

Wolfgang Choyke

List of Publications by Year in descending order

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159525
30
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133188
59
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80
all docs

80
docs citations

80
times ranked

2182
citing authors

#	ARTICLE	IF	CITATIONS
1	Deep Defect Centers in Silicon Carbide Monitored with Deep Level Transient Spectroscopy. <i>Physica Status Solidi A</i> , 1997, 162, 199-225.	1.7	372
2	Comparative electron spectroscopic studies of surface segregation on SiC(0001) and SiC(0001̄). <i>Journal of Applied Physics</i> , 1986, 60, 2842-2853.	1.1	273
3	Static Dielectric Constant of SiC. <i>Physical Review B</i> , 1970, 2, 2255-2256.	1.1	238
4	Exciton Recombination Radiation and Phonon Spectrum of 6H-SiC. <i>Physical Review</i> , 1962, 127, 1868-1877.	2.7	192
5	Methods in semiconductor surface chemistry. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1987, 5, 1-8.	0.9	178
6	Direct determination of absolute monolayer coverages of chemisorbed C ₂ H ₂ and C ₂ H ₄ on Si(100). <i>Journal of Applied Physics</i> , 1990, 67, 3693-3699.	1.1	145
7	Controlled growth of 3C-SiC and 6H-SiC films on low-angle vicinal (0001) 6H-SiC wafers. <i>Applied Physics Letters</i> , 1991, 59, 333-335.	1.5	128
8	On the α -band emission and boron related luminescence in diamond. <i>Applied Physics Letters</i> , 1992, 60, 3138-3140.	1.5	124
9	Chlorine bonding sites and bonding configurations on Si(100)-(2 \times 1). <i>Journal of Chemical Physics</i> , 1993, 98, 8308-8323.	1.2	116
10	Absorption coefficient of 4H silicon carbide from 3900 to 3250 Å... <i>Journal of Applied Physics</i> , 1998, 84, 2963-2964.	1.1	112
11	Aggregation of carbon interstitials in silicon carbide: A theoretical study. <i>Physical Review B</i> , 2003, 68, .	1.1	103
12	Optical Characterization of Silicon Carbide Polytypes. <i>Physica Status Solidi A</i> , 1997, 162, 5-38.	1.7	96
13	Characterization of nanocrystallites in porous-type 6H-SiC. <i>Journal of Applied Physics</i> , 1994, 76, 4045-4049.	1.1	92
14	Comparative oxidation studies of SiC(0001̄) and SiC(0001) surfaces. <i>Journal of Applied Physics</i> , 1986, 60, 2558-2563.	1.1	80
15	Photoelectrochemical etching of n-type 4H silicon carbide. <i>Journal of Applied Physics</i> , 2004, 96, 2311-2322.	1.1	73
16	Correlation between the antisite pair and the D center in SiC. <i>Physical Review B</i> , 2003, 67, .	1.1	72
17	Si impurity in chemical vapor deposited diamond films. <i>Applied Physics Letters</i> , 1991, 58, 295-297.	1.5	68
18	Electron spectroscopy study of SiC. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1984, 2, 1271-1274.	0.9	62

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19	Optical Properties of 15R SiC: Luminescence of Nitrogen-Exciton Complexes, and Interband Absorption. Physical Review, 1963, 132, 2023-2031.	2.7	61
20	Absorption of Light in Alpha SiC near the Band Edge. Physical Review, 1957, 105, 1721-1723.	2.7	60
21	Optical Absorption in n-Type Cubic SiC. Physical Review, 1969, 186, 775-777.	2.7	48
22	Isolated oxygen defects in 3C- and 4H-SiC: A theoretical study. Physical Review B, 2002, 66, .	1.1	47
23	Direct observation of conduction-band structure of 4H- and 6H-SiC using ballistic electron emission microscopy. Physical Review B, 1998, 57, 4027-4032.	1.1	43
24	A photoluminescence comparison of CdTe thin films grown by molecular beam epitaxy, metalorganic chemical vapor deposition, and sputtering in ultrahigh vacuum. Journal of Applied Physics, 1988, 64, 2595-2600.	1.1	41
25	Reaction chemistry at the Si (100) surface: control through active site manipulation. Journal of Applied Physics, 1986, 60, 3750-3754.	1.1	40
26	Enhanced silicon oxide film growth on Si (100) using electron impact. Journal of Applied Physics, 1997, 82, 6289-6292.	1.1	40
27	Optical Properties of 21R SiC: Absorption and Luminescence. Physical Review, 1965, 138, A1472-A1476.	2.7	37
28	X-ray photoelectron spectroscopy study of Si film growth by chemical vapor deposition of ethylene on Si(100). Journal of Applied Physics, 1989, 65, 1099-1105.	1.1	37
29	Infrared reflectance of thin aluminum nitride films on various substrates. Applied Physics Letters, 1993, 62, 750-752.	1.5	35
30	Hydrogen passivation of carbon Pb like centers at the 3C- and 4H-SiC/SiO ₂ interfaces in oxidized porous SiC. Applied Physics Letters, 2006, 88, 092108.	1.5	35
31	Properties of GaN epitaxial layers grown on 6H-SiC(0001) by plasma-assisted molecular beam epitaxy. Journal of Electronic Materials, 2001, 30, 162-169.	1.0	34
32	Fabrication and morphology of porous p-type SiC. Journal of Applied Physics, 2005, 97, 044908.	1.1	31
33	Effect of oxygen on boron doping in chemical vapor deposition of diamond as deduced from cathodoluminescence studies. Applied Physics Letters, 1992, 60, 1884-1886.	1.5	30
34	Silicon crystal heating and thermocouple mounting designs. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1997, 15, 182-186.	0.9	30
35	Role of the SiH ₃ Functional Group in Silane Adsorption and Dissociation on Si(100). Journal of Physical Chemistry B, 1997, 101, 6879-6882.	1.2	28
36	Impurity-controlled dopant activation: Hydrogen-determined site selection of boron in silicon carbide. Applied Physics Letters, 2001, 79, 2746-2748.	1.5	27

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37	Structural defect related donor-bound exciton spectra in CdTe epitaxial films. Applied Physics Letters, 1988, 53, 128-130.	1.5	25
38	Comparative columnar porous etching studies on n-type 6H SiC crystalline faces. Physica Status Solidi (B): Basic Research, 2008, 245, 1396-1403.	0.7	25
39	Ab initio supercell calculations on aluminum-related defects in SiC. Physical Review B, 2007, 75, .	1.1	24
40	Anharmonicity of the C-H stretch mode in SiC: Unambiguous identification of hydrogen-silicon vacancy defect. Applied Physics Letters, 2002, 80, 237-239.	1.5	22
41	Two mechanisms of scanning tunneling microscopy assisted nanostructure formation using precursor molecules. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1999, 17, 1445-1450.	0.9	20
42	Electron stimulated decomposition of adsorbed hexafluoroacetylacetonate Cu(I) vinyltrimethylsilane, Cu(I)(hfac)(vtms). Journal of Applied Physics, 1999, 85, 3368-3373.	1.1	20
43	Nanometer-scale investigation of metal-SiC interfaces using ballistic electron emission microscopy. Journal of Electronic Materials, 1998, 27, 345-352.	1.0	19
44	Reflector atomic hydrogen source: A method for producing pure atomic hydrogen in ultrahigh vacuum. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1993, 11, 2822-2826.	0.9	18
45	Self-Ordered Nanocolumnar Pore Formation in the Photoelectrochemical Etching of 6H-SiC. Electrochemical and Solid-State Letters, 2007, 10, K24.	2.2	18
46	1.54 μm Photoluminescence and Electroluminescence in Erbium Implanted 6H SiC. Materials Research Society Symposia Proceedings, 1996, 422, 339.	0.1	17
47	Activation of shallow boron acceptor in C-B coimplanted silicon carbide: A theoretical study. Applied Physics Letters, 2005, 86, 102108.	1.5	17
48	PH ₃ surface chemistry on Si(111)-(7 \times 7): A study by Auger spectroscopy and electron stimulated desorption methods. Journal of Applied Physics, 1990, 68, 3669-3678.	1.1	16
49	SiC pore surfaces: Surface studies of 4H-SiC(11 $\bar{0}2$) and 4H-SiC(1 $\bar{1}02\bar{1}$). Applied Physics Letters, 2006, 88, 031915.	1.5	16
50	A Survey of Conduction and Valence Band Edges in SiC. Physica Scripta, 1999, T79, 9.	1.2	15
51	Surface polishing by electrochemical etching of p-type 4H SiC. Journal of Applied Physics, 2009, 106, .	1.1	14
52	Surface characterization of SiC mirrors exposed to fast atomic oxygen. Surface and Interface Analysis, 1995, 23, 77-82.	0.8	13
53	Effect of annealing temperature on 1.5 μm photoluminescence from Er-implanted 6H-SiC. Journal of Electronic Materials, 1996, 25, 869-873.	1.0	13
54	Structural Properties of GaN Films Grown by Molecular Beam Epitaxy on Singular and Vicinal 6H-SiC(0001). MRS Internet Journal of Nitride Semiconductor Research, 2002, 7, 1.	1.0	13

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55	Ga-CH ₃ bond scission by atomic H: The depletion of surface carbon from a gallium alkyl film on silicon dioxide. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1994, 12, 3040-3047.	0.9	9
56	Electronic states of chemically treated SiC surfaces. <i>Journal of Applied Physics</i> , 2008, 103, 013709.	1.1	8
57	Control of silicon crystal temperature by measurement of resistivity. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1997, 15, 2766-2769.	0.9	7
58	Ionization energy of the phosphorus donor in 3C-SiC from the donor-acceptor pair emission. <i>Journal of Applied Physics</i> , 2010, 108, .	1.1	7
59	Optical Characterization of Silicon Carbide Polytypes. <i>Physica Status Solidi A</i> , 1997, 162, 5.	1.7	7
60	Photoluminescence of Cd _{1-x} MnxTe films grown by metalorganic chemical vapor deposition. <i>Journal of Applied Physics</i> , 1989, 66, 1711-1716.	1.1	6
61	Scanning tunneling microscope assisted nanostructure formation: Two excitation mechanisms for precursor molecules. <i>Journal of Applied Physics</i> , 1999, 86, 4949-4953.	1.1	6
62	Four Current Examples of Characterization of Silicon Carbide. <i>Materials Research Society Symposia Proceedings</i> , 2002, 742, 311.	0.1	6
63	GaN patterned film synthesis: Carbon depletion by hydrogen atoms produced from NH ₃ activated by electron impact. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1995, 13, 1831-1836.	0.9	5
64	Anharmonic vibrations of the dicarbon antisite defect in 4H-SiC. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	5
65	A multi-technique study of the surface preparation of InSb substrate and subsequently grown CdTe films by molecular beam epitaxy. <i>Journal of Materials Science: Materials in Electronics</i> , 1996, 7, 23.	1.1	4
66	Doping of phosphorus in chemical-vapor-deposited silicon carbide layers: A theoretical study. <i>Applied Physics Letters</i> , 2005, 87, 212114.	1.5	4
67	Background effects in electron stimulated desorption ion angular distribution (ESDIAD) measurements on Si(111)-7x7. <i>Review of Scientific Instruments</i> , 1991, 62, 720-724.	0.6	3
68	Step site bonding on a vicinal Si(100) surface upon Cl ₂ adsorption. <i>Journal of Chemical Physics</i> , 1995, 102, 2946-2950.	1.2	3
69	Structural Properties of GaN films grown by Molecular Beam Epitaxy on vicinal SiC(0001). <i>Materials Research Society Symposia Proceedings</i> , 2001, 693, 471.	0.1	3
70	Band structure properties, phonons, and exciton fine structure in 4H-SiC measured by wavelength-modulated absorption and low-temperature photoluminescence. <i>Physical Review B</i> , 2020, 102, .	1.1	3
71	Deep Defect Centers in Silicon Carbide Monitored with Deep Level Transient Spectroscopy. , 1997, 162, 199.		2
72	TWO DEFECT-RELATED PHOTOLUMINESCENCE SPECTRA AND CROSS-SECTION TEM OF MBE GROWN CdTe ON (100) InSb. <i>Materials Research Society Symposia Proceedings</i> , 1985, 56, 97.	0.1	1

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73	Photoluminescence, Raman Scattering and Rbs/Channeling of Epitaxial Fluorides. Materials Research Society Symposia Proceedings, 1985, 60, 355.	0.1	1
74	Thermal disorder in adsorbed Cl on Si(100). Journal of Chemical Physics, 1993, 99, 5581-5585.	1.2	1
75	Combined Optical, Structural and Theoretical Assessment of MOCVD Grown Multiple GaAs Quantum Wells. Materials Research Society Symposia Proceedings, 1993, 326, 359.	0.1	0
76	Optical and Structural Investigation of AlN Grown on Sapphire with Reactive MBE Using RF Nitrogen or Ammonia. Materials Research Society Symposia Proceedings, 2003, 764, 1.	0.1	0
77	Nanoporous SiC as a Semi-Permeable Biomembrane for Medical Use: Practical and Theoretical Considerations. , 0, , 291-310.		0