

Ronny Kirste

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/10026847/publications.pdf>

Version: 2024-02-01

86
papers

2,431
citations

201575

27
h-index

223716

46
g-index

86
all docs

86
docs citations

86
times ranked

2117
citing authors

#	ARTICLE	IF	CITATIONS
1	GaN lateral polar junction arrays with 3D control of doping by supersaturation modulated growth: A path toward III-nitride superjunctions. <i>Journal of Applied Physics</i> , 2022, 131, 015703.	1.1	8
2	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
3	Doping and compensation in heavily Mg doped Al-rich AlGaIn films. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	12
4	Record >10 ⁶ MV/cm mesa breakdown fields in Al _{0.85} Ga _{0.15} N/Al _{0.6} Ga _{0.4} N high electron mobility transistors on native AlN substrates. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	9
5	Pseudomorphic growth of thick Al _{0.6} Ga _{0.4} N epilayers on AlN substrates. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	7
6	High <i>n</i> -type conductivity and carrier concentration in Si-implanted homoepitaxial AlN. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	25
7	Study on avalanche breakdown and Poole-Frenkel emission in Al-rich AlGaIn grown on single crystal AlN. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	10
8	A pathway to highly conducting Ge-doped AlGaIn. <i>Journal of Applied Physics</i> , 2021, 130, .	1.1	3
9	Status of the growth and fabrication of AlGaIn-based UV laser diodes for near and mid-UV wavelength. <i>Journal of Materials Research</i> , 2021, 36, 4638-4664.	1.2	25
10	The 2020 UV emitter roadmap. <i>Journal Physics D: Applied Physics</i> , 2020, 53, 503001.	1.3	289
11	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
12	Dose Rate Considerations for Semiconductor Electronics: Why Current Variations Enable Unique GaN-based Transmission Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2020, 26, 3064-3066.	0.2	1
13	The nature of the DX state in Ge-doped AlGaIn. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	14
14	The role of chemical potential in compensation control in Si:AlGaIn. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	34
15	Shallow Si donor in ion-implanted homoepitaxial AlN. <i>Applied Physics Letters</i> , 2020, 116, .	1.5	20
16	Impact of the effective refractive index in AlGaIn-based mid-UV laser structures on waveguiding. <i>Japanese Journal of Applied Physics</i> , 2020, 59, 091001.	0.8	5
17	Oxidative Stress Transcriptional Responses of <i>Escherichia coli</i> at GaN Interfaces. <i>ACS Applied Bio Materials</i> , 2020, 3, 9073-9081.	2.3	1
18	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

#	ARTICLE	IF	CITATIONS
19	The polarization field in Al-rich AlGa _N multiple quantum wells. Japanese Journal of Applied Physics, 2019, 58, SCCC10.	0.8	23
20	Interfacial Properties of Doped Semiconductor Materials Can Alter the Behavior of <i>Pseudomonas aeruginosa</i> Films. ACS Applied Electronic Materials, 2019, 1, 1641-1652.	2.0	3
21	Quasi-phase-matched second harmonic generation of UV light using AlN waveguides. Applied Physics Letters, 2019, 114, .	1.5	25
22	Design of AlGa _N -based quantum structures for low threshold UVC lasers. Journal of Applied Physics, 2019, 126, 223101.	1.1	19
23	Structural characteristics of m-plane AlN substrates and homoepitaxial films. Journal of Crystal Growth, 2019, 507, 389-394.	0.7	5
24	Noninvasive Stimulation of Neurotypic Cells Using Persistent Photoconductivity of Gallium Nitride. ACS Omega, 2018, 3, 615-621.	1.6	20
25	Structure of Ultrathin Native Oxides on III ⁺ Nitride Surfaces. ACS Applied Materials & Interfaces, 2018, 10, 10607-10611.	4.0	34
26	On Ni/Au Alloyed Contacts to Mg-Doped GaN. Journal of Electronic Materials, 2018, 47, 305-311.	1.0	17
27	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
28	Au:Ga Alloyed Clusters to Enhance Al Contacts to P-type GaN. , 2018, , .		0
29	Improving the Conductivity Limits in Si Doped Al Rich AlGa _N . , 2018, , .		1
30	Second-Harmonic Generation of Blue Light in GaN Waveguides. Applied Sciences (Switzerland), 2018, 8, 1218.	1.3	10
31	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
32	Thermal conductivity of GaN single crystals: Influence of impurities incorporated in different growth processes. Journal of Applied Physics, 2018, 124, .	1.1	25
33	The influence of point defects on the thermal conductivity of AlN crystals. Journal of Applied Physics, 2018, 123, 185107.	1.1	26
34	6 kW/cm ² UVC laser threshold in optically pumped lasers achieved by controlling point defect formation. Applied Physics Express, 2018, 11, 082101.	1.1	46
35	Bulk and Surface Electronic Properties of Inorganic Materials: Tools to Guide Cellular Behavior. Small Methods, 2018, 2, 1800016.	4.6	5
36	Thermal conductivity of single-crystalline AlN. Applied Physics Express, 2018, 11, 071001.	1.1	42

#	ARTICLE	IF	CITATIONS
37	Bioelectronics communication: encoding yeast regulatory responses using nanostructured gallium nitride thin films. <i>Nanoscale</i> , 2018, 10, 11506-11516.	2.8	8
38	Persistent Photoconductivity, Nanoscale Topography, and Chemical Functionalization Can Collectively Influence the Behavior of PC12 Cells on Wide Bandgap Semiconductor Surfaces. <i>Small</i> , 2017, 13, 1700481.	5.2	29
39	Optical nonlinear and electro-optical coefficients in bulk aluminium nitride single crystals. <i>Physica Status Solidi (B): Basic Research</i> , 2017, 254, 1700077.	0.7	21
40	Performance improvement of ohmic contacts on Al-rich n-AlGaIn grown on single crystal AlN substrate using reactive ion etching surface treatment. <i>Applied Physics Express</i> , 2017, 10, 071001.	1.1	11
41	High free carrier concentration in p-GaN grown on AlN substrates. <i>Applied Physics Letters</i> , 2017, 111, .	1.5	22
42	Defect quasi Fermi level control-based CN reduction in GaN: Evidence for the role of minority carriers. <i>Applied Physics Letters</i> , 2017, 111, 152101.	1.5	14
43	Point defect reduction in MOCVD (Al)GaIn by chemical potential control and a comprehensive model of C incorporation in GaN. <i>Journal of Applied Physics</i> , 2017, 122, .	1.1	47
44	Structure and Chemistry of Oxide Surface Reconstructions in III-Nitrides Observed using STEM EELS. <i>Microscopy and Microanalysis</i> , 2017, 23, 1444-1445.	0.2	0
45	Nonlinear analysis of vanadium- and titanium-based contacts to Al-rich n-AlGaIn. <i>Japanese Journal of Applied Physics</i> , 2017, 56, 100302.	0.8	19
46	HgNO ₃ sensitivity of AlGaIn/GaN field effect transistors functionalized with phytochelating peptides. <i>AIP Advances</i> , 2016, 6, 065105.	0.6	1
47	Correlation between mobility collapse and carbon impurities in Si-doped GaN grown by low pressure metalorganic chemical vapor deposition. <i>Journal of Applied Physics</i> , 2016, 120, .	1.1	68
48	The effect of illumination power density on carbon defect configuration in silicon doped GaN. <i>Journal of Applied Physics</i> , 2016, 120, .	1.1	17
49	Photoluminescence changes of III-Nitride lateral polarity structures after chemical functionalization. <i>Materials Research Express</i> , 2016, 3, 125906.	0.8	1
50	Atomically Thin MoS ₂ Narrowband and Broadband Light Superabsorbers. <i>ACS Nano</i> , 2016, 10, 7493-7499.	7.3	82
51	Polarity Control in Group-III Nitrides beyond Pragmatism. <i>Physical Review Applied</i> , 2016, 5, .	1.5	94
52	Nanoscale topography, semiconductor polarity and surface functionalization: additive and cooperative effects on PC12 cell behavior. <i>RSC Advances</i> , 2016, 6, 97873-97881.	1.7	15
53	Stability and Reliability of III-Nitride Based Biosensors. , 2016, , 149-196.		1
54	Status and challenges in deep UV semiconductor lasers. , 2015, , .		3

#	ARTICLE	IF	CITATIONS
55	Charge neutrality levels, barrier heights, and band offsets at polar AlGa _x N. Applied Physics Letters, 2015, 107, .	1.5	59
56	Growth and characterization of Al _x Ga _{1-x} N lateral polarity structures. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1039-1042.	0.8	15
57	Optical properties of aluminum nitride single crystals in the THz region. Optical Materials Express, 2015, 5, 2106.	1.6	10
58	Electronic Biosensors Based on III-Nitride Semiconductors. Annual Review of Analytical Chemistry, 2015, 8, 149-169.	2.8	66
59	Advantages and limitations of UV optoelectronics on AlN substrates. , 2015, , .		0
60	Optical characterization of Al- and N-polar AlN waveguides for integrated optics. Applied Physics Express, 2015, 8, 042603.	1.1	11
61	Nanostructure surface patterning of GaN thin films and application to AlGa _x N/AlN multiple quantum wells: A way towards light extraction efficiency enhancement of III-nitride based light emitting diodes. Journal of Applied Physics, 2015, 117, 113107.	1.1	29
62	Fermi level control of compensating point defects during metalorganic chemical vapor deposition growth of Si-doped AlGa _x N. Applied Physics Letters, 2014, 105, 222101.	1.5	47
63	Schottky contact formation on polar and non-polar AlN. Journal of Applied Physics, 2014, 116, .	1.1	32
64	The role of the carbon-silicon complex in eliminating deep ultraviolet absorption in AlN. Applied Physics Letters, 2014, 104, .	1.5	59
65	Exciton transitions and oxygen as a donor in <i>m</i> -plane AlN homoepitaxial films. Journal of Applied Physics, 2014, 115, .	1.1	20
66	Homoepitaxial AlN thin films deposited on <i>m</i> -plane (11 $\bar{2}$ 00) AlN substrates by metalorganic chemical vapor deposition. Journal of Applied Physics, 2014, 116, 133517.	1.1	30
67	Point defect management in GaN by Fermi-level control during growth. Proceedings of SPIE, 2014, , .	0.8	10
68	Stimulated emission and optical gain in AlGa _x N heterostructures grown on bulk AlN substrates. Journal of Applied Physics, 2014, 115, .	1.1	56
69	Sapphire decomposition and inversion domains in N-polar aluminum nitride. Applied Physics Letters, 2014, 104, .	1.5	29
70	Properties of AlN based lateral polarity structures. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 261-264.	0.8	11
71	Surface preparation of non-polar single-crystalline AlN substrates. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 454-457.	0.8	9
72	Direct Observation of the Polarity Control Mechanism in Aluminum Nitride Grown on Sapphire by Aberration Corrected Scanning Transmission Electron Microscopy. Microscopy and Microanalysis, 2014, 20, 162-163.	0.2	2

#	ARTICLE	IF	CITATIONS
73	Fermi Level Control of Point Defects During Growth of Mg-Doped GaN. Journal of Electronic Materials, 2013, 42, 815-819.	1.0	25
74	Effects of strain on the valence band structure and exciton-polariton energies in ZnO. Physical Review B, 2013, 88, .	1.1	42
75	Ge doped GaN with controllable high carrier concentration for plasmonic applications. Applied Physics Letters, 2013, 103, .	1.5	45
76	Compensation effects in GaN:Mg probed by Raman spectroscopy and photoluminescence measurements. Journal of Applied Physics, 2013, 113, .	1.1	49
77	Lasing and longitudinal cavity modes in photo-pumped deep ultraviolet AlGaIn heterostructures. Applied Physics Letters, 2013, 102, .	1.5	104
78	Refractive index of III-metal-polar and N-polar AlGaIn waveguides grown by metal organic chemical vapor deposition. Applied Physics Letters, 2013, 102, .	1.5	26
79	Fabrication and characterization of lateral polar GaN structures for second harmonic generation. Proceedings of SPIE, 2013, , .	0.8	15
80	Vacancy compensation and related donor-acceptor pair recombination in bulk AlN. Applied Physics Letters, 2013, 103, .	1.5	80
81	Polarity control and growth of lateral polarity structures in AlN. Applied Physics Letters, 2013, 102, .	1.5	60
82	On the origin of the 265nm absorption band in AlN bulk crystals. Applied Physics Letters, 2012, 100, .	1.5	137
83	Raman and Photoluminescence Spectroscopic Detection of Surface-Bound Li ⁺ O ₂ ⁻ Defect Sites in Li-Doped ZnO Nanocrystals Derived from Molecular Precursors. ChemPhysChem, 2011, 12, 1189-1195.	1.0	19
84	Temperature dependent photoluminescence of lateral polarity junctions of metal organic chemical vapor deposition grown GaN. Journal of Applied Physics, 2011, 110, .	1.1	45
85	Anti-phase domains in cubic GaN. Journal of Applied Physics, 2011, 110, .	1.1	26
86	Optical properties of InN grown on templates with controlled surface polarities. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2351-2354.	0.8	7