

Shuji Nakamura

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

126 papers	6,350 citations	37 h-index	78 g-index
143 ext. papers	7,172 ext. citations	3.5 avg, IF	5.9 L-index

#	Paper	IF	Citations
126	Demonstration of ultra-small 5 × 5 μm ² 607 nm InGaN amber micro-light-emitting diodes with an external quantum efficiency over 2%. <i>Applied Physics Letters</i> , 2022 , 120, 041102	3.4	3
125	Inverted N-polar blue and blue-green light emitting diodes with high power grown by metalorganic chemical vapor deposition. <i>Applied Physics Letters</i> , 2022 , 120, 101104	3.4	0
124	Red InGaN micro-light-emitting diodes (>620 nm) with a peak external quantum efficiency of 4.5% using an epitaxial tunnel junction contact. <i>Applied Physics Letters</i> , 2022 , 120, 121102	3.4	2
123	Progress of InGaN-Based Red Micro-Light Emitting Diodes. <i>Crystals</i> , 2022 , 12, 541	2.3	4
122	Low Forward Voltage III-Nitride Red Micro-Light-Emitting Diodes on a Strain Relaxed Template with an InGaN Decomposition Layer. <i>Crystals</i> , 2022 , 12, 721	2.3	0
121	InGaN-Based microLED Devices Approaching 1% EQE with Red 609 nm Electroluminescence on Semi-Relaxed Substrates. <i>Crystals</i> , 2021 , 11, 1364	2.3	5
120	Effects of activation method and temperature to III-nitride micro-light-emitting diodes with tunnel junction contacts grown by metalorganic chemical vapor deposition. <i>Applied Physics Letters</i> , 2021 , 119, 202102	3.4	3
119	Reduction of efficiency droop in c-plane InGaN/GaN light-emitting diodes using a thick single quantum well with doped barriers. <i>Applied Physics Letters</i> , 2021 , 119, 221102	3.4	4
118	Properties of AlN/GaN Heterostructures Grown at Low Growth Temperatures with Ammonia and Dimethylhydrazine. <i>Crystals</i> , 2021 , 11, 1412	2.3	2
117	Demonstration of ultra-small (0.2%) for mini-displays. <i>Applied Physics Express</i> , 2021 , 14, 011004	2.4	35
116	2DEGs formed in AlN/GaN HEMT structures with AlN grown at low temperature. <i>Applied Physics Letters</i> , 2021 , 118, 222103	3.4	3
115	Demonstration of high efficiency cascaded blue and green micro-light-emitting diodes with independent junction control. <i>Applied Physics Letters</i> , 2021 , 118, 261104	3.4	6
114	Light-emitting metalenses and meta-axicons for focusing and beaming of spontaneous emission. <i>Nature Communications</i> , 2021 , 12, 3591	17.4	8
113	Fully transparent metal organic chemical vapor deposition-grown cascaded InGaN micro-light-emitting diodes with independent junction control. <i>Optics Express</i> , 2021 , 29, 22001-22007	3.3	5
112	Demonstration of high wall-plug efficiency III-nitride micro-light-emitting diodes with MOCVD-grown tunnel junction contacts using chemical treatments. <i>Applied Physics Express</i> , 2021 , 14, 086502	2.4	8
111	Metalorganic chemical vapor deposition-grown tunnel junctions for low forward voltage InGaN light-emitting diodes: epitaxy optimization and light extraction simulation. <i>Semiconductor Science and Technology</i> , 2021 , 36, 035019	1.8	7
110	Size-independent peak external quantum efficiency (>2%) of InGaN red micro-light-emitting diodes with an emission wavelength over 600 nm. <i>Applied Physics Letters</i> , 2021 , 119, 081102	3.4	10

109	Growth of highly relaxed InGaN pseudo-substrates over full 2-in. wafers. <i>Applied Physics Letters</i> , 2021 , 119, 131106	3.4	10
108	Demonstration of relaxed InGaN-based red LEDs grown with high active region temperature. <i>Applied Physics Express</i> , 2021 , 14, 101002	2.4	9
107	Realization of III-Nitride c-Plane microLEDs Emitting from 470 to 645 nm on Semi-Relaxed Substrates Enabled by V-Defect-Free Base Layers. <i>Crystals</i> , 2021 , 11, 1168	2.3	3
106	Enhanced external quantum efficiency of III-nitride micro-light-emitting diodes using vertical and transparent package. <i>Japanese Journal of Applied Physics</i> , 2021 , 60, 020905	1.4	3
105	High efficiency blue InGaN microcavity light-emitting diode with a 205 nm ultra-short cavity. <i>Applied Physics Letters</i> , 2021 , 118, 031102	3.4	2
104	High-temperature electroluminescence properties of InGaN red 40 μ m ² micro-light-emitting diodes with a peak external quantum efficiency of 3.2%. <i>Applied Physics Letters</i> , 2021 , 119, 231101	3.4	6
103	Unidirectional luminescence from InGaN/GaN quantum-well metasurfaces. <i>Nature Photonics</i> , 2020 , 14, 543-548	33.9	19
102	Flow modulation metalorganic vapor phase epitaxy of GaN at temperatures below 600 $^{\circ}$ C. <i>Semiconductor Science and Technology</i> , 2020 , 35, 095014	1.8	5
101	Room-Temperature Continuous-Wave Electrically Driven Semipolar (20-1) Blue Laser Diodes Heteroepitaxially Grown on a Sapphire Substrate. <i>ACS Photonics</i> , 2020 , 7, 1662-1666	6.3	5
100	Growth of strain-relaxed InGaN on micrometer-sized patterned compliant GaN pseudo-substrates. <i>Applied Physics Letters</i> , 2020 , 116, 111101	3.4	23
99	Revealing the importance of light extraction efficiency in InGaN/GaN microLEDs via chemical treatment and dielectric passivation. <i>Applied Physics Letters</i> , 2020 , 116, 251104	3.4	38
98	AlGaIn Deep-Ultraviolet Light-Emitting Diodes Grown on SiC Substrates. <i>ACS Photonics</i> , 2020 , 7, 554-561	6.3	33
97	Improved performance of AlGaInP red micro-light-emitting diodes with sidewall treatments. <i>Optics Express</i> , 2020 , 28, 5787-5793	3.3	57
96	Size-independent low voltage of InGaN micro-light-emitting diodes with epitaxial tunnel junctions using selective area growth by metalorganic chemical vapor deposition. <i>Optics Express</i> , 2020 , 28, 18707-18712	2.3	20
95	Violet semipolar (20-2-1) InGaN microcavity light-emitting diode with a 200 nm ultra-short cavity length. <i>Optics Express</i> , 2020 , 28, 29991-30003	3.3	7
94	Compliant Micron-Sized Patterned InGaN Pseudo-Substrates Utilizing Porous GaN. <i>Materials</i> , 2020 , 13,	3.5	15
93	Metalorganic chemical vapor deposition grown n-InGaN/n-GaN tunnel junctions for micro-light-emitting diodes with very low forward voltage. <i>Semiconductor Science and Technology</i> , 2020 , 35, 125023	1.8	16
92	Inhomogeneous Current Injection and Filamentary Lasing of Semipolar (20-1) Blue GaN-Based Vertical-Cavity Surface-Emitting Lasers with Buried Tunnel Junctions. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020 , 217, 1900718	1.6	7

91	Review Progress in High Performance III-Nitride Micro-Light-Emitting Diodes. <i>ECS Journal of Solid State Science and Technology</i> , 2020 , 9, 015012	2	63
90	Research Toward a Heterogeneously Integrated InGaN Laser on Silicon. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020 , 217, 1900770	1.6	7
89	Color-tunable . <i>Applied Physics Letters</i> , 2020 , 117, 061105	3.4	19
88	Transmission Geometry Laser Lighting with a Compact Emitter. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020 , 217, 2000391	1.6	0
87	Method of growing elastically relaxed crack-free AlGaN on GaN as substrates for ultra-wide bandgap devices using porous GaN. <i>Applied Physics Letters</i> , 2020 , 117, 062102	3.4	8
86	MOCVD Growth and Characterization of InN Quantum Dots. <i>Physica Status Solidi (B): Basic Research</i> , 2020 , 257, 1900508	1.3	5
85	Direct measurement of hot-carrier generation in a semiconductor barrier heterostructure: Identification of the dominant mechanism for thermal droop. <i>Physical Review B</i> , 2019 , 100,	3.3	12
84	Properties of N-polar InGaN/GaN quantum wells grown with triethyl gallium and triethyl indium as precursors. <i>Semiconductor Science and Technology</i> , 2019 , 34, 075017	1.8	8
83	Size-independent peak efficiency of III-nitride micro-light-emitting-diodes using chemical treatment and sidewall passivation. <i>Applied Physics Express</i> , 2019 , 12, 097004	2.4	79
82	Demonstration of GaN-based vertical-cavity surface-emitting lasers with buried tunnel junction contacts. <i>Optics Express</i> , 2019 , 27, 31621-31628	3.3	17
81	Micro-light-emitting diodes with III-nitride tunnel junction contacts grown by metalorganic chemical vapor deposition. <i>Applied Physics Express</i> , 2018 , 11, 012102	2.4	47
80	Investigation of Mg Doping for low resistance N-polar p-GaN films grown at reduced temperatures by MOCVD. <i>Semiconductor Science and Technology</i> , 2018 , 33, 095014	1.8	9
79	High efficiency of III-nitride micro-light-emitting diodes by sidewall passivation using atomic layer deposition. <i>Optics Express</i> , 2018 , 26, 21324-21331	3.3	130
78	Optical Gain and Loss Measurements of Semipolar III-nitride Laser Diodes with ITO/thin-p-GaN Cladding Layers 2018 ,		1
77	Optoelectronic properties of doped hydrothermal ZnO thin films. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2017 , 214, 1600941	1.6	3
76	Sustained high external quantum efficiency in ultrasmall blue III-nitride micro-LEDs. <i>Applied Physics Express</i> , 2017 , 10, 032101	2.4	122
75	Indium segregation in N-polar InGaN quantum wells evidenced by energy dispersive X-ray spectroscopy and atom probe tomography. <i>Applied Physics Letters</i> , 2017 , 110, 143101	3.4	29
74	Metal-organic chemical vapor deposition of high quality, high indium composition N-polar InGaN layers for tunnel devices. <i>Journal of Applied Physics</i> , 2017 , 121, 185707	2.5	16

73	Nonpolar GaN-based vertical-cavity surface-emitting lasers 2017 ,		1
72	High-speed performance of III-nitride 410 nm ridge laser diode on (202 1) plane for visible light communication 2016 ,		1
71	Semipolar IIIbitride light-emitting diodes with negligible efficiency droop up to ~1 W. <i>Applied Physics Express</i> , 2016 , 9, 102102	2.4	25
70	Estimation of roughness-induced scattering losses in III-nitride laser diodes with a photoelectrochemically etched current aperture. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2016 , 213, 953-957	1.6	0
69	High-power LEDs using Ga-doped ZnO current-spreading layers. <i>Electronics Letters</i> , 2016 , 52, 304-306	1.1	12
68	Hybrid tunnel junction contacts to IIIbitride light-emitting diodes. <i>Applied Physics Express</i> , 2016 , 9, 022102	2.4	84
67	CW operation of high-power blue laser diodes with polished facets on semi-polar GaN substrates. <i>Electronics Letters</i> , 2016 , 52, 2003-2005	1.1	7
66	High luminous efficacy green light-emitting diodes with AlGaN cap layer. <i>Optics Express</i> , 2016 , 24, 17868	3.3	60
65	Silver free III-nitride flip chip light-emitting-diode with wall plug efficiency over 70% utilizing a GaN tunnel junction. <i>Applied Physics Letters</i> , 2016 , 109, 191104	3.4	58
64	Polarization field screening in thick (0001) InGaN/GaN single quantum well light-emitting diodes. <i>Applied Physics Letters</i> , 2016 , 108, 061105	3.4	24
63	High speed performance of III-nitride laser diode grown on (2021) semipolar plane for visible light communication 2016 ,		1
62	Estimation of roughness-induced scattering losses in III-nitride laser diodes with a photoelectrochemically etched current aperture (Phys. Status Solidi A 4016). <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2016 , 213, 1096-1096	1.6	
61	2.6 GHz high-speed visible light communication of 450 nm GaN laser diode by direct modulation 2015 ,		3
60	2.6 GHz high-speed visible light communication of 450 nm GaN laser diode by direct modulation 2015 ,		2
59	High-power low-droop violet semipolar (30311) InGaN/GaN light-emitting diodes with thick active layer design. <i>Applied Physics Letters</i> , 2014 , 105, 171106	3.4	50
58	Comparative study of field-dependent carrier dynamics and emission kinetics of InGaN/GaN light-emitting diodes grown on (1122) semipolar versus (0001) polar planes. <i>Applied Physics Letters</i> , 2014 , 104, 143506	3.4	26
57	Blue and aquamarine stress-relaxed semipolar (1122) laser diodes. <i>Applied Physics Letters</i> , 2013 , 103, 161117	3.4	11
56	Comparison of Polished and Dry Etched Semipolar $\{11\bar{2}2\}$ III-Nitride Laser Facets. <i>IEEE Photonics Technology Letters</i> , 2013 , 25, 2105-2107	2.2	5

55	Semipolar $\bar{2}\bar{0}\bar{1}$ InGaN/GaN Light-Emitting Diodes for High-Efficiency Solid-State Lighting. <i>Journal of Display Technology</i> , 2013 , 9, 190-198		285
54	GaN-based VCSEL fabricated on nonpolar GaN substrates 2013 ,		1
53	Suppressing void defects in long wavelength semipolar (202 $\bar{1}\bar{1}$) InGaN quantum wells by growth rate optimization. <i>Applied Physics Letters</i> , 2013 , 102, 091905	3-4	21
52	Morphological evolution of InGaN/GaN light-emitting diodes grown on free-standing m-plane GaN substrates. <i>Journal of Applied Physics</i> , 2013 , 113, 063504	2-5	7
51	Gallium nitride based light emitting diodes (LEDs) for energy efficient lighting and displays 2013 ,		3
50	Influence of growth temperature and temperature ramps on deep level defect incorporation in m-plane GaN. <i>Applied Physics Letters</i> , 2013 , 103, 232108	3-4	11
49	Efficient and stable laser-driven white lighting. <i>AIP Advances</i> , 2013 , 3, 072107	1-5	122
48	444.9 nm semipolar (112 $\bar{2}$) laser diode grown on an intentionally stress relaxed InGaN waveguiding layer. <i>Applied Physics Letters</i> , 2012 , 100, 021104	3-4	55
47	Stress relaxation and critical thickness for misfit dislocation formation in (101 $\bar{0}$) and (3031 $\bar{0}$) InGaN/GaN heteroepitaxy. <i>Applied Physics Letters</i> , 2012 , 100, 171917	3-4	31
46	High-brightness polarized light-emitting diodes. <i>Light: Science and Applications</i> , 2012 , 1, e22-e22	16-7	193
45	Assessment of deep level defects in m-plane GaN grown by metalorganic chemical vapor deposition. <i>Applied Physics Letters</i> , 2012 , 100, 082103	3-4	16
44	Indium incorporation and emission properties of nonpolar and semipolar InGaN quantum wells. <i>Applied Physics Letters</i> , 2012 , 100, 201108	3-4	148
43	Misfit dislocation formation via pre-existing threading dislocation glide in (112 $\bar{2}$) semipolar heteroepitaxy. <i>Applied Physics Letters</i> , 2011 , 99, 081912	3-4	46
42	High optical polarization ratio from semipolar (202 $\bar{1}\bar{1}$) blue-green InGaN/GaN light-emitting diodes. <i>Applied Physics Letters</i> , 2011 , 99, 051109	3-4	67
41	Blue InGaN/GaN laser diodes grown on (33 $\bar{5}$ bar 3 bar 1 $\bar{5}$) free-standing GaN substrates. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011 , 8, 2390-2392		6
40	Effect of n-AlGaIn cleave assistance layers on the morphology of c-plane cleaved facets for m-plane InGaN/GaN laser diodes. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011 , 8, 2226-2228		2
39	Robust thermal performance of Sr ₂ Si ₅ N ₈ :Eu ²⁺ : An efficient red emitting phosphor for light emitting diode based white lighting. <i>Applied Physics Letters</i> , 2011 , 99, 241106	3-4	181
38	High-power blue-violet AlGaIn-cladding-free m-plane InGaN/GaN laser diodes. <i>Applied Physics Letters</i> , 2011 , 99, 171113	3-4	28

37	Polarized spontaneous emission from blue-green m-plane GaN-based light emitting diodes. <i>Applied Physics Letters</i> , 2011 , 98, 011110	3-4	56
36	Atom probe analysis of interfacial abruptness and clustering within a single In _x Ga _{1-x} N quantum well device on semipolar (101 $\bar{1}$ 1) GaN substrate. <i>Applied Physics Letters</i> , 2011 , 98, 191903	3-4	54
35	Determination of internal parameters for AlGa _N -cladding-free m-plane InGa _N /Ga _N laser diodes. <i>Applied Physics Letters</i> , 2011 , 99, 171115	3-4	36
34	Origin of pyramidal hillocks on GaN thin films grown on free-standing m-plane GaN substrates. <i>Applied Physics Letters</i> , 2010 , 96, 231907	3-4	38
33	Photoluminescence and positron annihilation studies on Mg-doped nitrogen-polarity semipolar (101 $\bar{1}$ 1) GaN heteroepitaxial layers grown by metalorganic vapor phase epitaxy. <i>Applied Physics Letters</i> , 2010 , 96, 091913	3-4	9
32	Dynamics of polarized photoluminescence in m-plane InGa _N /Ga _N quantum wells. <i>Journal of Applied Physics</i> , 2010 , 108, 023101	2-5	27
31	Carrier localization in m-plane InGa _N /Ga _N quantum wells probed by scanning near field optical spectroscopy. <i>Applied Physics Letters</i> , 2010 , 97, 151106	3-4	36
30	Low-threshold-current-density AlGa _N -cladding-free m-plane InGa _N /Ga _N laser diodes. <i>Applied Physics Letters</i> , 2010 , 96, 231113	3-4	59
29	Effects of Growth Temperature and Postgrowth Annealing on Inhomogeneous Luminescence Characteristics of Green-Emitting InGa _N Films. <i>Journal of Electronic Materials</i> , 2010 , 39, 15-20	1-9	3
28	Nonpolar and Semipolar III-Nitride Light-Emitting Diodes: Achievements and Challenges. <i>IEEE Transactions on Electron Devices</i> , 2010 , 57, 88-100	2-9	198
27	Polarization field crossover in semi-polar InGa _N /Ga _N single quantum wells. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2010 , 7, 2378-2381		3
26	Measurement of electron overflow in 450 nm InGa _N light-emitting diode structures. <i>Applied Physics Letters</i> , 2009 , 94, 061116	3-4	165
25	m-plane pure blue laser diodes with p-GaN/n-AlGa _N -based asymmetric cladding and InGa _N -based wave-guiding layers. <i>Applied Physics Letters</i> , 2009 , 95, 081110	3-4	19
24	Luminescence Characteristics of N-Polar GaN and InGa _N Films Grown by Metal Organic Chemical Vapor Deposition. <i>Japanese Journal of Applied Physics</i> , 2009 , 48, 071003	1-4	23
23	Determination of polarization field in a semipolar (112 $\bar{2}$) InGa _N /Ga _N single quantum well using Franz-Keldysh oscillations in electorelectance. <i>Applied Physics Letters</i> , 2009 , 94, 241906	3-4	26
22	Geometrical Characteristics and Surface Polarity of Inclined Crystallographic Planes of the Wurtzite and Zincblende Structures. <i>Journal of Electronic Materials</i> , 2009 , 38, 756-760	1-9	17
21	Recent progress in nonpolar LEDs as polarized light emitters. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2009 , 206, 203-205	1-6	8
20	The dawn of miniature green lasers. <i>Scientific American</i> , 2009 , 300, 70-5	0-5	6

19	Characterization of blue-green m-plane InGaN light emitting diodes. <i>Applied Physics Letters</i> , 2009 , 94, 261108	3-4	79
18	Unambiguous evidence of the existence of polarization field crossover in a semipolar InGaN/GaN single quantum well. <i>Applied Physics Letters</i> , 2009 , 95, 033503	3-4	43
17	Partial strain relaxation via misfit dislocation generation at heterointerfaces in (Al,In)GaN epitaxial layers grown on semipolar (112 $\bar{2}$) GaN free standing substrates. <i>Applied Physics Letters</i> , 2009 , 95, 251905	3-4	92
16	Optical properties of yellow light-emitting diodes grown on semipolar (112 $\bar{2}$) bulk GaN substrates. <i>Applied Physics Letters</i> , 2008 , 92, 221110	3-4	150
15	Dichromatic color tuning with InGaN-based light-emitting diodes. <i>Applied Physics Letters</i> , 2008 , 93, 121114	3-4	7
14	63.4: Invited Paper: Development and Application Prospects of InGaN-based Optoelectronic Devices Prepared in Nonpolar Orientations. <i>Digest of Technical Papers SID International Symposium</i> , 2008 , 39, 969	0.5	
13	InGaN/GaN laser diodes on semipolar (10 $\bar{1}1$) bulk GaN substrates. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2008 , 5, 2108-2110		3
12	Improved quality nonpolar a-plane GaN/AlGaN UV LEDs grown with sidewall lateral epitaxial overgrowth (SLEO). <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2008 , 205, 1705-1712	1.6	6
11	Visible resonant modes in GaN-based photonic crystal membrane cavities. <i>Applied Physics Letters</i> , 2006 , 88, 031111	3-4	42
10	Intensity dependent time-resolved photoluminescence studies of GaN/AlGaN multiple quantum wells of varying well width on laterally overgrown a-plane and planar c-plane GaN. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2005 , 202, 846-849	1.6	9
9	Growth and characterization of semipolar InGaN/GaN multiple quantum wells and light-emitting diodes on (left($\overline{10}1$) right)) GaN templates. <i>Materials Research Society Symposia Proceedings</i> , 2005 , 892, 127		
8	A semipolar ((left($\overline{10}1$) right))) InGaN/GaN green light emitting diode. <i>Materials Research Society Symposia Proceedings</i> , 2005 , 892, 418		1
7	Free-standing, optically pumped, GaN/InGaN microdisk lasers fabricated by photoelectrochemical etching. <i>Applied Physics Letters</i> , 2004 , 85, 5179-5181	3-4	74
6	Removal of thick (>100nm) InGaN layers for optical devices using band-gap-selective photoelectrochemical etching. <i>Applied Physics Letters</i> , 2004 , 85, 762-764	3-4	41
5	Higher efficiency InGaN laser diodes with an improved quantum well capping configuration. <i>Applied Physics Letters</i> , 2002 , 81, 4275-4277	3-4	45
4	Exciton localization in InGaN quantum well devices. <i>Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 1998 , 16, 2204		205
3	Luminescence spectra from InGaN multiquantum wells heavily doped with Si. <i>Applied Physics Letters</i> , 1998 , 72, 3329-3331	3-4	75
2	High-power InGaN/GaN double-heterostructure violet light emitting diodes. <i>Applied Physics Letters</i> , 1993 , 62, 2390-2392	3-4	569

1	Patterned III-Nitrides on Porous GaN: Extending Elastic Relaxation from the Nano- to the Micrometer Scale. <i>Physica Status Solidi - Rapid Research Letters</i> ,2100234	2.5	3
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