

# Pramod Reddy

## List of Publications by Year in descending order

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84  
papers

1,775  
citations

331259

21  
h-index

301761

39  
g-index

84  
all docs

84  
docs citations

84  
times ranked

1335  
citing authors

#	ARTICLE	IF	CITATIONS
1	The 2020 UV emitter roadmap. Journal Physics D: Applied Physics, 2020, 53, 503001.	1.3	289
2	Doping and compensation in Al-rich AlGa <sub>N</sub> grown on single crystal AlN and sapphire by MOCVD. Applied Physics Letters, 2018, 112, .	1.5	107
3	On compensation in Si-doped AlN. Applied Physics Letters, 2018, 112, .	1.5	97
4	The effect of polarity and surface states on the Fermi level at III-nitride surfaces. Journal of Applied Physics, 2014, 116, .	1.1	75
5	Correlation between mobility collapse and carbon impurities in Si-doped GaN grown by low pressure metalorganic chemical vapor deposition. Journal of Applied Physics, 2016, 120, .	1.1	68
6	KOH based selective wet chemical etching of AlN, Al <sub>x</sub> Ga <sub>1-x</sub> N, and GaN crystals: A way towards substrate removal in deep ultraviolet-light emitting diode. Applied Physics Letters, 2015, 106, .	1.5	66
7	Charge neutrality levels, barrier heights, and band offsets at polar AlGa <sub>N</sub> . Applied Physics Letters, 2015, 107, .	1.5	59
8	Point defect reduction in wide bandgap semiconductors by defect quasi Fermi level control. Journal of Applied Physics, 2016, 120, .	1.1	48
9	Fermi level control of compensating point defects during metalorganic chemical vapor deposition growth of Si-doped AlGa <sub>N</sub> . Applied Physics Letters, 2014, 105, 222101.	1.5	47
10	Point defect reduction in MOCVD (Al)Ga <sub>N</sub> by chemical potential control and a comprehensive model of C incorporation in GaN. Journal of Applied Physics, 2017, 122, .	1.1	47
11	6 kW/cm <sup>2</sup> UVC laser threshold in optically pumped lasers achieved by controlling point defect formation. Applied Physics Express, 2018, 11, 082101.	1.1	46
12	Point-Defect Nature of the Ultraviolet Absorption Band in AlN. Physical Review Applied, 2018, 9, .	1.5	41
13	Defect-free Ni/GaN Schottky barrier behavior with high temperature stability. Applied Physics Letters, 2017, 110, .	1.5	38
14	The role of chemical potential in compensation control in Si:AlGa <sub>N</sub> . Journal of Applied Physics, 2020, 127, .	1.1	34
15	High gain, large area, and solar blind avalanche photodiodes based on Al-rich AlGa <sub>N</sub> grown on AlN substrates. Applied Physics Letters, 2020, 116, .	1.5	33
16	Schottky contact formation on polar and non-polar AlN. Journal of Applied Physics, 2014, 116, .	1.1	32
17	Fabrication and structural properties of AlN submicron periodic lateral polar structures and waveguides for UV-C applications. Applied Physics Letters, 2016, 108, .	1.5	32
18	High Mg activation in implanted GaN by high temperature and ultrahigh pressure annealing. Applied Physics Letters, 2021, 118, .	1.5	28

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19	High <i>n</i> -type conductivity and carrier concentration in Si-implanted homoepitaxial AlN. Applied Physics Letters, 2021, 118, .	1.5	25
20	Status of the growth and fabrication of AlGa <sub>N</sub> -based UV laser diodes for near and mid-UV wavelength. Journal of Materials Research, 2021, 36, 4638-4664.	1.2	25
21	Control of passivation and compensation in Mg-doped GaN by defect quasi Fermi level control. Journal of Applied Physics, 2020, 127, .	1.1	24
22	The polarization field in Al-rich AlGa <sub>N</sub> multiple quantum wells. Japanese Journal of Applied Physics, 2019, 58, SCCC10.	0.8	23
23	High temperature and low pressure chemical vapor deposition of silicon nitride on AlGa <sub>N</sub> : Band offsets and passivation studies. Journal of Applied Physics, 2016, 119, .	1.1	22
24	High free carrier concentration in p-GaN grown on AlN substrates. Applied Physics Letters, 2017, 111, .	1.5	22
25	Sensing behavior study of silica-coated Ag nanoparticles deposited on glassy carbon toward nitrobenzene. Journal of Nanoparticle Research, 2012, 14, 1.	0.8	21
26	A thermodynamic supersaturation model for the growth of aluminum gallium nitride by metalorganic chemical vapor deposition. Journal of Applied Physics, 2018, 124, .	1.1	21
27	Noninvasive Stimulation of Neurotypic Cells Using Persistent Photoconductivity of Gallium Nitride. ACS Omega, 2018, 3, 615-621.	1.6	20
28	N- and P- type Doping in Al-rich AlGa <sub>N</sub> and AlN. ECS Transactions, 2018, 86, 25-30.	0.3	20
29	Shallow Si donor in ion-implanted homoepitaxial AlN. Applied Physics Letters, 2020, 116, .	1.5	20
30	Nonlinear analysis of vanadium- and titanium-based contacts to Al-rich n-AlGa <sub>N</sub> . Japanese Journal of Applied Physics, 2017, 56, 100302.	0.8	19
31	Design of AlGa <sub>N</sub> -based quantum structures for low threshold UVC lasers. Journal of Applied Physics, 2019, 126, 223101.	1.1	19
32	The effect of illumination power density on carbon defect configuration in silicon doped GaN. Journal of Applied Physics, 2016, 120, .	1.1	17
33	On Ni/Au Alloyed Contacts to Mg-Doped GaN. Journal of Electronic Materials, 2018, 47, 305-311.	1.0	17
34	Defect quasi Fermi level control-based CN reduction in GaN: Evidence for the role of minority carriers. Applied Physics Letters, 2017, 111, 152101.	1.5	14
35	Observation of carrier concentration dependent spintronic terahertz emission from <i>n</i> -Ga <sub>N</sub> /NiFe heterostructures. Applied Physics Letters, 2020, 117, .	1.5	14
36	The nature of the DX state in Ge-doped AlGa <sub>N</sub> . Applied Physics Letters, 2020, 116, .	1.5	14

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37	Self-compensation in heavily Ge doped AlGa <sub>N</sub> : A comparison to Si doping. Applied Physics Letters, 2021, 118, .	1.5	14
38	Synthesis and electrical behavior study of Mn <sub>3</sub> O <sub>4</sub> nanoceramic powder for low temperature NTC thermistor. Journal of Materials Science: Materials in Electronics, 2012, 23, 1891-1897.	1.1	12
39	Doping and compensation in heavily Mg doped Al-rich AlGa <sub>N</sub> films. Applied Physics Letters, 2022, 120, .	1.5	12
40	Performance improvement of ohmic contacts on Al-rich n-AlGa <sub>N</sub> grown on single crystal AlN substrate using reactive ion etching surface treatment. Applied Physics Express, 2017, 10, 071001.	1.1	11
41	Study on avalanche breakdown and Poole-Frenkel emission in Al-rich AlGa <sub>N</sub> grown on single crystal AlN. Applied Physics Letters, 2021, 119, .	1.5	10
42	A conduction model for contacts to Si-doped AlGa <sub>N</sub> grown on sapphire and single-crystalline AlN. Journal of Applied Physics, 2015, 117, .	1.1	9
43	Chemical treatment effects on Schottky contacts to metalorganic chemical vapor deposited n-type N-polar Ga <sub>N</sub> . Journal of Applied Physics, 2020, 128, 064501.	1.1	9
44	Pinning of energy transitions of defects, complexes, and surface states in AlGa <sub>N</sub> alloys. Applied Physics Letters, 2020, 116, .	1.5	9
45	Large-Area, Solar-Blind, Sub-250 nm Detection AlGa <sub>N</sub> Avalanche Photodiodes Grown on AlN Substrates. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	1.2	9
46	Record >10 <sup>6</sup> MV/cm mesa breakdown fields in Al <sub>0.85</sub> Ga <sub>0.15</sub> N/Al <sub>0.6</sub> Ga <sub>0.4</sub> N high electron mobility transistors on native AlN substrates. Applied Physics Letters, 2022, 120, .	1.5	9
47	Bioelectronics communication: encoding yeast regulatory responses using nanostructured gallium nitride thin films. Nanoscale, 2018, 10, 11506-11516.	2.8	8
48	GaN lateral polar junction arrays with 3D control of doping by supersaturation modulated growth: A path toward III-nitride superjunctions. Journal of Applied Physics, 2022, 131, 015703.	1.1	8
49	Variably doped nanostructured gallium nitride surfaces can serve as biointerfaces for neurotypic PC12 cells and alter their behavior. RSC Advances, 2018, 8, 36722-36730.	1.7	7
50	Impact of impurity-based phonon resonant scattering on thermal conductivity of single crystalline Ga <sub>N</sub> . Applied Physics Letters, 2020, 117, 082101.	1.5	7
51	Role of polarity in SiN on Al/GaN and the pathway to stable contacts. Semiconductor Science and Technology, 2020, 35, 055007.	1.0	7
52	Plasma enhanced chemical vapor deposition of SiO <sub>2</sub> and SiN <sub>x</sub> on AlGa <sub>N</sub> : Band offsets and interface studies as a function of Al composition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, 061101.	0.9	6
53	Weak localization and dimensional crossover in compositionally graded Al <sub>x</sub> Ga <sub>1-x</sub> N. Applied Physics Letters, 2021, 118, .	1.5	6
54	(Invited) A Path Toward Vertical Ga <sub>N</sub> Superjunction Devices. ECS Transactions, 2020, 98, 69-79.	0.3	6

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55	Point-defect management in homoepitaxially grown Si-doped GaN by MOCVD for vertical power devices. <i>Applied Physics Express</i> , 2022, 15, 051003.	1.1	6
56	Bulk and Surface Electronic Properties of Inorganic Materials: Tools to Guide Cellular Behavior. <i>Small Methods</i> , 2018, 2, 1800016.	4.6	5
57	Behavior of <i>E. coli</i> with Variable Surface Morphology Changes on Charged Semiconductor Interfaces. <i>ACS Applied Bio Materials</i> , 2019, 2, 4044-4051.	2.3	5
58	Modified approach to modeling barrier inhomogeneity in Schottky diodes. <i>Semiconductor Science and Technology</i> , 2019, 34, 035004.	1.0	5
59	On the Ge shallow-to-deep level transition in Al-rich AlGa <sub>N</sub> . <i>Journal of Applied Physics</i> , 2021, 130, .	1.1	5
60	Impact of the effective refractive index in AlGa <sub>N</sub> -based mid-UV laser structures on waveguiding. <i>Japanese Journal of Applied Physics</i> , 2020, 59, 091001.	0.8	5
61	(Invited) Material Considerations for the Development of III-Nitride Power Devices. <i>ECS Transactions</i> , 2017, 80, 29-36.	0.3	4
62	Native oxide reconstructions on AlN and GaN (0001) surfaces. <i>Journal of Applied Physics</i> , 2021, 129, .	1.1	4
63	On electrical analysis of Al-rich p-AlGa <sub>N</sub> films for III-nitride UV light emitters. <i>Semiconductor Science and Technology</i> , 2022, 37, 015003.	1.0	4
64	Systematic oxygen impurity reduction in smooth N-polar GaN by chemical potential control. <i>Semiconductor Science and Technology</i> , 2022, 37, 015005.	1.0	4
65	The role of Ga supersaturation on facet formation in the epitaxial lateral overgrowth of GaN. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	4
66	Interfacial Properties of Doped Semiconductor Materials Can Alter the Behavior of <i>Pseudomonas aeruginosa</i> Films. <i>ACS Applied Electronic Materials</i> , 2019, 1, 1641-1652.	2.0	3
67	Al Rich AlGa <sub>N</sub> Based APDs on Single Crystal AlN with Solar Blindness and Room Temperature Operation. , 2019, , .		3
68	On the characteristics of N-polar GaN Schottky barrier contacts with LPCVD SiN interlayers. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	3
69	A pathway to highly conducting Ge-doped AlGa <sub>N</sub> . <i>Journal of Applied Physics</i> , 2021, 130, .	1.1	3
70	Design Challenges for Mid-UV Laser Diodes. , 2018, , .		2
71	Modulating the Stress Response of <i>E. coli</i> at GaN Interfaces Using Surface Charge, Surface Chemistry, and Genetic Mutations. <i>ACS Applied Bio Materials</i> , 2020, 3, 7211-7218.	2.3	2
72	Optical and I-V studies on Au-ZnO-ITO based UV-sensing devices. <i>Proceedings of SPIE</i> , 2012, , .	0.8	1

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73	Isotherm behavior studies of silica nanoparticles: Role of surfactant concentration and particle size. , 2012, , .		1
74	Improving the Conductivity Limits in Si Doped Al Rich AlGa <sub>N</sub> . , 2018, , .		1
75	UV illumination effects on AlGa <sub>N</sub> /Ga <sub>N</sub> HEMTs for tunable RF oscillators. , 2021, , .		1
76	Oxidative Stress Transcriptional Responses of <i>Escherichia coli</i> at Ga <sub>N</sub> Interfaces. ACS Applied Bio Materials, 2020, 3, 9073-9081.	2.3	1
77	Au:Ga Alloyed Clusters to Enhance Al Contacts to P-type Ga <sub>N</sub> . , 2018, , .		0
78	Electrical and Structural Characterization of Si Implanted Homoepitaxially Grown Al <sub>N</sub> . , 2018, , .		0
79	On contacts to III-nitride deep-UV emitters. , 2018, , .		0
80	Development of Near UV Laser Diodes. , 2019, , .		0
81	Quantum Well-Width Dependence Study on AlGa <sub>N</sub> Based UVC Laser. , 2019, , .		0
82	Temperature dependence of electronic bands in Al/Ga <sub>N</sub> by utilization of invariant deep defect transition energies. Applied Physics Letters, 2021, 119, 022101.	1.5	0
83	Schottky contacts to N-polar Ga <sub>N</sub> with Si <sub>3</sub> N <sub>4</sub> interlayer for elevated temperature operation. Applied Physics Letters, 2022, 120, .	1.5	0
84	Effects of temperature and oxygen partial pressure on electrical conductivity of Fe-doped Al <sub>2</sub> -Ga <sub>2</sub> O <sub>3</sub> single crystals. Applied Physics Letters, 2022, 120, 182101.	1.5	0