Mitsuru Funato

List of Publications by Citations

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	Role of self-formed InGaN quantum dots for exciton localization in the purple laser diode emitting at 420 nm. *Applied Physics Letters*, **1997**, 70, 981-983	3.4	835
113	Blue, Green, and Amber InGaN/GaN Light-Emitting Diodes on Semipolar {11-22} GaN Bulk Substrates. *Japanese Journal of Applied Physics*, **2006**, 45, L659-L662	1.4	333
112	100 mW deep-ultraviolet emission from aluminium-nitride-based quantum wells pumped by an electron beam. *Nature Photonics*, **2010**, 4, 767-770	33.9	165
111	The 2020 UV emitter roadmap. *Journal Physics D: Applied Physics*, **2020**, 53, 503001	3	123
110	Initial nucleation of AlN grown directly on sapphire substrates by metal-organic vapor phase epitaxy. *Applied Physics Letters*, **2008**, 92, 241905	3.4	86
109	All deformation potentials in GaN determined by reflectance spectroscopy under uniaxial stress: Definite breakdown of the quasicubic approximation. *Physical Review B*, **2010**, 81,	3.3	64
108	Emission mechanisms in Al-rich AlGaN/AlN quantum wells assessed by excitation power dependent photoluminescence spectroscopy. *Journal of Applied Physics*, **2015**, 117, 075701	2.5	60
107	Monolithic Polychromatic Light-Emitting Diodes Based on InGaN Microfacet Quantum Wells toward Tailor-Made Solid-State Lighting. *Applied Physics Express*, **2008**, 1, 011106	2.4	60
106	Extremely high internal quantum efficiencies from AlGaN/AlN quantum wells emitting in the deep ultraviolet spectral region. *Applied Physics Letters*, **2011**, 99, 011902	3.4	49
105	Weak Carrier/Exciton Localization in InGaN Quantum Wells for Green Laser Diodes Fabricated on Semi-Polar {20bar21} GaN Substrates. *Applied Physics Express*, **2010**, 3, 021002	2.4	45
104	Homoepitaxy and Photoluminescence Properties of (0001) AlN. *Applied Physics Express*, **2012**, 5, 082001	2.4	37
103	Metalorganic vapor phase epitaxy of GaN and lattice-matched InGaN on ScAlMgO4(0001) substrates. *Applied Physics Express*, **2014**, 7, 091001	2.4	35
102	High-efficiency light emission by means of exciton□urface-plasmon coupling. *Journal of Photochemistry and Photobiology C: Photochemistry Reviews*, **2017**, 32, 58-77	16.4	34
101	Theoretical investigations on anisotropic optical properties in semipolar and nonpolar InGaN quantum wells. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2008**, 5, 3038-3041		33
100	InGaN-based visible light-emitting diodes on ScAlMgO4(0001) substrates. *Applied Physics Express*, **2015**, 8, 062101	2.4	32
99	Highly enhanced green emission from InGaN quantum wells due to surface plasmon resonance on aluminum films. *Applied Physics Letters*, **2015**, 106, 121112	3.4	29
98	Growth characteristics of AlN on sapphire substrates by modified migration-enhanced epitaxy. *Journal of Crystal Growth*, **2009**, 311, 2834-2836	1.6	28

97	Complete set of deformation potentials for AlN determined by reflectance spectroscopy under uniaxial stress. *Physical Review B*, **2013**, 87,	3.3	26
96	Environmentally friendly method to grow wide-bandgap semiconductor aluminum nitride crystals: Elementary source vapor phase epitaxy. *Scientific Reports*, **2015**, 5, 17405	4.9	25
95	Red-emitting In x Ga1 N/In y Ga1 N quantum wells grown on lattice-matched In y Ga1 N/ScAlMgO4(0001) templates. *Applied Physics Express*, **2019**, 12, 011007	2.4	25
94	Huge electron-hole exchange interaction in aluminum nitride. *Physical Review B*, **2013**, 87,	3.3	24
93	Anisotropic lattice relaxation in non-c-plane InGaN/GaN multiple quantum wells. *Journal of Applied Physics*, **2012**, 112, 033513	2.5	23
92	Nanoscopic Photoluminescence Properties of a Green-Emitting InGaN Single Quantum Well on a ${20bar{2}1}$ GaN Substrate Probed by Scanning Near-Field Optical Microscopy. *Applied Physics Express*, **2012**, 5, 102104	2.4	23
91	Strong optical polarization in nonpolar (11 00) AlxGa1 N/AlN quantum wells. *Physical Review B*, **2013**, 87,	3.3	23
90	Remarkably Suppressed Luminescence Inhomogeneity in a (0001) InGaN Green Laser Structure. *Applied Physics Express*, **2013**, 6, 111002	2.4	22
89	Grain size dependence of surface plasmon enhanced photoluminescence. *Optics Express*, **2013**, 21, 3145-51	3.3	21
88	Co-existence of a few and sub micron inhomogeneities in Al-rich AlGaN/AlN quantum wells. *Journal of Applied Physics*, **2015**, 117, 115702	2.5	20
87	Experimental and Theoretical Considerations of Polarization Field Direction in Semipolar InGaN/GaN Quantum Wells. *Applied Physics Express*, **2010**, 3, 071001	2.4	19
86	Heteroepitaxy mechanisms of AlN on nitridated c- and a-plane sapphire substrates. *Journal of Applied Physics*, **2017**, 121, 085304	2.5	18
85	Crack-Free Thick AlN Films Obtained by NH3Nitridation of Sapphire Substrates. *Japanese Journal of Applied Physics*, **2013**, 52, 08JB21	1.4	18
84	Characteristics of high Al-content AlGaN/AlN quantum wells fabricated by modified migration enhanced epitaxy. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2010**, 7, 2111-2114		18
83	Relation between GaAs surface morphology and incorporation of hexagonal GaN into cubic GaN. *Journal of Crystal Growth*, **1999**, 196, 41-46	1.6	18
82	Surface diffusion during metalorganic vapor phase epitaxy of AlN. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2009**, 6, 599-602		15
81	Dominant Nonradiative Recombination Paths and Their Activation Processes in AlxGa1 N-related Materials. *Physical Review Applied*, **2018**, 10,	4.3	15
80	Integration of GaN with Si using a AuGe-mediated wafer bonding technique. *Applied Physics Letters*, **2000**, 77, 3959-3961	3.4	14

79	Self-Limiting Growth of Ultrathin GaN/AlN Quantum Wells for Highly Efficient Deep Ultraviolet Emitters. *Advanced Optical Materials*, **2019**, 7, 1900860	8.1	13
78	Heteroepitaxy between wurtzite and corundum materials. *Journal of Applied Physics*, **2013**, 113, 183523	2.5	13
77	Gain Anisotropy Analysis in Green Semipolar InGaN Quantum Wells with Inhomogeneous Broadening. *Japanese Journal of Applied Physics*, **2010**, 49, 081001	1.4	13
76	Tunable band offsets in ZnSe/GaAs heterovalent heterostructures grown by metalorganic vapor phase epitaxy. *Journal of Applied Physics*, **1997**, 82, 2984-2989	2.5	13
75	Al x Ga1□x N-based semipolar deep ultraviolet light-emitting diodes. *Applied Physics Express*, **2018**, 11, 061001	2.4	13
74	Impact of Radiative and Nonradiative Recombination Processes on the Efficiency-Droop Phenomenon in InxGa1□N Single Quantum Wells Studied by Scanning Near-Field Optical Microscopy. *Physical Review Applied*, **2016**, 6,	4.3	12
73	Inhomogeneously broadened optical gain spectra of InGaN quantum well laser diodes. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2008**, 5, 2126-2128		12
72	Direct correlation between nonradiative recombination centers and threading dislocations in InGaN quantum wells by near-field photoluminescence spectroscopy. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2006**, 3, 1897-1901		12
71	AlxGa1□N-Based Quantum Wells Fabricated on Macrosteps Effectively Suppressing Nonradiative Recombination. *Advanced Optical Materials*, **2019**, 7, 1801106	8.1	11
70	Screw dislocation-induced growth spirals as emissive exciton localization centers in Al-rich AlGaN/AlN quantum wells. *AIP Advances*, **2015**, 5, 117115	1.5	10
69	Optical gain characteristics in Al-rich AlGaN/AlN quantum wells. *Applied Physics Letters*, **2014**, 104, 181102	3.4	10
68	Optical Properties of Highly Strained AlN Coherently Grown on 6H-SiC(0001). *Applied Physics Express*, **2013**, 6, 062604	2.4	9
67	Origin of temperature-induced luminescence peak shifts from semipolar (112□2) InxGa1□N quantum wells. *Physical Review B*, **2017**, 96,	3.3	9
66	Micro-photoluminescence mapping of surface plasmon enhanced light emissions from InGaN/GaN quantum wells. *Applied Physics Letters*, **2017**, 111, 172105	3.4	9
65	Enhanced radiative recombination probability in AlGaN quantum wires on (0001) vicinal surface **2016**,		9
64	Impact of face-to-face annealed sputtered AlN on the optical properties of AlGaN multiple quantum wells. *AIP Advances*, **2019**, 9, 125342	1.5	9
63	Bistable nanofacet structures on vicinal AlN(0001) surfaces. *Journal of Applied Physics*, **2014**, 115, 103518	2.5	8
62	265 nm AlGaN-based deep-ultraviolet light-emitting diodes grown on AlN substrates studied by photoluminescence spectroscopy under ideal pulsed selective and non-selective excitation conditions. *Applied Physics Express*, **2020**, 13, 102005	2.4	8

61	Deep-ultraviolet polychromatic emission from three-dimensionally structured AlGaN quantum wells. *Applied Physics Express*, **2017**, 10, 031001	2.4	7
60	Markedly distinct growth characteristics of semipolar (112□2) and (1□1□22□) InGaN epitaxial layers. *Applied Physics Letters*, **2015**, 106, 082105	3.4	7
59	Effects of strong electron□hole exchange and exciton□phonon interactions on the exciton binding energy of aluminum nitride. *Japanese Journal of Applied Physics*, **2014**, 53, 091001	1.4	7
58	Polychromatic emission from polar-plane-free faceted InGaN quantum wells with high radiative recombination probabilities. *Applied Physics Express*, **2017**, 10, 071003	2.4	7
57	Photoluminescence and optical reflectance investigation of semipolar and nonpolar GaN. *Physica Status Solidi (B): Basic Research*, **2007**, 244, 1853-1856	1.3	7
56	The Role of Growth Rates and Buffer Layer Structures for Quality Improvement of Cubic GaN Grown on GaAs. *Japanese Journal of Applied Physics*, **2000**, 39, L69-L72	1.4	7
55	Single-phase hexagonal GaN grown on AlAs/GaAs(001). *Applied Physics Letters*, **2000**, 77, 244-246	3.4	7
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53	Metalorganic vapor phase epitaxy of pit-free AlN homoepitaxial films on various semipolar substrates. *Journal of Crystal Growth*, **2019**, 522, 68-77	1.6	6
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51	Hexagonal GaN grown on GaAs{11n} substrates by metalorganic vapor-phase epitaxy using AlAs intermediate layers. *Applied Physics Letters*, **2001**, 79, 4133-4135	3.4	6
50	Quantification of the internal quantum efficiency in GaN via analysis of the heat generated by non-radiative recombination processes. *Journal of Applied Physics*, **2015**, 117, 105702	2.5	5
49	Development of polychromatic ultraviolet light-emitting diodes based on three-dimensional AlGaN quantum wells. *Applied Physics Express*, **2017**, 10, 121001	2.4	5
48	Micro-photoluminescence mapping of surface plasmon-coupled emission from InGaN/GaN quantum wells. *Japanese Journal of Applied Physics*, **2019**, 58, SCCB31	1.4	5
47	Time-resolved photoluminescence of Al-rich AlGaN/AlN quantum wells under selective excitation. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2011**, 8, 2191-2193		5
46	Deep ultraviolet emission mechanisms in highly excited Al0.79Ga0.21N/AlN quantum wells. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2010**, 7, 1909-1912		5
45	Fabrication and characterization of GaN-based distributed Bragg reflector mirrors for low lasing threshold and integrated photonics. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2005**, 2, 2895-2898		5
44	Deep states in nitrogen-doped p-ZnSe. *Journal of Applied Physics*, **1998**, 83, 2563-2567	2.5	5

43	Tunable band offsets via control of interface atomic configuration in GaAs-on-ZnSe(001) heterovalent heterostructures. *Journal of Applied Physics*, **1999**, 85, 1514-1519	2.5	5
42	Effects of GaAs buffer layer and lattice-matching on deep levels in Zn(S)Se/GaAs heterostructures. *Journal of Electronic Materials*, **1996**, 25, 217-222	1.9	5
41	Control of Crystal Morphologies and Interface Structures of AlN Grown on Sapphire by Elementary Source Vapor Phase Epitaxy. *Crystal Growth and Design*, **2016**, 16, 6337-6342	3.5	4
40	Semi/non-polar nitride quantum wells for high-efficient light emitters **2015**,		4
39	Assessment and Modification of Recombination Dynamics in InxGa1-xN-Based Quantum Wells. *Materials Science Forum*, **2008**, 590, 249-274	0.4	4
38	Growth of P-type Znse by metalorganic molecular beam epitaxy using metal Zn and dimethylselenide. *Journal of Electronic Materials*, **1996**, 25, 223-227	1.9	4
37	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. *Scientific Reports*, **2019**, 9, 3733	4.9	3
36	Control of p-type conductivity at AlN surfaces by carbon doping. *Applied Physics Express*, **2020**, 13, 015512	2.4	3
35	AlAs/GaAs(0 0 1) as a template for c-oriented hexagonal GaN grown by metalorganic vapor-phase epitaxy. *Journal of Crystal Growth*, **2000**, 221, 280-285	1.6	3
34	Six-bilayer periodic structures in GaN grown on GaAs(001). *Applied Physics Letters*, **2000**, 76, 330-332	3.4	3
33	Temperature-dependent electroluminescence study on 265-nm AlGaN-based deep-ultraviolet light-emitting diodes grown on AlN substrates. *AIP Advances*, **2020**, 10, 125014	1.5	3
32	Doping and fabrication of polar-plane-free faceted InGaN LEDs with polychromatic emission properties on (1 □1 □2 2 □) semipolar planes. *Journal of Applied Physics*, **2020**, 128, 213103	2.5	3
31	InGaN/AlGaN stress compensated superlattices coherently grown on semipolar () GaN substrates. *Physica Status Solidi (B): Basic Research*, **2016**, 253, 78-83	1.3	3
30	Intrinsic exciton transitions of isotopically purified 13C studied by photoluminescence and transmission spectroscopy. *Japanese Journal of Applied Physics*, **2020**, 59, 010903	1.4	2
29	Synchrotron radiation microbeam X-ray diffraction for nondestructive assessments of local structural properties of faceted InGaN/GaN quantum wells. *Applied Physics Express*, **2018**, 11, 031001	2.4	2
28	Effects of Al and N2 Flow Sequences on the Interface Formation of AlN on Sapphire by EVPE. *Crystals*, **2017**, 7, 123	2.3	2
27	Proposal to Use GaAs(114) Substrates for Improvement of the Optical Transition Probability in Nitride Semiconductor Quantum Wells. *Materials Research Society Symposia Proceedings*, **2003**, 798, 86		2
26	Nucleation processes during metalorganic vapor phase epitaxy of ZnSe on GaAs(001). *Journal of Applied Physics*, **1998**, 84, 1383-1388	2.5	2

25	Electrical Characterization of Movpe-Grown p-Type GaN:Mg Against Annealing Temperature. *Materials Research Society Symposia Proceedings*, **1998**, 537, 1		2
24	Growth Mechanism of Polar-Plane-Free Faceted InGaN Quantum Wells. *IEICE Transactions on Electronics*, **2018**, E101.C, 532-536	0.4	2
23	Broadband Ultraviolet Emission from 2D Arrays of AlGaN Microstructures Grown on the Patterned AlN Templates. *Physica Status Solidi (A) Applications and Materials Science*, **2020**, 217, 1900764	1.6	2
22	Isotopic effects on phonons and excitons in diamond studied by deep-ultraviolet continuous-wave photoluminescence spectroscopy. *Japanese Journal of Applied Physics*, **2019**, 58, 010904	1.4	2
21	Micro-photoluminescence mapping of light emissions from aluminum-coated InGaN/GaN quantum wells. *Applied Physics Express*, **2019**, 12, 052016	2.4	1
20	Lattice relaxation in semipolar AlxGa1□N grown on (11 02) AlN substrates. *Applied Physics Express*, **2020**, 13, 061008	2.4	1
19	Approaches to highly efficient UV emitters based on AlGaN quantum wells **2016**,		1
18	Multi-wavelength light emission from three-dimensional AlGaN quantum wells fabricated on facet structures **2014**,		1
17	Electrical Characterization of MOVPE-Grown P-Type GaN:Mg Against Annealing Temperature. *MRS Internet Journal of Nitride Semiconductor Research*, **1999**, 4, 665-670		1
16	Deep-ultraviolet near band-edge emissions from nano-polycrystalline diamond. *High Pressure Research*, **2020**, 40, 140-147	1.6	1
15	Deposition of carbon-containing hole injection layers on p-type Al0.8Ga0.2N grown by metalorganic vapor phase epitaxy. *Applied Physics Letters*, **2020**, 117, 062101	3.4	1
14	Enhanced nonradiative recombination in Al x Ga1□ N-based quantum wells thinner than the critical layer thickness determined by X-ray diffraction. *Applied Physics Express*, **2021**, 14, 031007	2.4	1
13	Microscopic origin of thermal droop in blue-emitting InGaN/GaN quantum wells studied by temperature-dependent microphotoluminescence spectroscopy. *Optics Express*, **2021**, 29, 22847-22854	3.3	0
12	Impact of the positive electron-hole exchange interaction constant on the binding energy of neutral donor bound excitons in AlN. *Japanese Journal of Applied Physics*,	1.4	0
11	Optical anisotropy of (11 2□3) semipolar InGaN quantum wells homoepitaxially grown on GaN substrates. *Journal of Applied Physics*, **2022**, 131, 074502	2.5	0
10	Evaluating the well-to-well distribution of radiative recombination rates in semi-polar $(11bar{2}2)$ InGaN multiple-quantum-well light-emitting diodes. *Applied Physics Express*, **2016**, 9, 072102	2.4	
9	Semipolar InGaN/GaN Quantum Wells for Highly Functional Light Emitters385-411		
8	Efficient Luminescence from {11.2} InGaN/GaN Quantum Wells. *Materials Research Society Symposia Proceedings*, **2004**, 831, 540		

7	Optical Absorption in ZnSe-GaAs Heterovalent Quantum Structures. *Materials Research Society Symposia Proceedings*, **1998**, 535, 71	
6	Formation of ZnSe/GaAs Heterovalent Heterostructures by Movpe. *Materials Research Society Symposia Proceedings*, **1996**, 448, 107	
5	Development of Dual-Probe Scanning Near-Field Optical Microscopy. *The Review of Laser Engineering*, **2015**, 43, 286	0
4	Growth evolution of polar-plane-free faceted GaN structures on (11 2 −2) and (1 −1 −2 2 −) GaN substrates. *Journal of Applied Physics*, **2021**, 129, 163104	2.5
3	Critical layer thickness of wurtzite heterostructures with arbitrary pairs of growth planes and slip systems. *Semiconductor Science and Technology*, **2021**, 36, 085016	1.8
2	Control of GaN facet structures through Eu doping toward achieving semipolar {11−01} and {22−01} InGaN/GaN quantum wells. *Applied Physics Letters*, **2016**, 109, 182101	3.4
1	Bias-dependent time-resolved photoluminescence spectroscopy on 265 nm AlGaN-based LEDs on AlN substrates. *Japanese Journal of Applied Physics*, **2021**, 60, 020903	1.4