

Mitsuru Funato

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.

114 papers	2,795 citations	23 h-index	50 g-index
120 ext. papers	3,137 ext. citations	3 avg, IF	5 L-index

#	Paper	IF	Citations
114	Optical anisotropy of (11 $\bar{2}\bar{0}$) semipolar InGa \bar{N} quantum wells homoepitaxially grown on GaN substrates. <i>Journal of Applied Physics</i> , 2022 , 131, 074502	2.5	0
113	Growth evolution of polar-plane-free faceted GaN structures on (11 $\bar{2}\bar{0}$) and (1 $\bar{1}\bar{1}$ $\bar{2}$ $\bar{0}$) GaN substrates. <i>Journal of Applied Physics</i> , 2021 , 129, 163104	2.5	
112	Critical layer thickness of wurtzite heterostructures with arbitrary pairs of growth planes and slip systems. <i>Semiconductor Science and Technology</i> , 2021 , 36, 085016	1.8	
111	Bias-dependent time-resolved photoluminescence spectroscopy on 265 nm AlGa \bar{N} -based LEDs on AlN substrates. <i>Japanese Journal of Applied Physics</i> , 2021 , 60, 020903	1.4	
110	Enhanced nonradiative recombination in Al \times Ga $\bar{1}\bar{0}$ N-based quantum wells thinner than the critical layer thickness determined by X-ray diffraction. <i>Applied Physics Express</i> , 2021 , 14, 031007	2.4	1
109	Microscopic origin of thermal droop in blue-emitting InGa \bar{N} /GaN quantum wells studied by temperature-dependent microphotoluminescence spectroscopy. <i>Optics Express</i> , 2021 , 29, 22847-22854	3.3	0
108	Lattice relaxation in semipolar Al \times Ga $\bar{1}\bar{0}$ N grown on (11 $\bar{0}\bar{2}$) AlN substrates. <i>Applied Physics Express</i> , 2020 , 13, 061008	2.4	1
107	Intrinsic exciton transitions of isotopically purified ^{13}C studied by photoluminescence and transmission spectroscopy. <i>Japanese Journal of Applied Physics</i> , 2020 , 59, 010903	1.4	2
106	Control of p-type conductivity at AlN surfaces by carbon doping. <i>Applied Physics Express</i> , 2020 , 13, 015512	2.4	3
105	265 nm AlGa \bar{N} -based deep-ultraviolet light-emitting diodes grown on AlN substrates studied by photoluminescence spectroscopy under ideal pulsed selective and non-selective excitation conditions. <i>Applied Physics Express</i> , 2020 , 13, 102005	2.4	8
104	Temperature-dependent electroluminescence study on 265-nm AlGa \bar{N} -based deep-ultraviolet light-emitting diodes grown on AlN substrates. <i>AIP Advances</i> , 2020 , 10, 125014	1.5	3
103	Doping and fabrication of polar-plane-free faceted InGa \bar{N} LEDs with polychromatic emission properties on (1 $\bar{1}\bar{1}$ $\bar{2}$ $\bar{0}$) semipolar planes. <i>Journal of Applied Physics</i> , 2020 , 128, 213103	2.5	3
102	Broadband Ultraviolet Emission from 2D Arrays of AlGa \bar{N} Microstructures Grown on the Patterned AlN Templates. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020 , 217, 1900764	1.6	2
101	Deep-ultraviolet near band-edge emissions from nano-polycrystalline diamond. <i>High Pressure Research</i> , 2020 , 40, 140-147	1.6	1
100	The 2020 UV emitter roadmap. <i>Journal Physics D: Applied Physics</i> , 2020 , 53, 503001	3	123
99	Deposition of carbon-containing hole injection layers on p-type Al $_{0.8}$ Ga $_{0.2}$ N grown by metalorganic vapor phase epitaxy. <i>Applied Physics Letters</i> , 2020 , 117, 062101	3.4	1
98	Metalorganic vapor phase epitaxy of pit-free AlN homoepitaxial films on various semipolar substrates. <i>Journal of Crystal Growth</i> , 2019 , 522, 68-77	1.6	6

97	Micro-photoluminescence mapping of light emissions from aluminum-coated InGaN/GaN quantum wells. <i>Applied Physics Express</i> , 2019 , 12, 052016	2.4	1
96	Impact of microscopic In fluctuations on the optical properties of InGaN blue light-emitting diodes assessed by low-energy X-ray fluorescence mapping using synchrotron radiation. <i>Scientific Reports</i> , 2019 , 9, 3733	4.9	3
95	Self-Limiting Growth of Ultrathin GaN/AlN Quantum Wells for Highly Efficient Deep Ultraviolet Emitters. <i>Advanced Optical Materials</i> , 2019 , 7, 1900860	8.1	13
94	Pushing the limits of deep-ultraviolet scanning near-field optical microscopy. <i>APL Photonics</i> , 2019 , 4, 070801	5.2	6
93	Micro-photoluminescence mapping of surface plasmon-coupled emission from InGaN/GaN quantum wells. <i>Japanese Journal of Applied Physics</i> , 2019 , 58, SCCB31	1.4	5
92	Impact of face-to-face annealed sputtered AlN on the optical properties of AlGaIn multiple quantum wells. <i>AIP Advances</i> , 2019 , 9, 125342	1.5	9
91	Isotopic effects on phonons and excitons in diamond studied by deep-ultraviolet continuous-wave photoluminescence spectroscopy. <i>Japanese Journal of Applied Physics</i> , 2019 , 58, 010904	1.4	2
90	Red-emitting In _x Ga _{1-x} N/In _y Ga _{1-y} N quantum wells grown on lattice-matched In _y Ga _{1-y} N/ScAlMgO ₄ (0001) templates. <i>Applied Physics Express</i> , 2019 , 12, 011007	2.4	25
89	Al _x Ga _{1-x} N-Based Quantum Wells Fabricated on Macrosteps Effectively Suppressing Nonradiative Recombination. <i>Advanced Optical Materials</i> , 2019 , 7, 1801106	8.1	11
88	Synchrotron radiation microbeam X-ray diffraction for nondestructive assessments of local structural properties of faceted InGaIn/GaN quantum wells. <i>Applied Physics Express</i> , 2018 , 11, 031001	2.4	2
87	Growth Mechanism of Polar-Plane-Free Faceted InGaIn Quantum Wells. <i>IEICE Transactions on Electronics</i> , 2018 , E101.C, 532-536	0.4	2
86	Dominant Nonradiative Recombination Paths and Their Activation Processes in Al _x Ga _{1-x} N-related Materials. <i>Physical Review Applied</i> , 2018 , 10,	4.3	15
85	Al _x Ga _{1-x} N-based semipolar deep ultraviolet light-emitting diodes. <i>Applied Physics Express</i> , 2018 , 11, 061001	2.4	13
84	Deep-ultraviolet polychromatic emission from three-dimensionally structured AlGaIn quantum wells. <i>Applied Physics Express</i> , 2017 , 10, 031001	2.4	7
83	Heteroepitaxy mechanisms of AlN on nitridated c- and a-plane sapphire substrates. <i>Journal of Applied Physics</i> , 2017 , 121, 085304	2.5	18
82	High-efficiency light emission by means of exciton-surface-plasmon coupling. <i>Journal of Photochemistry and Photobiology C: Photochemistry Reviews</i> , 2017 , 32, 58-77	16.4	34
81	Development of polychromatic ultraviolet light-emitting diodes based on three-dimensional AlGaIn quantum wells. <i>Applied Physics Express</i> , 2017 , 10, 121001	2.4	5
80	Polychromatic emission from polar-plane-free faceted InGaIn quantum wells with high radiative recombination probabilities. <i>Applied Physics Express</i> , 2017 , 10, 071003	2.4	7

79	Effects of Al and N ₂ Flow Sequences on the Interface Formation of AlN on Sapphire by EVPE. <i>Crystals</i> , 2017 , 7, 123	2-3	2
78	Origin of temperature-induced luminescence peak shifts from semipolar (11 $\bar{2}$ 2) In _x Ga _{1-x} N quantum wells. <i>Physical Review B</i> , 2017 , 96,	3-3	9
77	Micro-photoluminescence mapping of surface plasmon enhanced light emissions from InGa _N /Ga _N quantum wells. <i>Applied Physics Letters</i> , 2017 , 111, 172105	3-4	9
76	Control of Crystal Morphologies and Interface Structures of AlN Grown on Sapphire by Elementary Source Vapor Phase Epitaxy. <i>Crystal Growth and Design</i> , 2016 , 16, 6337-6342	3-5	4
75	Impact of Radiative and Nonradiative Recombination Processes on the Efficiency-Droop Phenomenon in In _x Ga _{1-x} N Single Quantum Wells Studied by Scanning Near-Field Optical Microscopy. <i>Physical Review Applied</i> , 2016 , 6,	4-3	12
74	Evaluating the well-to-well distribution of radiative recombination rates in semi-polar $\{11\bar{2}2\}$ InGa _N multiple-quantum-well light-emitting diodes. <i>Applied Physics Express</i> , 2016 , 9, 072102	2-4	
73	Approaches to highly efficient UV emitters based on AlGa _N quantum wells 2016 ,		1
72	Control of Ga _N facet structures through Eu doping toward achieving semipolar $\{11\bar{2}01\}$ and $\{22\bar{0}01\}$ InGa _N /Ga _N quantum wells. <i>Applied Physics Letters</i> , 2016 , 109, 182101	3-4	
71	Enhanced radiative recombination probability in AlGa _N quantum wires on (0001) vicinal surface 2016 ,		9
70	InGa _N /AlGa _N stress compensated superlattices coherently grown on semipolar $\{11\bar{2}01\}$ Ga _N substrates. <i>Physica Status Solidi (B): Basic Research</i> , 2016 , 253, 78-83	1-3	3
69	InGa _N -based visible light-emitting diodes on ScAlMgO ₄ (0001) substrates. <i>Applied Physics Express</i> , 2015 , 8, 062101	2-4	32
68	Highly enhanced green emission from InGa _N quantum wells due to surface plasmon resonance on aluminum films. <i>Applied Physics Letters</i> , 2015 , 106, 121112	3-4	29
67	Quantification of the internal quantum efficiency in Ga _N via analysis of the heat generated by non-radiative recombination processes. <i>Journal of Applied Physics</i> , 2015 , 117, 105702	2-5	5
66	Emission mechanisms in Al-rich AlGa _N /AlN quantum wells assessed by excitation power dependent photoluminescence spectroscopy. <i>Journal of Applied Physics</i> , 2015 , 117, 075701	2-5	60
65	Markedly distinct growth characteristics of semipolar (11 $\bar{2}$ 2) and (10 $\bar{1}$ 22 $\bar{0}$) InGa _N epitaxial layers. <i>Applied Physics Letters</i> , 2015 , 106, 082105	3-4	7
64	Co-existence of a few and sub micron inhomogeneities in Al-rich AlGa _N /AlN quantum wells. <i>Journal of Applied Physics</i> , 2015 , 117, 115702	2-5	20
63	Environmentally friendly method to grow wide-bandgap semiconductor aluminum nitride crystals: Elementary source vapor phase epitaxy. <i>Scientific Reports</i> , 2015 , 5, 17405	4-9	25
62	Screw dislocation-induced growth spirals as emissive exciton localization centers in Al-rich AlGa _N /AlN quantum wells. <i>AIP Advances</i> , 2015 , 5, 117115	1-5	10

61	Semi/non-polar nitride quantum wells for high-efficient light emitters 2015 ,		4
60	Development of Dual-Probe Scanning Near-Field Optical Microscopy. <i>The Review of Laser Engineering</i> , 2015 , 43, 286	0	
59	Effects of strong electron-hole exchange and exciton-phonon interactions on the exciton binding energy of aluminum nitride. <i>Japanese Journal of Applied Physics</i> , 2014 , 53, 091001	1.4	7
58	Metalorganic vapor phase epitaxy of GaN and lattice-matched InGa _N on ScAlMgO ₄ (0001) substrates. <i>Applied Physics Express</i> , 2014 , 7, 091001	2.4	35
57	Bistable nanofacet structures on vicinal AlN(0001) surfaces. <i>Journal of Applied Physics</i> , 2014 , 115, 103518	1.5	8
56	Optical gain characteristics in Al-rich AlGa _N /AlN quantum wells. <i>Applied Physics Letters</i> , 2014 , 104, 181102	1.4	10
55	Multi-wavelength light emission from three-dimensional AlGa _N quantum wells fabricated on facet structures 2014 ,		1
54	Complete set of deformation potentials for AlN determined by reflectance spectroscopy under uniaxial stress. <i>Physical Review B</i> , 2013 , 87,	3.3	26
53	Strong optical polarization in nonpolar (11 $\bar{2}$ 00) Al _x Ga _{1-x} N/AlN quantum wells. <i>Physical Review B</i> , 2013 , 87,	3.3	23
52	Remarkably Suppressed Luminescence Inhomogeneity in a (0001) InGa _N Green Laser Structure. <i>Applied Physics Express</i> , 2013 , 6, 111002	2.4	22
51	Grain size dependence of surface plasmon enhanced photoluminescence. <i>Optics Express</i> , 2013 , 21, 3145-51	3.1	21
50	Optical Properties of Highly Strained AlN Coherently Grown on 6H-SiC(0001). <i>Applied Physics Express</i> , 2013 , 6, 062604	2.4	9
49	Huge electron-hole exchange interaction in aluminum nitride. <i>Physical Review B</i> , 2013 , 87,	3.3	24
48	Heteroepitaxy between wurtzite and corundum materials. <i>Journal of Applied Physics</i> , 2013 , 113, 183523	2.5	13
47	Crack-Free Thick AlN Films Obtained by NH ₃ Nitridation of Sapphire Substrates. <i>Japanese Journal of Applied Physics</i> , 2013 , 52, 08JB21	1.4	18
46	Anisotropic lattice relaxation in non-c-plane InGa _N /Ga _N multiple quantum wells. <i>Journal of Applied Physics</i> , 2012 , 112, 033513	2.5	23
45	Nanosopic Photoluminescence Properties of a Green-Emitting InGa _N Single Quantum Well on a $\bar{2}11$ Ga _N Substrate Probed by Scanning Near-Field Optical Microscopy. <i>Applied Physics Express</i> , 2012 , 5, 102104	2.4	23
44	Homoepitaxy and Photoluminescence Properties of (0001) AlN. <i>Applied Physics Express</i> , 2012 , 5, 082001	2.4	37

43	Time-resolved photoluminescence of Al-rich AlGa _N /AlN quantum wells under selective excitation. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011 , 8, 2191-2193		5
42	Extremely high internal quantum efficiencies from AlGa _N /AlN quantum wells emitting in the deep ultraviolet spectral region. <i>Applied Physics Letters</i> , 2011 , 99, 011902	3.4	49
41	100 mW deep-ultraviolet emission from aluminium-nitride-based quantum wells pumped by an electron beam. <i>Nature Photonics</i> , 2010 , 4, 767-770	33.9	165
40	Experimental and Theoretical Considerations of Polarization Field Direction in Semipolar InGa _N /Ga _N Quantum Wells. <i>Applied Physics Express</i> , 2010 , 3, 071001	2.4	19
39	Weak Carrier/Exciton Localization in InGa _N Quantum Wells for Green Laser Diodes Fabricated on Semi-Polar {20 $\bar{2}$ 1} Ga _N Substrates. <i>Applied Physics Express</i> , 2010 , 3, 021002	2.4	45
38	All deformation potentials in Ga _N determined by reflectance spectroscopy under uniaxial stress: Definite breakdown of the quasicubic approximation. <i>Physical Review B</i> , 2010 , 81,	3.3	64
37	Gain Anisotropy Analysis in Green Semipolar InGa _N Quantum Wells with Inhomogeneous Broadening. <i>Japanese Journal of Applied Physics</i> , 2010 , 49, 081001	1.4	13
36	Deep ultraviolet emission mechanisms in highly excited Al _{0.79} Ga _{0.21} N/AlN quantum wells. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2010 , 7, 1909-1912		5
35	Characteristics of high Al-content AlGa _N /AlN quantum wells fabricated by modified migration enhanced epitaxy. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2010 , 7, 2111-2114		18
34	Surface diffusion during metalorganic vapor phase epitaxy of AlN. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009 , 6, 599-602		15
33	Growth characteristics of AlN on sapphire substrates by modified migration-enhanced epitaxy. <i>Journal of Crystal Growth</i> , 2009 , 311, 2834-2836	1.6	28
32	Assessment and Modification of Recombination Dynamics in In _x Ga _{1-x} N-Based Quantum Wells. <i>Materials Science Forum</i> , 2008 , 590, 249-274	0.4	4
31	Monolithic Polychromatic Light-Emitting Diodes Based on InGa _N Microfacet Quantum Wells toward Tailor-Made Solid-State Lighting. <i>Applied Physics Express</i> , 2008 , 1, 011106	2.4	60
30	Initial nucleation of AlN grown directly on sapphire substrates by metal-organic vapor phase epitaxy. <i>Applied Physics Letters</i> , 2008 , 92, 241905	3.4	86
29	Inhomogeneously broadened optical gain spectra of InGa _N quantum well laser diodes. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2008 , 5, 2126-2128		12
28	Theoretical investigations on anisotropic optical properties in semipolar and nonpolar InGa _N quantum wells. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2008 , 5, 3038-3041		33
27	Photoluminescence and optical reflectance investigation of semipolar and nonpolar Ga _N . <i>Physica Status Solidi (B): Basic Research</i> , 2007 , 244, 1853-1856	1.3	7
26	Blue, Green, and Amber InGa _N /Ga _N Light-Emitting Diodes on Semipolar {11 $\bar{2}$ 2} Ga _N Bulk Substrates. <i>Japanese Journal of Applied Physics</i> , 2006 , 45, L659-L662	1.4	333

25	Direct correlation between nonradiative recombination centers and threading dislocations in InGaN quantum wells by near-field photoluminescence spectroscopy. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2006 , 3, 1897-1901		12
24	Fabrication and characterization of GaN-based distributed Bragg reflector mirrors for low lasing threshold and integrated photonics. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005 , 2, 2895-2898		5
23	Efficient Luminescence from {11.2} InGaN/GaN Quantum Wells. <i>Materials Research Society Symposia Proceedings</i> , 2004 , 831, 540		
22	Proposal to Use GaAs(114) Substrates for Improvement of the Optical Transition Probability in Nitride Semiconductor Quantum Wells. <i>Materials Research Society Symposia Proceedings</i> , 2003 , 798, 86		2
21	Hexagonal GaN grown on GaAs{11n} substrates by metalorganic vapor-phase epitaxy using AlAs intermediate layers. <i>Applied Physics Letters</i> , 2001 , 79, 4133-4135	3.4	6
20	AlAs/GaAs(0 0 1) as a template for c-oriented hexagonal GaN grown by metalorganic vapor-phase epitaxy. <i>Journal of Crystal Growth</i> , 2000 , 221, 280-285	1.6	3
19	The Role of Growth Rates and Buffer Layer Structures for Quality Improvement of Cubic GaN Grown on GaAs. <i>Japanese Journal of Applied Physics</i> , 2000 , 39, L69-L72	1.4	7
18	Single-phase hexagonal GaN grown on AlAs/GaAs(001). <i>Applied Physics Letters</i> , 2000 , 77, 244-246	3.4	7
17	Six-bilayer periodic structures in GaN grown on GaAs(001). <i>Applied Physics Letters</i> , 2000 , 76, 330-332	3.4	3
16	Integration of GaN with Si using a AuGe-mediated wafer bonding technique. <i>Applied Physics Letters</i> , 2000 , 77, 3959-3961	3.4	14
15	Electrical Characterization of MOVPE-Grown P-Type GaN:Mg Against Annealing Temperature. <i>MRS Internet Journal of Nitride Semiconductor Research</i> , 1999 , 4, 665-670		1
14	Tunable band offsets via control of interface atomic configuration in GaAs-on-ZnSe(001) heterovalent heterostructures. <i>Journal of Applied Physics</i> , 1999 , 85, 1514-1519	2.5	5
13	Relation between GaAs surface morphology and incorporation of hexagonal GaN into cubic GaN. <i>Journal of Crystal Growth</i> , 1999 , 196, 41-46	1.6	18
12	Nucleation processes during metalorganic vapor phase epitaxy of ZnSe on GaAs(001). <i>Journal of Applied Physics</i> , 1998 , 84, 1383-1388	2.5	2
11	Deep states in nitrogen-doped p-ZnSe. <i>Journal of Applied Physics</i> , 1998 , 83, 2563-2567	2.5	5
10	Optical Absorption in ZnSe-GaAs Heterovalent Quantum Structures. <i>Materials Research Society Symposia Proceedings</i> , 1998 , 535, 71		
9	Electrical Characterization of Movpe-Grown p-Type GaN:Mg Against Annealing Temperature. <i>Materials Research Society Symposia Proceedings</i> , 1998 , 537, 1		2
8	Tunable band offsets in ZnSe/GaAs heterovalent heterostructures grown by metalorganic vapor phase epitaxy. <i>Journal of Applied Physics</i> , 1997 , 82, 2984-2989	2.5	13

7	Role of self-formed InGa _N quantum dots for exciton localization in the purple laser diode emitting at 420 nm. <i>Applied Physics Letters</i> , 1997 , 70, 981-983	3.4	835
6	Formation of ZnSe/GaAs Heterovalent Heterostructures by Mvpe. <i>Materials Research Society Symposia Proceedings</i> , 1996 , 448, 107		
5	Effects of GaAs buffer layer and lattice-matching on deep levels in Zn(S)Se/GaAs heterostructures. <i>Journal of Electronic Materials</i> , 1996 , 25, 217-222	1.9	5
4	Growth of P-type Znse by metalorganic molecular beam epitaxy using metal Zn and dimethylselenide. <i>Journal of Electronic Materials</i> , 1996 , 25, 223-227	1.9	4
3	Growth Behavior of GaAs in Metalorganic Vapor Phase Epitaxy onto ZnSe. <i>Japanese Journal of Applied Physics</i> , 1994 , 33, 4851-4854	1.4	7
2	Semipolar InGa _N /Ga _N Quantum Wells for Highly Functional Light Emitters385-411		
1	Impact of the positive electron-hole exchange interaction constant on the binding energy of neutral donor bound excitons in AlN. <i>Japanese Journal of Applied Physics</i> ,	1.4	0