Theeradetch Detchprohm

List of Publications by Year
in descending order

91 papers	1,723 citations	304743 22 h-index	289244 40 g-index
91 all docs	91 docs citations	91 times ranked	1576 citing authors

#	Article	IF	Citations
1	Relaxation Process of the Thermal Strain in the GaN/Î±-Al2O3Heterostructure and Determination of the Intrinsic Lattice Constants of GaN Free from the Strain. Japanese Journal of Applied Physics, 1992, 31, L1454-L1456.	1.5	259
2	Relaxation Mechanism of Thermal Stresses in the Heterostructure of GaN Grown on Sapphire by Vapor Phase Epitaxy. Japanese Journal of Applied Physics, 1993, 32, 1528-1533.	1.5	214
3	Low-threshold stimulated emission at 249â€‰nm and 256â€‰nm from AlGaN-based multiple-quantum-well lasers grown on sapphire substrates. Applied Physics Letters, 2014, 105, .	3.3	78
4	Green light emitting diodes on a-plane GaN bulk substrates. Applied Physics Letters, 2008, 92, .	3.3	69
5	Heteroepitaxial Lateral Overgrowth of GaN on Periodically Grooved Substrates: A New Approach for Growing Low-Dislocation-Density GaN Single Crystals. Japanese Journal of Applied Physics, 2001, 40, L16-L19.	1.5	59
6	Wavelength-stable cyan and green light emitting diodes on nonpolar m-plane GaN bulk substrates. Applied Physics Letters, 2010, 96, .	3.3	59
7	Demonstration of transverse-magnetic deep-ultraviolet stimulated emission from AlGaN multiple-quantum-well lasers grown on a sapphire substrate. Applied Physics Letters, 2015, 106, .	3.3	53
8	Growth of highâ€quality AlN layers on sapphire substrates at relatively low temperatures by metalorganic chemical vapor deposition. Physica Status Solidi (B): Basic Research, 2015, 252, 1089-1095.	1.5	46
9	Al_xGa_{1â^'x}N Ultraviolet Avalanche Photodiodes With Avalanche Gain Greater Than 10^{5}. IEEE Photonics Technology Letters, 2015, 27, 642-645.	2.5	38
10	Temperature dependence of the crystalline quality of AlN layer grown on sapphire substrates by metalorganic chemical vapor deposition. Journal of Crystal Growth, 2015, 414, 76-80.	1.5	38
11	Green cubic GaInN/GaN light-emitting diode on microstructured silicon (100). Applied Physics Letters, 2013, 103, .	3.3	37
12	Sub-250â€‰nm low-threshold deep-ultraviolet AlGaN-based heterostructure laser employing HfO2/SiO2 dielectric mirrors. Applied Physics Letters, 2013, 103, .	3.3	36
13	On the reliable analysis of indium mole fraction within InxGa1â^'xN quantum wells using atom probe tomography. Applied Physics Letters, 2014, 104, 152102.	3.3	35
14	100â€‰nm thick singleâ€phase wurtzite BAlN films with boron contents over 10%. Physica Status Solidi (B): Basic Research, 2017, 254, 1600699.	1.5	35
15	Band alignment of B0.14Al0.86N/Al0.7Ga0.3N heterojunction. Applied Physics Letters, 2017, 111, .	3.3	31
16	Highly Polarized Green Light Emitting Diode inm-Axis GaInN/GaN. Applied Physics Express, 2010, 3, 102103.	2.4	29
17	Inclined dislocation-pair relaxation mechanism in homoepitaxial green GaInN/GaN light-emitting diodes. Physical Review B, 2010, 81, .	3.2	29
18	Sub 250â€‰nm deep-UV AlGaN/AlN distributed Bragg reflectors. Applied Physics Letters, 2017, 110, .	3.3	29

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19	Uniform and Reliable GaN <italic>p-i-n</italic> Ultraviolet Avalanche Photodiode Arrays. IEEE Photonics Technology Letters, 2016, 28, 2015-2018.	2.5	26
20	Onset of surface stimulated emission at 260â€‰nm from AlGaN multiple quantum wells. Applied Physics Letters, 2015, 107, .	3.3	24
21	Comparison of AlGaN pâ€“iâ€“n ultraviolet avalanche photodiodes grown on free-standing GaN and sapphire substrates. Applied Physics Express, 2015, 8, 122202.	2.4	23
22	p-i-p-i-n Separate Absorption and Multiplication Ultraviolet Avalanche Photodiodes. IEEE Photonics Technology Letters, 2018, 30, 181-184.	2.5	23
23	Influence of TMAl preflow on AlN epitaxy on sapphire. Applied Physics Letters, 2017, 110, 192106.	3.3	22
24	Various misfit dislocations in green and yellow GaInN/GaN light emitting diodes. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 1305-1308.	1.8	21
25	Optically pumped vertical-cavity surface-emitting laser at 374.9 nm with an electrically conducting n-type distributed Bragg reflector. Applied Physics Express, 2016, 9, 111002.	2.4	21
26	GaN/InGaN avalanche phototransistors. Applied Physics Express, 2015, 8, 032101.	2.4	20
27	Wavelength-stable rare earth-free green light-emitting diodes for energy efficiency. Optics Express, 2011, 19, A962.	3.4	19
28	Temperature-Dependent Characteristics of GaN Homojunction Rectifiers. IEEE Transactions on Electron Devices, 2015, 62, 2679-2683.	3.0	19
29	Photoresponse and Defect Levels of AlGaN/GaN Heterobipolar Phototransistor Grown on Low-Temperature AlN Interlayer. Japanese Journal of Applied Physics, 2001, 40, L498-L501.	1.5	18
30	High-Responsivity GaN/InGaN Heterojunction Phototransistors. IEEE Photonics Technology Letters, 2016, 28, 2035-2038.	2.5	17
31	Boosting Green GaInN/GaN Light-Emitting Diode Performance by a GaInN Underlying Layer. IEEE Transactions on Electron Devices, 2010, 57, 2639-2643.	3.0	16
32	Lateral Current Spreading in III-N Ultraviolet Vertical-Cavity Surface-Emitting Lasers Using Modulation-Doped Short Period Superlattices. IEEE Journal of Quantum Electronics, 2018, 54, 1-7.	1.9	16
33	Temperature-Dependent Leakage Current Characteristics of Homojunction GaN p-i-n Rectifiers Using Ion-Implantation Isolation. IEEE Transactions on Electron Devices, 2019, 66, 4273-4278.	3.0	15
34	Evaluation of metal/indium-tin-oxide for transparent low-resistance contacts to p-type GaN. Applied Optics, 2012, 51, 5596.	1.8	14
35	High 400â€‰Â°C operation temperature blue spectrum concentration solar junction in GaInN/GaN. Applied Physics Letters, 2014, 105, .	3.3	14
36	Strain management of AlGaN-based distributed Bragg reflectors with GaN interlayer grown by metalorganic chemical vapor deposition. Applied Physics Letters, 2016, 109, .	3.3	14

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37	Electrically conducting n-type AlGaN/GaN distributed Bragg reflectors grown by metalorganic chemical vapor deposition. Journal of Crystal Growth, 2016, 443, 81-84.	1.5	14
38	Optically pumped AlGaN quantumâ€well lasers at subâ€250 nm grown by MOCVD on AlN substrates. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 258-260.	0.8	13
39	Structural properties, crystal quality and growth modes of MOCVD-grown AlN with TMAl pretreatment of sapphire substrate. Journal Physics D: Applied Physics, 2017, 50, 395101.	2.8	13
40	Theory and Design of Electron Blocking Layers for III-N-Based Laser Diodes by Numerical Simulation. IEEE Journal of Quantum Electronics, 2018, 54, 1-11.	1.9	13
41	Photoluminescence of GaInN/GaN multiple quantum well heterostructures on amorphous surface through biaxial metal buffer layers. Nano Energy, 2014, 5, 1-8.	16.0	11
42	Reduction of threading dislocation density in AlXGa1â^'XN grown on periodically grooved substrates. Journal of Crystal Growth, 2002, 237-239, 1065-1069.	1.5	10
43	Direct periodic patterning of GaN-based light-emitting diodes by three-beam interference laser ablation. Applied Physics Letters, 2014, 104, 141105.	3.3	9
44	Inverse-Tapered p-Waveguide for Vertical Hole Transport in High-[Al] AlGaN Emitters. IEEE Photonics Technology Letters, 2015, 27, 1768-1771.	2.5	9
45	Effects of oxygen thermal annealing treatment on formation of ohmic contacts to n-GaN. Applied Physics Letters, 2012, 101, .	3.3	8
46	Revealing microstructure and dislocation behavior in BAlN/AlGaN heterostructures. Applied Physics Express, 2018, 11, 011001.	2.4	8
47	Low-dislocation-density GaN and AlxGa1â^'xN (xâ©½0.13) grown on grooved substrates. Journal of Crystal Growth, 2002, 235, 129-134.	1.5	7
48	High Reflectivity Hybrid AlGaN/Silver Distributed Bragg Reflectors for Use in the UV-Visible Spectrum. IEEE Journal of Quantum Electronics, 2017, 53, 1-8.	1.9	6
49	Thermal Design Considerations for III-N Vertical-Cavity Surface-Emitting Lasers Using Electro-Opto-Thermal Numerical Simulations. IEEE Journal of Quantum Electronics, 2019, 55, 1-8.	1.9	6
50	Flexible single-crystalline GaN substrate by direct deposition of III-N thin films on polycrystalline metal tape. Journal of Materials Chemistry C, 2021, 9, 2243-2251.	5.5	6
51	Depth profile of donorâ€“acceptor pair transition revealing its effect on the efficiency of green LEDs. Physica B: Condensed Matter, 2009, 404, 4899-4902.	2.7	5
52	Green LED development in polar and non-polar growth orientation. Proceedings of SPIE, 2009, , .	0.8	5
53	Effect of Group-III precursors on unintentional gallium incorporation during epitaxial growth of InAlN layers by metalorganic chemical vapor deposition. Journal of Applied Physics, 2015, 118, .	2.5	5
54	Realizing crack-free high-aluminum-mole-fraction AlGaN on patterned GaN beyond the critical layer thickness. Journal of Applied Physics, 2022, 131, .	2.5	5

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55	Analysis of the wavelength-power performance roll-off in green light emitting diodes. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 2421-2424.	0.8	4
56	Cyan and green light emitting diode on nonâ€polar m â€plane GaN bulk substrate. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 2190-2192.	0.8	4
57	Theoretical analysis of strategies for improving pâ€type conductivity in wurtzite IIIâ€nitride devices for highâ€power optoâ€and microelectronic applications. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 828-831.	0.8	4
58	High-Gain and Low-Dark Current GaN p-i-n Ultraviolet Avalanche Photodiodes Grown by MOCVD Fabricated Using Ion-Implantation Isolation. Journal of Electronic Materials, 2021, 50, 4462-4468.	2.2	4
59	Low-dislocation-density AlxGa1â^'xN single crystals grown on grooved substrates. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2002, 93, 197-201.	3.5	3
60	Phosphor-free white: the prospects for green direct emitters. Proceedings of SPIE, 2011, , .	0.8	3
61	The role of mesa size in nanoâ€structured green AlGaInN lightâ€emitting diodes. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2311-2314.	0.8	3
62	Optically pumped deep-ultraviolet AlGaN multi-quantum-well lasers grown by metalorganic chemical vapor deposition. , 2014, , .		3
63	Effect of latticeâ€matched InAlGaN electronâ€blocking layer on hole transport and distribution in InGaN/GaN multiple quantum wells of visible lightâ€emitting diodes. Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 1296-1301.	1.8	3
64	Development for ultraviolet vertical cavity surface emitting lasers. Proceedings of SPIE, 2016, , .	0.8	3
65	Epitaxial Growth and Optically Pumped Stimulated Emission in AlGaN/InGaN Ultraviolet Multi-Quantum-Well Structures. Journal of Electronic Materials, 2020, 49, 2326-2331.	2.2	3
66	Demonstration of uniform and reliable GaN p-i-p-i-n separate-absorption and multiplication ultraviolet avalanche photodiode arrays with large detection area. , 2019, , .		3
67	Non-polar GaInN-based light-emitting diodes: an approach for wavelength-stable and polarized-light emitters. , 2011, , .		2
68	INTEGRATION OF N- AND P-CONTACTS TO GaN-BASED LIGHT EMITTING DIODES. International Journal of High Speed Electronics and Systems, 2011, 20, 521-525.	0.7	2
69	HOW DO WE LOSE EXCITATION IN THE GREEN?. International Journal of High Speed Electronics and Systems, 2011, 20, 13-25.	0.7	2
70	Rare-Earth-Free Direct-Emitting Light-Emitting Diodes for Solid-State Lighting. IEEE Transactions on Industry Applications, 2014, 50, 1469-1477.	4.9	2
71	Radiative recombination in GaN/InGaN heterojunction bipolar transistors. Applied Physics Letters, 2015, 107, 242104.	3.3	2
72	GaN-based light emitting diode with embedded SiO<inf>2</inf> pattern for enhanced light extraction. , 2012, , .		1

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73	Direct green LED development in nano-patterned epitaxy. , 2013, , .		1
74	Development of III-N UVAPDs for ultraviolet sensor applications. , 2013, , .		1
75	Corrections to â€œLateral Current Spreading in III-N Ultraviolet Vertical-Cavity Surface-Emitting Lasers Using Modulation-Doped Short Period Superlatticesâ€•[Aug 18 Art. no. 2400507]. IEEE Journal of Quantum Electronics, 2019, 55, 1-1.	1.9	1
76	Development of high-power green light emitting diode dies in piezoelectric GaInN/GaN. , 2005, , .		0
77	Analysis of the Quantum Efficiency of GaInN/GaN Light Emitting Diodes in the Range of 390 - 580 nm. Materials Research Society Symposia Proceedings, 2005, 892, 212.	0.1	0
78	Ridgeâ€type AlGaInNâ€based laser diode structure by selective regrowth. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1603-1606.	1.8	0
79	Photocurrent spectroscopy on GaInN/GaN multiple quantum well solar cell structures. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2469-2472.	0.8	0
80	a-Plane GaN light emitting diodes on self-assembled Ni nano-islands. , 2012, , .		0
81	Fish scale terrace GaInN/GaN light-emitting diodes with enhanced light extraction. Applied Physics Letters, 2012, 101, 232106.	3.3	0
82	HOW DO WE LOSE EXCITATION IN THE GREEN?. , 2013, , .		0
83	Optically pumped low-threshold UV lasers. , 2015, , .		0
84	III-nitride deep UV laser on sapphire substrate. , 2015, , .		0
85	Development of high gain avalanche photodiodes for UV imaging applications. Proceedings of SPIE, 2015, , .	0.8	0
86	High-Performance GaN-Based Ultraviolet Photon Detection Technology. , 2021, , .		0
87	Development of Direct Green Emitting LEDs. , 2012, , .		0
88	Onset of deep UV surface stimulated emission from AlGaN multiple quantum wells. , 2016, , .		0
89	Growth of single-phase wurtzite BAlN with 7.2%-B contents. , 2016, , .		0
90	Optical stimulated emission in AlGaN/InGaN ultraviolet multi-quantum-well structures. , 2019, , .		0

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91	III-nitride emitters and detectors for UV optoelectronic applications grown by metalorganic chemical vapor deposition. , 2019, , .		0