

Devendra Sadana

List of Publications by Year in descending order

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87
papers

2,610
citations

172386

29
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206029

48
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88
all docs

88
docs citations

88
times ranked

2008
citing authors

#	ARTICLE	IF	CITATIONS
1	Layer-Resolved Graphene Transfer via Engineered Strain Layers. <i>Science</i> , 2013, 342, 833-836.	6.0	174
2	Kerf-Less Removal of Si, Ge, and III-V Layers by Controlled Spalling to Enable Low-Cost PV Technologies. <i>IEEE Journal of Photovoltaics</i> , 2012, 2, 141-147.	1.5	145
3	Interactions of thin Ti films with Si, SiO ₂ , Si ₃ N ₄ , and SiO _x N _y under rapid thermal annealing. <i>Journal of Applied Physics</i> , 1988, 64, 344-353.	1.1	120
4	Residual defects following rapid thermal annealing of shallow boron and boron fluoride implants into preamorphized silicon. <i>Applied Physics Letters</i> , 1984, 44, 459-461.	1.5	103
5	Characterization of a Self-Aligned Cobalt Silicide Process. <i>Journal of the Electrochemical Society</i> , 1987, 134, 925-935.	1.3	98
6	Ion implantation and low-temperature epitaxial regrowth of GaAs. <i>Journal of Applied Physics</i> , 1981, 52, 4038-4046.	1.1	89
7	Layer transfer by controlled spalling. <i>Journal Physics D: Applied Physics</i> , 2013, 46, 152002.	1.3	83
8	Inversion mode n-channel GaAs field effect transistor with high-k/metal gate. <i>Applied Physics Letters</i> , 2008, 92, 153508.	1.5	77
9	Strain scaling for CMOS. <i>MRS Bulletin</i> , 2014, 39, 131-137.	1.7	76
10	Ultralight High-Efficiency Flexible InGaP/(In)GaAs Tandem Solar Cells on Plastic. <i>Advanced Energy Materials</i> , 2013, 3, 566-571.	10.2	68
11	Germanium Implantation into Silicon: An Alternate Pre-Amorphization/Rapid Thermal Annealing Procedure for Shallow Junction Formation. <i>Journal of the Electrochemical Society</i> , 1984, 131, 943-945.	1.3	66
12	Enhancement-Mode Buried-Channel $\text{In}_{0.7}\text{Ga}_{0.3}\text{As}_{0.52}\text{Al}_{0.48}\text{As}$ MOSFETs With High- κ Gate Dielectrics. <i>IEEE Electron Device Letters</i> , 2007, 28, 473-475.	2.2	62
13	Properties of SiO ₂ /Si/GaAs structures formed by solid phase epitaxy of amorphous Si on GaAs. <i>Applied Physics Letters</i> , 1991, 58, 2540-2542.	1.5	54
14	The heteroepitaxy of Ge on Si: A comparison of chemical vapor and vacuum deposited layers. <i>Journal of Applied Physics</i> , 1982, 53, 1076-1083.	1.1	53
15	Near-surface defects formed during rapid thermal annealing of preamorphized and BF ₂ -implanted silicon. <i>Applied Physics Letters</i> , 1984, 45, 982-984.	1.5	51
16	High resolution transmission electron microscopy study of Se-implanted and annealed GaAs: Mechanisms of amorphization and recrystallization. <i>Applied Physics Letters</i> , 1984, 44, 623-625.	1.5	51
17	Damage induced through megavolt arsenic implantation into silicon. <i>Applied Physics Letters</i> , 1982, 41, 537-539.	1.5	46
18	Direct evidence of arsenic clustering in high dose arsenic-implanted silicon. <i>Applied Physics Letters</i> , 1984, 44, 782-784.	1.5	46

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19	Formation of ultrathin, buried oxides in Si by O ⁺ ion implantation. Applied Physics Letters, 1996, 69, 674-676.	1.5	46
20	Transmission electron microscopy of aluminum implanted and annealed (100)â€‰Si: Direct evidence of aluminum precipitate formation. Applied Physics Letters, 1986, 49, 1169-1171.	1.5	44
21	The formation of a continuous amorphous layer by roomâ€‰temperature implantation of boron into silicon. Journal of Applied Physics, 1988, 63, 1414-1418.	1.1	41
22	Defects and strain relaxation in silicon-germanium-on-insulator formed by high-temperature oxidation. Applied Physics Letters, 2004, 85, 5869-5871.	1.5	40
23	Recrystallization of buried amorphous layers and associated electrical effects in P ⁺ -implanted Si. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1982, 46, 611-633.	0.6	37
24	Proton, deuteron, and helium implantation into GaAs and LiNbO ₃ for waveguide fabrication. Journal of Applied Physics, 1985, 57, 5006-5010.	1.1	34
25	Shallow junction formation by preamorphization with tin implantation. Applied Physics Letters, 1986, 49, 575-577.	1.5	33
26	Strain engineering in functional materials. AIP Advances, 2019, 9, .	0.6	33
27	Epitaxial regrowth of thin amorphous GaAs layers. Applied Physics Letters, 1981, 39, 70-72.	1.5	31
28	Amorphization/templated recrystallization method for changing the orientation of single-crystal silicon: An alternative approach to hybrid orientation substrates. Applied Physics Letters, 2005, 87, 221911.	1.5	31
29	Ultra-low-power sub-photon-voltage high-efficiency light-emitting diodes. Nature Photonics, 2019, 13, 588-592.	15.6	30
30	High resolution structural characterization of the amorphousâ€‰crystalline interface in Se ⁺ -implanted GaAs. Applied Physics Letters, 1984, 44, 874-876.	1.5	29
31	Growth of Selective Tungsten on Selfâ€‰Aligned Ti and PtNi Silicides by Low Pressure Chemical Vapor Deposition. Journal of the Electrochemical Society, 1986, 133, 1715-1721.	1.3	29
32	Substitutional placement of phosphorus in ion implanted silicon by recrystallizing amorphous/crystalline interface. Journal of Applied Physics, 1983, 54, 3479-3484.	1.1	28
33	Low-Temperature Epitaxy of Compressively Strained Silicon Directly on Silicon Substrates. Journal of Electronic Materials, 2012, 41, 494-497.	1.0	28
34	High resolution transmission electron microscopy of protonâ€‰implanted gallium arsenide. Applied Physics Letters, 1985, 47, 691-693.	1.5	27
35	Quick Turnaround Technique for Highlighting Defects in Thin Si/SiGe Bilayers. Electrochemical and Solid-State Letters, 2004, 7, G105.	2.2	27
36	Transmission electron microscopy and Rutherford backscattering studies of different damage structures in P ⁺ -implanted Si. Journal of Applied Physics, 1980, 51, 5718-5724.	1.1	26

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37	Steady-state thermally annealed GaAs with room-temperature-implanted Si. Applied Physics Letters, 1980, 36, 749-751.	1.5	26
38	TEM structural studies on Se ⁺ implanted GaAs. Radiation Effects, 1979, 42, 35-43.	0.4	25
39	Reaction of titanium with silicon nitride under rapid thermal annealing. Applied Physics Letters, 1986, 49, 1236-1238.	1.5	25
40	Observation of stacking faults in strained Si layers. Applied Physics Letters, 2004, 85, 2493-2495.	1.5	25
41	Vertical Light-Emitting Diode Fabrication by Controlled Spalling. Applied Physics Express, 2013, 6, 112301.	1.1	23
42	Effect on electrical properties of segregation of implanted P ⁺ at defect sites in Si. Applied Physics Letters, 1980, 37, 615-618.	1.5	21
43	An examination of facet formation during solid phase epitaxy of line-shaped amorphized regions in (001) and (011) Si. Journal of Applied Physics, 2007, 101, 104908.	1.1	21
44	GaN Devices on a 200 mm Si Platform Targeting Heterogeneous Integration. IEEE Electron Device Letters, 2017, 38, 1094-1096.	2.2	21
45	Recrystallization of amorphous gallium arsenide by ion beams. Applied Physics Letters, 1984, 44, 301-303.	1.5	19
46	Depth distributions and damage characteristics of protons implanted in n ⁺ -type GaAs. Journal of Applied Physics, 1985, 57, 2299-2301.	1.1	19
47	9.4% Efficient Amorphous Silicon Solar Cell on High Aspect Ratio Glass Microcones. Advanced Materials, 2014, 26, 4082-4086.	11.1	19
48	Gas phase particle formation and elimination on Si (100) in low temperature reduced pressure chemical vapor deposition silicon-based epitaxial layers. Thin Solid Films, 2012, 520, 3190-3194.	0.8	18
49	Annealing behavior of GaAs implanted with Si ⁺ and SiF ⁺ and rapid thermally annealed with plasma-enhanced chemical vapor deposited silicon nitride cap. Applied Physics Letters, 1990, 57, 1129-1131.	1.5	17
50	Correlation between structural and electrical profiles in ion-implanted GaAs. Radiation Effects, 1980, 49, 183-186.	0.4	16
51	Boron redistribution in arsenic-implanted silicon and short-channel effects in metal-oxide-semiconductor field effect transistors. Applied Physics Letters, 1992, 61, 3038-3040.	1.5	15
52	Single Crystal Flexible Electronics Enabled by 3D Spalling. Advanced Materials, 2017, 29, 1606638.	11.1	15
53	Pulsed electron beam induced recrystallization and damage in GaAs. Applied Physics Letters, 1979, 35, 867-869.	1.5	14
54	Study of HCl and Secco Defect Etching for Characterization of Thick sSOI. Journal of the Electrochemical Society, 2007, 154, H713.	1.3	14

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55	Outdiffusion of Be during rapid thermal annealing of high-dose Be-implanted GaAs. Journal of Applied Physics, 1990, 67, 6589-6591.	1.1	13
56	Shallow n+ Junctions in Silicon by Arsenic Gas-Phase Doping. Journal of the Electrochemical Society, 1994, 141, 1378-1381.	1.3	13
57	Electron Microscope Studies Of Ion Implanted Silicon And Gallium Arsenide After Laser And Furnace Annealing. Journal of Microscopy, 1980, 118, 51-59.	0.8	12
58	Annealing and oxidation behavior of low-pressure chemical vapor deposited tungsten silicide layers on polycrystalline silicon gates. Journal of Applied Physics, 1987, 62, 2830-2835.	1.1	10
59	Transmission electron microscopy and Rutherford backscattering studies of single and double discrete buried damage layers in P-implanted Si on subsequent laser annealing. Journal of Applied Physics, 1981, 52, 744-747.	1.1	9
60	Effect of post-silicidation annealing on TiSi ₂ /p-n-Si junctions. Journal of Applied Physics, 1987, 62, 1882-1886.	1.1	9
61	Effect of F co-implant during annealing of Be-implanted GaAs. Applied Physics Letters, 1990, 57, 569-571.	1.5	9
62	Opportunities and Challenges for Germanium and Silicon-Germanium Channel p-FETs. ECS Transactions, 2009, 19, 155-164.	0.3	9
63	N-doping of gallium arsenide by rapid thermal oxidation of a silicon cap. Applied Physics Letters, 1990, 57, 1681-1683.	1.5	8
64	High strain embedded-SiGe via low temperature reduced pressure chemical vapor deposition. Thin Solid Films, 2012, 520, 3175-3178.	0.8	8
65	Crystallization investigation of NiSi ₂ thin films. Journal of Electronic Materials, 1982, 11, 289-301.	1.0	7
66	Correlation among secondary ion mass spectrometry, cross-section transmission electron microscopy, and Rutherford backscattering analyses for defect density and depth distribution determination. Applied Physics Letters, 1983, 43, 549-551.	1.5	7
67	A Study of Atomic and Molecular Arsenic Ion-implanted Silicon. Journal of the Electrochemical Society, 1986, 133, 1900-1905.	1.3	7
68	(Invited) Cost-Effective Layer Transfer by Controlled Spalling Technology. ECS Transactions, 2013, 50, 315-323.	0.3	7
69	Regrowth Behavior of Three Different Damage Structures in P+ Implanted and Subsequently Laser Annealed Si. Journal of the Electrochemical Society, 1980, 127, 1589-1591.	1.3	6
70	MeVHe+dechanneling from secondary defects in Si. Physical Review B, 1981, 24, 3626-3629.	1.1	6
71	The high-temperature stability of chemically vapor-deposited tungsten-silicon couples rapid thermal annealed in ammonia and argon. Journal of Applied Physics, 1988, 64, 6721-6726.	1.1	6
72	Effect of oxygen on chromium-structural defects interaction in ion-implanted gallium arsenide. Journal of Applied Physics, 1982, 53, 6413-6417.	1.1	5

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73	Growth of selective tungsten films on self-aligned CoSi ₂ by low pressure chemical vapor deposition. Applied Physics Letters, 1986, 49, 1723-1725.	1.5	5
74	Range and shape factors, damage, regrowth, and redistribution for Ag implants in (100) and (111) Si. Journal of Applied Physics, 1987, 61, 1355-1358.	1.1	5
75	Formation of highly doped gallium arsenide layers by rapid thermal oxidation followed by rapid thermal annealing of silicon-capped gallium arsenide. Applied Physics Letters, 1991, 58, 1190-1192.	1.5	5
76	Effect of Thermal Annealing on Carbon in In-situ Phosphorous-Doped Si _{1-x} C _x films. Thin Solid Films, 2012, 520, 3155-3157.	0.8	5
77	Passivation of n-dopants in ion-implanted GaAs by a ₂ D ₂ +plasma. Applied Physics Letters, 1991, 58, 385-387.	1.5	4
78	Oxidation induced AlAs/GaAs superlattice disordering. Applied Physics Letters, 1992, 60, 1235-1237.	1.5	4
79	On the comparison of transmission electron microscopy and channeled Rutherford backscattering techniques to evaluate the multilayer subsurface damage structures. Applied Physics Letters, 1980, 37, 234-236.	1.5	3
80	Megavolt electron irradiation induced regrowth of amorphous zones in silicon. Journal of Applied Physics, 1983, 54, 2380-2382.	1.1	3
81	Challenges and Solutions of Extremely Thin SOI (ETSOI) for CMOS Scaling to 22nm Node and Beyond. ECS Transactions, 2010, 27, 951-957.	0.3	3
82	Physical characterization of sub-32nm semiconductor materials and processes using advanced ion beam-based analytical techniques. Surface and Interface Analysis, 2013, 45, 338-344.	0.8	3
83	Mechanism for enhancement of electrical activation of silicon in GaAs by aluminum co-implantation. Applied Physics Letters, 1993, 63, 3200-3202.	1.5	2
84	Method to Determine the Collection Length in Field-Driven a-Si _{1-x} G _x :H Solar Cells. Energy Procedia, 2011, 10, 213-219.	1.8	2
85	(Invited) Microstructure Development in Epitaxially Grown In Situ Boron and Carbon Co-Doped Strained 60% Silicon-Germanium Layers. ECS Transactions, 2013, 50, 1013-1024.	0.3	2
86	Gas Source Depletion Study of High-Order Silanes of Silicon-Based Epitaxial Layers Grown with RPCVD and Low Temperatures. ECS Transactions, 2012, 45, 69-80.	0.3	1
87	(Invited) CMOS Compatible High Performance III-V Devices: Opportunities and Challenges. ECS Transactions, 2016, 72, 313-319.	0.3	1