physical Chemistry Chemical Physics</i> , <b>2016</b> , 18, 685-9	3.6	17
59	Phospho-silicate glass gated 4H-SiC metal-oxide-semiconductor devices: Phosphorus concentration dependence. <i>Journal of Applied Physics</i> , <b>2016</b> , 119, 155705	2.5	16
58	High-Mobility SiC MOSFETs with Chemically Modified Interfaces. <i>Materials Science Forum</i> , <b>2015</b> , 821-823, 749-752	0.4	14
57	Nitrogen Plasma Processing of SiO <sub>2</sub> /4H-SiC Interfaces. <i>Journal of Electronic Materials</i> , <b>2014</b> , 43, 857-862	1.9	14
56	Temperature Dependence of Inversion Layer Carrier Concentration and Hall Mobility in 4H-SiC MOSFETs. <i>Materials Science Forum</i> , <b>2012</b> , 717-720, 713-716	0.4	13
55	Roughness of the SiC/SiO <sub>2</sub> vicinal interface and atomic structure of the transition layers. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2014</b> , 32, 060603	2.9	12
54	Effects and mechanisms of RIE on SiC inversion layer mobility and its recovery. <i>Applied Surface Science</i> , <b>2015</b> , 324, 30-34	6.7	11
53	Nitridation of the SiO <sub>2</sub> /4H-SiC interface studied by surface-enhanced Raman spectroscopy. <i>Applied Surface Science</i> , <b>2007</b> , 253, 5411-5414	6.7	11

52	4H-SiC MOSFETs With Borosilicate Glass Gate Dielectric and Antimony Counter-Doping. <i>IEEE Electron Device Letters</i> , <b>2017</b> , 38, 1433-1436	4.4	10
51	Development of 1200 V, 3.7 m $\Omega$ cm <sup>2</sup> 4H-SiC DMOSFETs for Advanced Power Applications. <i>Materials Science Forum</i> , <b>2012</b> , 717-720, 1059-1064	0.4	10
50	A novel technique for the fabrication of nanostructures on silicon carbide using amorphization and oxidation. <i>Nanotechnology</i> , <b>2006</b> , 17, 4514-4518	3.4	10
49	Determination of energetic distribution of interface states between gate metal and semiconductor in sub-micron devices from current-voltage characteristics. <i>IEEE Transactions on Electron Devices</i> , <b>2000</b> , 47, 282-287	2.9	10
48	Channel Mobility Improvement in 4H-SiC MOSFETs Using a Combination of Surface Counter-Doping and NO Annealing. <i>Materials Science Forum</i> , <b>2015</b> , 821-823, 693-696	0.4	9
47	Characterization of fast interface states in nitrogen- and phosphorus-treated 4H-SiC MOS capacitors. <i>Semiconductor Science and Technology</i> , <b>2015</b> , 30, 075011	1.8	8
46	Dual-Gate MoS <sub>2</sub> FET With a Coplanar-Gate Engineering. <i>IEEE Transactions on Electron Devices</i> , <b>2016</b> , 63, 573-577	2.9	8
45	Effect of NO Annealing on 6H- and 4H-SiC MOS Interface States. <i>Materials Science Forum</i> , <b>2010</b> , 645-648, 499-502	0.4	8
44	Synthesis and characterization of porous TiO <sub>2</sub> with wormhole-like framework structure. <i>Journal of Porous Materials</i> , <b>2008</b> , 15, 21-27	2.4	8
43	Concentration, chemical bonding, and etching behavior of P and N at the SiO <sub>2</sub> /SiC(0001) interface. <i>Journal of Applied Physics</i> , <b>2015</b> , 118, 235303	2.5	7
42	Si-like low-frequency noise characteristics of 4H-SiC MOSFETs. <i>Semiconductor Science and Technology</i> , <b>2011</b> , 26, 085015	1.8	7
41	Investigation of defects in Gd doped GaN using thermally stimulated current spectroscopy. <i>Solid State Communications</i> , <b>2016</b> , 226, 25-28	1.6	6
40	Effect of Band-Edge Interface Traps and Transition Region Mobility on Transport in 4H-SiC MOSFETs. <i>Materials Science Forum</i> , <b>2010</b> , 645-648, 975-978	0.4	6
39	3.7 m $\Omega$ cm <sup>2</sup> , 1500 V 4H-SiC DMOSFETs for advanced high power, high frequency applications <b>2011</b> ,		6
38	Synthesis of some newer formazans and tetrazolium salts and their effect on Ranikhet disease virus and the vaccinia virus. <i>Die Pharmazie</i> , <b>1980</b> , 35, 585-6	1.5	6
37	Mechanism of phosphorus passivation of near-interface oxide traps in 4H-SiC MOS devices investigated by CCDLTS and DFT calculation. <i>Semiconductor Science and Technology</i> , <b>2018</b> , 33, 065005	1.8	5
36	Modification of the Oxide/Semiconductor Interface by High Temperature NO Treatments: A Combined EPR, NRA and XPS Study on Oxidized Porous and Bulk n-Type 4H-SiC. <i>Materials Science Forum</i> , <b>2005</b> , 483-485, 277-280	0.4	5
35	Electron beam-induced crystallization of AlO gate layer on EGaO MOS capacitors. <i>Micron</i> , <b>2021</b> , 140, 102954	2.3	5

34	Analysis of the electronic and chemical structure in boron and phosphorus passivated 4H-SiC/SiO <sub>2</sub> interfaces using HRTEM and STEM-EELS. <i>Applied Physics Letters</i> , <b>2018</b> , 113, 193503	3.4	5
33	Hall-effect characterization of electron transport at SiO <sub>2</sub> /4H-SiC MOS interfaces. <i>Microelectronic Engineering</i> , <b>2015</b> , 147, 137-140	2.5	4
32	Bias-Temperature Instabilities and Radiation Effects on SiC MOSFETs. <i>ECS Transactions</i> , <b>2011</b> , 35, 369-380		4
31	Depth profiles, surface damage and lattice location of boron/deuterium co-doped diamond. <i>Diamond and Related Materials</i> , <b>2005</b> , 14, 1600-1604	3.5	4
30	Effects of antimony (Sb) on electron trapping near SiO <sub>2</sub> /4H-SiC interfaces. <i>Journal of Applied Physics</i> , <b>2016</b> , 120, 034503	2.5	4
29	Effect of surface treatments on ALD Al <sub>2</sub> O <sub>3</sub> /4H-SiC metaloxide semiconductor field-effect transistors. <i>Journal of Applied Physics</i> , <b>2021</b> , 129, 075702	2.5	4
28	Interface Trap Profiles in 4H- and 6H-SiC MOS Capacitors with Nitrogen- and Phosphorus-Doped Gate Oxides. <i>Journal of Electronic Materials</i> , <b>2017</b> , 46, 2296-2300	1.9	3
27	Channel mobility and threshold voltage characterization of 4H-SiC MOSFET with antimony channel implantation <b>2015</b> ,		3
26	Water absorption in thermally grown oxides on SiC and Si: Bulk oxide and interface properties. <i>Applied Physics Letters</i> , <b>2014</b> , 105, 191602	3.4	3
25	Sodium, Rubidium and Cesium in the Gate Oxides of SiC MOSFETs. <i>Materials Science Forum</i> , <b>2012</b> , 717-720, 453-456	0.4	3
24	Interface passivation of Silicon Dioxide layers on Silicon Carbide		3
23	Isotropic Oxidation by Plasma Oxidation and Investigation of RIE Induced Effects for Development of 4H-SiC Trench MOSFETs. <i>Materials Science Forum</i> , <b>2018</b> , 924, 444-448	0.4	3
22	Effective Channel Mobility in Epitaxial and Implanted 4H-SiC Lateral MOSFETs. <i>Materials Research Society Symposia Proceedings</i> , <b>2008</b> , 1069, 1		2
21	Advancements in SiC Power Devices Using Novel Interface Passivation Processes. <i>Environmental Science and Engineering</i> , <b>2014</b> , 47-52	0.2	2
20	Enhancement of electrical characteristics of a-ZTO TFTs based on channel layers produced with alternating precursor concentration. <i>Electronics Letters</i> , <b>2018</b> , 54, 1298-1300	1.1	2
19	Deuterium absorption from the D <sub>2</sub> O exposure of oxidized 4H-SiC (0001), (0001 $\bar{1}$ ), and (112 $\bar{1}$ ) surfaces. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 123502	3.4	1
18	Stable Phosphorus Passivated SiO <sub>2</sub> /4H-SiC Interface Using Thin Oxides. <i>Materials Science Forum</i> , <b>2014</b> , 806, 139-142	0.4	1
17	Channel Transport in 4H-SiC MOSFETs: A Brief Review. <i>ECS Transactions</i> , <b>2013</b> , 58, 51-60	1	1

16	Near-interface traps in n-type SiO <sub>2</sub> /SiC MOS capacitors from energy-resolved CCDLTS. <i>Materials Research Society Symposia Proceedings</i> , <b>2010</b> , 1246, 1		1
15	3300 V, 30 A 4H-SiC power DMOSFETs <b>2009</b> ,		1
14	Passivation of Oxide Layers on 4H-SiC Using Sequential Anneals in Nitric Oxide and Hydrogen. <i>Materials Research Society Symposia Proceedings</i> , <b>2003</b> , 786, 811		1
13	Silicon Dioxide/Silicon Carbide Interfaces <b>2008</b> ,		1
12	Analytical electron microscopy of (2 × 01) Ga <sub>2</sub> O <sub>3</sub> /SiO <sub>2</sub> and (2 × 01) Ga <sub>2</sub> O <sub>3</sub> /Al <sub>2</sub> O <sub>3</sub> interface structures in MOS capacitors. <i>Journal of Applied Physics</i> , <b>2021</b> , 129, 195705	2.5	1
11	Borosilicate Glass (BSG) as Gate Dielectric for 4H-SiC MOSFETs. <i>Materials Science Forum</i> , <b>2018</b> , 924, 502-505		1
10	High dose gamma irradiation effects on properties of active layers in ZnO thin film transistors. <i>Semiconductor Science and Technology</i> , <b>2021</b> , 36, 105011	1.8	1
9	Nitrogen-Induced Changes in the Electronic and Structural Properties of 4H-SiC (0001)/SiO <sub>2</sub> Interfaces. <i>Physica Status Solidi (B): Basic Research</i> , 2100224	1.3	0
8	SPICE Modeling of Advanced Silicon Carbide High Temperature Integrated Circuits. <i>Materials Science Forum</i> , <b>2016</b> , 858, 1070-1073	0.4	0
7	High temperature characteristics of nitric oxide annealed p-channel 4H-SiC metal oxide semiconductor field effect transistors. <i>Journal of Applied Physics</i> , <b>2021</b> , 130, 225701	2.5	0
6	Characterization of Near-Interface Traps at Dielectric/SiC Interfaces Using CCDLTS. <i>Materials Science Forum</i> , <b>2019</b> , 963, 217-221	0.4	
5	Thin PSG Process for 4H-SiC MOSFET. <i>Materials Science Forum</i> , <b>2014</b> , 778-780, 513-516	0.4	
4	Gate Stack Reliability of high-Mobility 4H-SiC Lateral MOSFETs with Deposited Al <sub>2</sub> O <sub>3</sub> Gate Dielectric. <i>Materials Research Society Symposia Proceedings</i> , <b>2009</b> , 1195, 155		
3	Effects of N Incorporation on Electron Traps at SiO <sub>2</sub> /SiC Interfaces. <i>Materials Science Forum</i> , <b>2012</b> , 717-720, 717-720	0.4	
2	4H-SiC MOSFETs with Si-Like Low-Frequency Noise Characteristics. <i>Materials Science Forum</i> , <b>2012</b> , 717-720, 1105-1108	0.4	
1	Formation of carbon nanoclusters by implantation of keV carbon ions in fused silica followed by thermal annealing <b>2005</b> , 5650, 35		