Tao Wang

List of Publications by Year
in descending order

95 papers	2,096 citations	218677 26 h-index	276875 41 g-index
95 all docs	95 docs citations	95 times ranked	1780 citing authors

#	Article	IF	Citations
1	Role of Dislocation in InGaN Phase Separation. Japanese Journal of Applied Physics, 1998, 37, L1195-L1198.	1.5	110
2	1 mW AlInGaN-based ultraviolet light-emitting diode with an emission wavelength of 348 nm grown on sapphire substrate. Applied Physics Letters, 2002, 81, 2508-2510.	3.3	98
3	Topical Review: Development of overgrown semi-polar GaN for high efficiency green/yellow emission. Semiconductor Science and Technology, 2016, 31, 093003.	2.0	87
4	A study of dislocations in AlN and GaN films grown on sapphire substrates. Journal of Crystal Growth, 2005, 282, 290-296.	1.5	75
5	High resolution cathodoluminescence hyperspectral imaging of surface features in InGaN/GaN multiple quantum well structures. Applied Physics Letters, 2011, 98, .	3.3	75
6	Effect of silicon doping on the optical and transport properties of InGaN/GaN multiple-quantum-well structures. Applied Physics Letters, 2000, 76, 1737-1739.	3.3	67
7	Hybrid III-Nitride/Organic Semiconductor Nanostructure with High Efficiency Nonradiative Energy Transfer for White Light Emitters. Nano Letters, 2013, 13, 3042-3047.	9.1	65
8	Optical investigation of InGaN/GaN multiple quantum wells. Applied Physics Letters, 1999, 74, 3128-3130.	3.3	59
9	Influence of buffer layer and growth temperature on the properties of an undoped GaN layer grown on sapphire substrate by metalorganic chemical vapor deposition. Applied Physics Letters, 2000, 76, 2220-2222.	3.3	58
10	Optically pumped ultraviolet lasing from nitride nanopillars at room temperature. Applied Physics Letters, 2010, 96, .	3.3	51
11	High-Resolution Cathodoluminescence Hyperspectral Imaging of Nitride Nanostructures. Microscopy and Microanalysis, 2012, 18, 1212-1219.	0.4	51
12	Air-bridged lateral growth of an Al0.98Ga0.02N layer by introduction of porosity in an AlN buffer. Applied Physics Letters, 2005, 87, 151906.	3.3	49
13	Enhancement in solar hydrogen generation efficiency using a GaN-based nanorod structure. Applied Physics Letters, 2013, 102, .	3.3	49
14	Room temperature continuousâ€“wave green lasing from an InGaN microdisk on silicon. Scientific Reports, 2014, 4, 7250.	3.3	48
15	(11-22) semipolar InGaN emitters from green to amber on overgrown GaN on micro-rod templates. Applied Physics Letters, 2015, 107, .	3.3	44
16	High-Performance 348 nm AlGaN/GaN-Based Ultraviolet-Light-Emitting Diode with a SiN Buffer Layer. Japanese Journal of Applied Physics, 2002, 41, 4450-4453.	1.5	43
17	Room temperature plasmonic lasing in a continuous wave operation mode from an InGaN/GaN single nanorod with a low threshold. Scientific Reports, 2015, 4, 5014.	3.3	42
18	Growth and optical investigation of self-assembled InGaN quantum dots on a GaN surface using a high temperature AlN buffer. Journal of Applied Physics, 2008, 103, 123522.	2.5	41

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19	A Direct Epitaxial Approach To Achieving Ultrasmall and Ultrabright InGaN Micro Light-Emitting Diodes (Î¼LEDs). ACS Photonics, 2020, 7, 411-415.	6.6	40
20	Study of the strain relaxation in InGaN/GaN multiple quantum well structures. Journal of Applied Physics, 2001, 90, 1740-1744.	2.5	39
21	Ultrasmall, Ultracompact and Ultrahigh Efficient InGaN Micro Light Emitting Diodes (Î¼LEDs) with Narrow Spectral Line Width. ACS Nano, 2020, 14, 6906-6911.	14.6	39
22	Great emission enhancement and excitonic recombination dynamics of InGaN/GaN nanorod structures. Applied Physics Letters, 2013, 103, .	3.3	38
23	Dependence of carrier localization in InGaNâ•GaN multiple-quantum wells on well thickness. Applied Physics Letters, 2006, 89, 253120.	3.3	35
24	High-reflectivity AlxGa1â”xNâ•AlyGa1â”yN distributed Bragg reflectors with peak wavelength around 350nm. Applied Physics Letters, 2004, 85, 43-45.	3.3	32
25	Significantly enhanced performance of an InGaN/GaN nanostructure based photo-electrode for solar power hydrogen generation. Applied Physics Letters, 2013, 103, .	3.3	31
26	Greatly enhanced performance of InGaN/GaN nanorod light emitting diodes. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 477-480.	1.8	29
27	InGaN/GaN quantum well structures with greatly enhanced performance on a-plane GaN grown using self-organized nano-masks. Applied Physics Letters, 2011, 99, 181907.	3.3	24
28	Direct Epitaxial Approach to Achieve a Monolithic On-Chip Integration of a HEMT and a Single Micro-LED with a High-Modulation Bandwidth. ACS Applied Electronic Materials, 2021, 3, 445-450.	4.3	24
29	High Modulation Bandwidth of Semipolar (11â€“22) InGaN/GaN LEDs with Long Wavelength Emission. ACS Applied Electronic Materials, 2020, 2, 2363-2368.	4.3	23
30	Temporally and spatially resolved photoluminescence investigation of (112Â¯2) semi-polar InGaN/GaN multiple quantum wells grown on nanorod templates. Applied Physics Letters, 2014, 105, .	3.3	22
31	Optical properties and resonant cavity modes in axial InGaN/GaN nanotube microcavities. Optics Express, 2017, 25, 28246.	3.4	22
32	Light Emitting and Laser Diodes in the Ultraviolet. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1402-1411.	2.9	21
33	Monolithically multi-color lasing from an InGaN microdisk on a Si substrate. Scientific Reports, 2017, 7, 10086.	3.3	20
34	Overgrowth and strain investigation of (11â€“20) non-polar GaN on patterned templates on sapphire. Scientific Reports, 2018, 8, 9898.	3.3	20
35	Fabrication of two-dimensional InGaN/GaN photonic crystal structure using a modified nanosphere lithography technique. Applied Physics Letters, 2013, 102, .	3.3	19
36	Porosity-enhanced solar powered hydrogen generation in GaN photoelectrodes. Applied Physics Letters, 2017, 111, .	3.3	19

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37	Nonpolar (112Ì…0) GaN Metalâ€“Semiconductorâ€“Metal Photodetectors with Superior Performance on Silicon. ACS Applied Materials & Interfaces, 2020, 12, 25031-25036.	8.0	19
38	Lattice Polarity Manipulation of Quasiâ€vdW Epitaxial GaN Films on Graphene Through Interface Atomic Configuration. Advanced Materials, 2022, 34, e2106814.	21.0	19
39	Ga₂O₃/GaN Heterostructural Ultraviolet Photodetectors with Exciton-Dominated Ultranarrow Response. ACS Applied Electronic Materials, 2022, 4, 188-196.	4.3	19
40	Microstructure investigation of semi-polar (11-22) GaN overgrown on differently designed micro-rod array templates. Applied Physics Letters, 2016, 109, .	3.3	18
41	(Invited) High Efficiency Green-Yellow Emission from InGaN/GaN Quantum Well Structures Grown on Overgrown Semi-Polar (11-22) GaN on Regularly Arrayed Micro-Rod Templates. ECS Transactions, 2015, 66, 151-155.	0.5	17
42	Stimulated emission at 340 nm from AlGaN multiple quantum well grown using high temperature AlN buffer technologies on sapphire. Applied Physics Letters, 2009, 95, .	3.3	15
43	Efficient reduction of defects in (11<u>2</u>0) non-polar and (11<u>2</u>2) semi-polar GaN grown on nanorod templates. Applied Physics Letters, 2013, 102, .	3.3	15
44	Defect reduction in overgrown semi-polar (11-22) GaN on a regularly arrayed micro-rod array template. AIP Advances, 2016, 6, 025201.	1.3	15
45	Electrically Injected Hybrid Organic/Inorganic III-Nitride White Light-Emitting Diodes with Nonradiative FÃ¶rster Resonance Energy Transfer. ACS Photonics, 2018, 5, 642-647.	6.6	15
46	Study of the Luminescence Decay of a Semipolar Green Light-Emitting Diode for Visible Light Communications by Time-Resolved Electroluminescence. ACS Photonics, 2022, 9, 2378-2384.	6.6	15
47	Determining GaN Nanowire Polarity and its Influence on Light Emission in the Scanning Electron Microscope. Nano Letters, 2019, 19, 3863-3870.	9.1	14
48	Monolithically integrated white light LEDs on (11â€“22) semi-polar GaN templates. Scientific Reports, 2019, 9, 1383.	3.3	14
49	Exploring an Approach toward the Intrinsic Limits of GaN Electronics. ACS Applied Materials & Interfaces, 2020, 12, 12949-12954.	8.0	14
50	Effect of strain relaxation and exciton localization on performance of 350-nm AlInGaN quaternary light-emitting diodes. Journal of Applied Physics, 2005, 97, 083104.	2.5	13
51	Influence of crystal quality of underlying GaN buffer on the formation and optical properties of InGaN/GaN quantum dots. Applied Physics Letters, 2009, 95, 101909.	3.3	11
52	Carrier capture times in InGaN/GaN multiple quantum wells. Physica Status Solidi (B): Basic Research, 2003, 240, 364-367.	1.5	10
53	Nonâ€polar AlN and GaN/AlN on râ€plane sapphire. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S780.	0.8	10
54	Probing light emission from quantum wells within a single nanorod. Nanotechnology, 2013, 24, 365704.	2.6	10

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55	Semiâ€polar (11â€22) GaN grown on patterned (113) Si substrate. Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 13, 190-194.	0.8	10
56	Polarized white light from hybrid organic/III-nitrides grating structures. Scientific Reports, 2017, 7, 39677.	3.3	10
57	Strain Analysis of GaN HEMTs on (111) Silicon with Two Transitional AlxGa1â^'xN Layers. Materials, 2018, 11, 1968.	2.9	10
58	Long-Wavelength Semipolar (11â€“22) InGaN/GaN LEDs with Multi-Gb/s Data Transmission Rates for VLC. ACS Applied Electronic Materials, 2021, 3, 4236-4242.	4.3	10
59	Influence of high temperature AlN buffer on optical gain in AlGaN/AlGaN multiple quantum well structures. Applied Physics Letters, 2011, 99, 171912.	3.3	9
60	Coherent nanocavity structures for enhancement in internal quantum efficiency of III-nitride multiple quantum wells. Applied Physics Letters, 2014, 104, 161108.	3.3	9
61	InGaN Nanohole Arrays Coated by Lead Halide Perovskite Nanocrystals for Solid-State Lighting. ACS Applied Nano Materials, 2020, 3, 2167-2175.	5.0	9
62	Fabrication of High-Output-Power AlGaN/GaN-Based UV-Light-Emitting Diode Using a Ga Droplet Layer. Japanese Journal of Applied Physics, 2002, 41, L1037-L1039.	1.5	8
63	Highly improved performance of a 350nm ultraviolet light-emitting diode containing AlxGa1â^'xN/AlyGa1â^'yN distributed Bragg reflectors. Journal of Crystal Growth, 2004, 267, 583-587.	1.5	8
64	Study of stimulated emission from InGaN/GaN multiple quantum well structures. Journal of Crystal Growth, 2004, 273, 48-53.	1.5	8
65	Optical and polarization properties of nonpolar InGaN-based light-emitting diodes grown on micro-rod templates. Scientific Reports, 2019, 9, 9770.	3.3	8
66	Monolithically Integrated Î¼ LEDs/HEMTs Microdisplay on a Single Chip by a Direct Epitaxial Approach. Advanced Materials Technologies, 2021, 6, 2100214.	5.8	8
67	A Simple Approach to Achieving Ultrasmall III-Nitride Microlight-Emitting Diodes with Red Emission. ACS Applied Electronic Materials, 2022, 4, 2787-2792.	4.3	8
68	Simple Approach to Mitigate the Emission Wavelength Instability of III-Nitride Î¼LED Arrays. ACS Photonics, 2022, 9, 2073-2078.	6.6	8
69	MOCVD growth and optical investigation of the AlInGaN quaternary system. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 2019-2022.	0.8	7
70	Growth and characterization of semi-polar (11-22) GaN on patterned (113) Si substrates. Semiconductor Science and Technology, 2015, 30, 065012.	2.0	7
71	Controllable Uniform Green Light Emitters Enabled by Circular HEMT-LED Devices. IEEE Photonics Journal, 2018, 10, 1-7.	2.0	7
72	Semiâ€Polar InGaNâ€Based Green Lightâ€Emitting Diodes Grown on Silicon. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900654.	1.8	7

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73	Structural and luminescence imaging and characterisation of semiconductors in the scanning electron microscope. Semiconductor Science and Technology, 2020, 35, 054001.	2.0	7
74	Monolithic multiple colour emission from InGaN grown on patterned non-polar GaN. Scientific Reports, 2019, 9, 986.	3.3	6
75	Enhanced non-radiative energy transfer in hybrid III-nitride structures. Applied Physics Letters, 2015, 107, 121108.	3.3	5
76	Non-polar (11-20) GaN grown on sapphire with double overgrowth on micro-rod/stripe templates. Semiconductor Science and Technology, 2018, 33, 125023.	2.0	5
77	Overgrowth and characterization of (11-22) semi-polar GaN on (113) silicon with a two-step method. Semiconductor Science and Technology, 2019, 34, 045012.	2.0	5
78	Large negative thermal quenching of yellow luminescence in non-polar InGaN/GaN quantum wells. Journal of Applied Physics, 2021, 130, 205704.	2.5	5
79	Ultra-Energy-Efficient Photoelectrode Using Microstriped GaN on Si. ACS Photonics, 2019, 6, 1302-1306.	6.6	4
80	Optical polarization properties of (11â€“22) semi-polar InGaN LEDs with a wide spectral range. Scientific Reports, 2020, 10, 7191.	3.3	4
81	Influence of an InGaN superlattice pre-layer on the performance of semi-polar (11â€“22) green LEDs grown on silicon. Scientific Reports, 2020, 10, 12650.	3.3	4
82	Greatly improved crystal quality of non-polar GaN grown on a-plane GaN nano-rod template obtained using self-organised nano-masks. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 564-567.	0.8	3
83	Investigation of the optical properties of InGaN/GaN nanorods with different indium composition. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 620-623.	0.8	3
84	Study of highâ€quality (11â˜22) semiâ€polar GaN grown on nanorod templates. Physica Status Solidi (B): Basic Research, 2015, 252, 1079-1083.	1.5	3
85	Heavily tin-doped indium oxide nano-pyramids as high-performance gas sensor. AIP Advances, 2018, 8, .	1.3	3
86	Confocal photoluminescence investigation to identify basal stacking faultâ€™s role in the optical properties of semi-polar InGaN/GaN lighting emitting diodes. Scientific Reports, 2019, 9, 9735.	3.3	3
87	Influence of micro-patterning of the growth template on defect reduction and optical properties of non-polar (112Ë‰0) GaN. Journal Physics D: Applied Physics, 2021, 54, 025107.	2.8	3
88	Nearly Lattice-Matched GaN Distributed Bragg Reflectors with Enhanced Performance. Materials, 2022, 15, 3536.	2.9	3
89	Enhanced internal quantum efficiency of an InGaN/GaN quantum well as a function of silver thickness due to surface plasmon coupling. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2176-2178.	0.8	2
90	Stimulated emission from semi-polar (11-22) GaN overgrown on sapphire. AIP Advances, 2017, 7, .	1.3	2

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91	Investigation of Electrical Properties of InGaNâ€Based Microâ€Lightâ€Emitting Diode Arrays Achieved by Direct Epitaxy. Physica Status Solidi (A) Applications and Materials Science, 0, , 2100474.	1.8	2
92	OPTICAL INVESTIGATION OF InGaN/GaN QUANTUM WELL STRUCTURES GROWN BY MOCVD. , 2006, , 305-343.		1
93	Highly improved performance of a 350nm ultraviolet light-emitting diode containing AlxGa1$minus;xN/AlyGa1$minus;yN distributed Bragg reflectors. Journal of Crystal Growth, 2004, 267, 583-583.	1.5	0
94	Development of high quality and low defect density semipolar and non-polar GaN templates. , 2013, , .		0
95	Advances in electron channelling contrast imaging and electron backscatter diffraction for imaging and analysis of structural defects in the scanning electron microscope. IOP Conference Series: Materials Science and Engineering, 2020, 891, 012023.	0.6	0