Devendra Sadana

List of Publications by Year
in descending order

87 papers	2,610 citations	172386 29 h-index	206029 48 g-index
88 all docs	88 docs citations	88 times ranked	2008 citing authors

#	Article	IF	Citations
1	Ultra-low-power sub-photon-voltage high-efficiency light-emitting diodes. Nature Photonics, 2019, 13, 588-592.	15.6	30
2	Strain engineering in functional materials. AIP Advances, 2019, 9, .	0.6	33
3	Single Crystal Flexible Electronics Enabled by 3D Spalling. Advanced Materials, 2017, 29, 1606638.	11.1	15
4	GaN Devices on a 200 mm Si Platform Targeting Heterogeneous Integration. IEEE Electron Device Letters, 2017, 38, 1094-1096.	2.2	21
5	(Invited) CMOS Compatible High Performance IIIV Devices: Opportunities and Challenges. ECS Transactions, 2016, 72, 313-319.	0.3	1
6	Strain scaling for CMOS. MRS Bulletin, 2014, 39, 131-137.	1.7	76
7	9.4% Efficient Amorphous Silicon Solar Cell on High Aspectâ€Ratio Glass Microcones. Advanced Materials, 2014, 26, 4082-4086.	11.1	19
8	Physical characterization of subâ€32â€nm semiconductor materials and processes using advanced ion beamâ€“based analytical techniques. Surface and Interface Analysis, 2013, 45, 338-344.	0.8	3
9	Layer-Resolved Graphene Transfer via Engineered Strain Layers. Science, 2013, 342, 833-836.	6.0	174
10	Ultralight Highâ€Efficiency Flexible InGaP/(In)GaAs Tandem Solar Cells on Plastic. Advanced Energy Materials, 2013, 3, 566-571.	10.2	68
11	Layer transfer by controlled spalling. Journal Physics D: Applied Physics, 2013, 46, 152002.	1.3	83
12	Vertical Light-Emitting Diode Fabrication by Controlled Spalling. Applied Physics Express, 2013, 6, 112301.	1.1	23
13	(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
14	(Invited) Cost-Effective Layer Transfer by Controlled Spalling Technology. ECS Transactions, 2013, 50, 315-323.	0.3	7
15	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
16	Kerf-Less Removal of Si, Ge, and IIIâ€“V Layers by Controlled Spalling to Enable Low-Cost PV Technologies. IEEE Journal of Photovoltaics, 2012, 2, 141-147.	1.5	145
17	High strain embedded-SiGe via low temperature reduced pressure chemical vapor deposition. Thin Solid Films, 2012, 520, 3175-3178.	0.8	8
18	Effect of Thermal Annealing on Carbon in In-situ Phosphorous-Doped Si1-xCx films. Thin Solid Films, 2012, 520, 3155-3157.	0.8	5

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19	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
20	Low-Temperature Epitaxy of Compressively Strained Silicon Directly on Silicon Substrates. Journal of Electronic Materials, 2012, 41, 494-497.	1.0	28
21	Method to Determine the Collection Length in Field-Driven a-Si1-xGex:H Solar Cells. Energy Procedia, 2011, 10, 213-219.	1.8	2
22	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
23	Opportunities and Challenges for Germanium and Silicon-Germanium Channel p-FETs. ECS Transactions, 2009, 19, 155-164.	0.3	9
24	Inversion mode n-channel GaAs field effect transistor with high-k/metal gate. Applied Physics Letters, 2008, 92, 153508.	1.5	77
25	Study of HCl and Secco Defect Etching for Characterization of Thick sSOI. Journal of the Electrochemical Society, 2007, 154, H713.	1.3	14
26	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
27	Enhancement-Mode Buried-Channel $hbox{In}_{0.7} hbox{Ga}_{0.3}hbox{As/In}_{0.52}hbox{Al}_{0.48}hbox{As}$ MOSFETs With High- $kappa$ Gate Dielectrics. IEEE Electron Device Letters, 2007, 28, 473-475.	2.2	62
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	Defects and strain relaxation in silicon-germanium-on-insulator formed by high-temperature oxidation. Applied Physics Letters, 2004, 85, 5869-5871.	1.5	40
30	Observation of stacking faults in strained Si layers. Applied Physics Letters, 2004, 85, 2493-2495.	1.5	25
31	Quick Turnaround Technique for Highlighting Defects in Thin Si/SiGe Bilayers. Electrochemical and Solid-State Letters, 2004, 7, G105.	2.2	27
32	Formation of ultrathin, buried oxides in Si by O+ ion implantation. Applied Physics Letters, 1996, 69, 674-676.	1.5	46
33	Shallow n+ Junctions in Silicon by Arsenic Gasâ€Phase Doping. Journal of the Electrochemical Society, 1994, 141, 1378-1381.	1.3	13
34	Mechanism for enhancement of electrical activation of silicon in GaAs by aluminum coâ€implantation. Applied Physics Letters, 1993, 63, 3200-3202.	1.5	2
35	Oxidation induced AlAs/GaAs superlattice disordering. Applied Physics Letters, 1992, 60, 1235-1237.	1.5	4
36	Boron redistribution in arsenicâ€implanted silicon and shortâ€channel effects in metalâ€“oxideâ€“semiconductor field effect transistors. Applied Physics Letters, 1992, 61, 3038-3040.	1.5	15

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37	Formation of highlynâ€doped gallium arsenide layers by rapid thermal oxidation followed by rapid thermal annealing of siliconâ€capped gallium arsenide. Applied Physics Letters, 1991, 58, 1190-1192.	1.5	5
38	Properties of SiO2/Si/GaAs structures formed by solid phase epitaxy of amorphous Si on GaAs. Applied Physics Letters, 1991, 58, 2540-2542.	1.5	54
39	Passivation ofnandpdopants in ionâ€implanted GaAs by a2D+plasma. Applied Physics Letters, 1991, 58, 385-387.	1.5	4
40	Outdiffusion of Be during rapid thermal annealing of highâ€dose Beâ€implanted GaAs. Journal of Applied Physics, 1990, 67, 6589-6591.	1.1	13
41	Annealing behavior of GaAs implanted with Si+and SiF+and rapid thermally annealed with plasmaâ€enhanced chemical vapor deposited silicon nitride cap. Applied Physics Letters, 1990, 57, 1129-1131.	1.5	17
42	Effect of F coâ€implant during annealing of Beâ€implanted GaAs. Applied Physics Letters, 1990, 57, 569-571.	1.5	9
43	N+doping of gallium arsenide by rapid thermal oxidation of a silicon cap. Applied Physics Letters, 1990, 57, 1681-1683.	1.5	8
44	Interactions of thin Ti films with Si, SiO2, Si3N4, and SiOxNyunder rapid thermal annealing. Journal of Applied Physics, 1988, 64, 344-353.	1.1	120
45	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
46	The highâ€temperature stability of chemically vaporâ€deposited tungstenâ€silicon couples rapid thermal annealed in ammonia and argon. Journal of Applied Physics, 1988, 64, 6721-6726.	1.1	6
47	Characterization of a Selfâ€Aligned Cobalt Silicide Process. Journal of the Electrochemical Society, 1987, 134, 925-935.	1.3	98
48	Annealing and oxidation behavior of lowâ€pressure chemical vapor deposited tungsten slicide layers on polycrystalline silicon gates. Journal of Applied Physics, 1987, 62, 2830-2835.	1.1	10
49	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
50	Effect of postâ€silicidation annealing on TiSi2/p+â€nSi junctions. Journal of Applied Physics, 1987, 62, 1882-1886.	1.1	9
51	Reaction of titanium with silicon nitride under rapid thermal annealing. Applied Physics Letters, 1986, 49, 1236-1238.	1.5	25
52	Shallow junction formation by preamorphization with tin implantation. Applied Physics Letters, 1986, 49, 575-577.	1.5	33
53	A Study of Atomic and Molecular Arsenic Ionâ€implanted Silicon. Journal of the Electrochemical Society, 1986, 133, 1900-1905.	1.3	7
54	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

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55	Growth of selective tungsten films on selfâ€aligned CoSi2by low pressure chemical vapor deposition. Applied Physics Letters, 1986, 49, 1723-1725.	1.5	5
56	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
57	Depth distributions and damage characteristics of protons implanted innâ€type GaAs. Journal of Applied Physics, 1985, 57, 2299-2301.	1.1	19
58	Proton, deuteron, and helium implantation into GaAs and LiNbO3for waveguide fabrication. Journal of Applied Physics, 1985, 57, 5006-5010.	1.1	34
59	High resolution transmission electron microscopy of protonâ€implanted gallium arsenide. Applied Physics Letters, 1985, 47, 691-693.	1.5	27
60	Germanium Implantation into Silicon: An Alternate Preâ€Amorphization/Rapid Thermal Annealing Procedure for Shallow Junction Formation. Journal of the Electrochemical Society, 1984, 131, 943-945.	1.3	66
61	Nearâ€surface defects formed during rapid thermal annealing of preamorphized and BF+2â€implanted silicon. Applied Physics Letters, 1984, 45, 982-984.	1.5	51
62	High resolution transmission electron microscopy study of Se+â€implanted and annealed GaAs: Mechanisms of amorphization and recrystallization. Applied Physics Letters, 1984, 44, 623-625.	1.5	51
63	Residual defects following rapid thermal annealing of shallow boron and boron fluoride implants into preamorphized silicon. Applied Physics Letters, 1984, 44, 459-461.	1.5	103
64	Direct evidence of arsenic clustering in high dose arsenicâ€implanted silicon. Applied Physics Letters, 1984, 44, 782-784.	1.5	46
65	Recrystallization of amorphous gallium arsenide by ion beams. Applied Physics Letters, 1984, 44, 301-303.	1.5	19
66	High resolution structural characterization of the amorphousâ€crystalline interface in Se+â€implanted GaAs. Applied Physics Letters, 1984, 44, 874-876.	1.5	29
67	Correlation among secondary ion mass spectrometry, crossâ€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
68	Substitutional placement of phosphorus in ion implanted silicon by recrystallizing amorphous/crystalline interface. Journal of Applied Physics, 1983, 54, 3479-3484.	1.1	28
69	Megavolt electron irradiation induced regrowth of amorphous zones in silicon. Journal of Applied Physics, 1983, 54, 2380-2382.	1.1	3
70	The heteroepitaxy of Ge on Si: A comparison of chemical vapor and vacuum deposited layers. Journal of Applied Physics, 1982, 53, 1076-1083.	1.1	53
71	Damage induced through megavolt arsenic implantation into silicon. Applied Physics Letters, 1982, 41, 537-539.	1.5	46
72	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

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73	Effect of oxygen on chromiumâ€structural defects interaction in ionâ€implanted gallium arsenide. Journal of Applied Physics, 1982, 53, 6413-6417.	1.1	5
74	Crystallization investigation of NiSi2 thin films. Journal of Electronic Materials, 1982, 11, 289-301.	1.0	7
75	Ion implantation and lowâ€temperature epitaxial regrowth of GaAs. Journal of Applied Physics, 1981, 52, 4038-4046.	1.1	89
76	Epitaxial regrowth of thin amorphous GaAs layers. Applied Physics Letters, 1981, 39, 70-72.	1.5	31
77	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
78	MeVHe+dechanneling from secondary defects in Si. Physical Review B, 1981, 24, 3626-3629.	1.1	6
79	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
80	Correlation between structural and electrical profiles in ion-implanted GaAs. Radiation Effects, 1980, 49, 183-186.	0.4	16
81	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
82	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
83	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
84	Effect on electrical properties of segregation of implanted P+at defect sites in Si. Applied Physics Letters, 1980, 37, 615-618.	1.5	21
85	Steady-state thermally annealed GaAs with room-temperature-implanted Si. Applied Physics Letters, 1980, 36, 749-751.	1.5	26
86	TEM structural studies on Se⁺implanted GaAs. Radiation Effects, 1979, 42, 35-43.	0.4	25
87	Pulsed electron beam induced recrystallization and damage in GaAs. Applied Physics Letters, 1979, 35, 867-869.	1.5	14