Tongbo Wei

List of Publications by Year
in descending order

82 papers	1,859 citations	257450 24 h-index	289244 40 g-index
85 all docs	85 docs citations	85 times ranked	1721 citing authors

#	Article	IF	Citations
1	282-nm AlGaN-based deep ultraviolet light-emitting diodes with improved performance on nano-patterned sapphire substrates. Applied Physics Letters, 2013, 102, .	3.3	184
2	Improved Epitaxy of AlN Film for Deepâ€Ultraviolet Lightâ€Emitting Diodes Enabled by Graphene. Advanced Materials, 2019, 31, e1807345.	21.0	116
3	Highâ€Brightness Blue Lightâ€Emitting Diodes Enabled by a Directly Grown Graphene Buffer Layer. Advanced Materials, 2018, 30, e1801608.	21.0	87
4	Graphene-assisted quasi-van der Waals epitaxy of AlN film for ultraviolet light emitting diodes on nano-patterned sapphire substrate. Applied Physics Letters, 2019, 114, .	3.3	76
5	Fast Growth of Strain-Free AlN on Graphene-Buffered Sapphire. Journal of the American Chemical Society, 2018, 140, 11935-11941.	13.7	75
6	Enhancement of Heat Dissipation in Ultraviolet Lightâ€Emitting Diodes by a Vertically Oriented Graphene Nanowall Buffer Layer. Advanced Materials, 2019, 31, e1901624.	21.0	72
7	AlGaN-based deep ultraviolet light-emitting diodes grown on nano-patterned sapphire substrates with significant improvement in internal quantum efficiency. Journal of Crystal Growth, 2014, 395, 9-13.	1.5	68
8	Recent advancement on micro-/nano-spherical lens photolithography based on monolayer colloidal crystals. Advances in Colloid and Interface Science, 2016, 228, 105-122.	14.7	53
9	Selectively grown photonic crystal structures for high efficiency InGaN emitting diodes using nanospherical-lens lithography. Applied Physics Letters, 2012, 101, .	3.3	50
10	Quasi van der Waals epitaxy nitride materials and devices on two dimension materials. Nano Energy, 2020, 69, 104463.	16.0	48
11	Thermal annealing of colloidal monolayer at the air/water interface: a facile approach to transferrable colloidal masks with tunable interstice size for nanosphere lithography. Journal of Materials Chemistry, 2012, 22, 22678.	6.7	42
12	Light extraction efficiency improvement by multiple laser stealth dicing in InGaN-based blue light-emitting diodes. Optics Express, 2012, 20, 6808.	3.4	41
13	Improving light extraction of InGaN-based light emitting diodes with a roughened p-GaN surface using CsCl nano-islands. Optics Express, 2011, 19, 1065.	3.4	40
14	Efficiency enhancement of homoepitaxial InGaN/GaN light-emitting diodes on free-standing GaN substrate with double embedded SiO_2 photonic crystals. Optics Express, 2014, 22, A1093.	3.4	37
15	Quasiâ€2D Growth of Aluminum Nitride Film on Graphene for Boosting Deep Ultraviolet Lightâ€Emitting Diodes. Advanced Science, 2020, 7, 2001272.	11.2	37
16	Microstructure and Optical Properties of Nonpolar m-Plane GaN Films Grown on m-Plane Sapphire by Hydride Vapor Phase Epitaxy. Japanese Journal of Applied Physics, 2008, 47, 3346.	1.5	36
17	Van der Waals epitaxy of nearly single-crystalline nitride films on amorphous graphene-glass wafer. Science Advances, 2021, 7, .	10.3	35
18	Fabrication and optical characteristics of phosphor-free InGaN nanopyramid white light emitting diodes by nanospherical-lens photolithography. Journal of Applied Physics, 2014, 115, 123101.	2.5	34

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19	Ultraviolet communication technique and its application. Journal of Semiconductors, 2021, 42, 081801.	3.7	34
20	Efficiency improvement and droop behavior in nanospherical-lens lithographically patterned bottom and top photonic crystal InGaN/GaN light-emitting diodes. Optics Letters, 2014, 39, 379.	3.3	31
21	Growth mechanism of AlN on hexagonal BN/sapphire substrate by metalâ€“organic chemical vapor deposition. CrystEngComm, 2017, 19, 5849-5856.	2.6	30
22	GaN/AlN quantum-disk nanorod 280 nm deep ultraviolet light emitting diodes by molecular beam epitaxy. Optics Letters, 2020, 45, 121.	3.3	30
23	Enhanced optical power of GaN-based light-emitting diode with compound photonic crystals by multiple-exposure nanosphere-lens lithography. Applied Physics Letters, 2014, 105, 013108.	3.3	27
24	Direct Growth of Nanopatterned Graphene on Sapphire and Its Application in Light Emitting Diodes. Advanced Functional Materials, 2020, 30, 2001483.	14.9	27
25	Epitaxy of III-Nitrides on Î²-Ga2O3 and Its Vertical Structure LEDs. Micromachines, 2019, 10, 322.	2.9	25
26	Graphene-driving strain engineering to enable strain-free epitaxy of AlN film for deep ultraviolet light-emitting diode. Light: Science and Applications, 2022, 11, 88.	16.6	24
27	Van der Waals epitaxy of GaN-based light-emitting diodes on wet-transferred multilayer graphene film. Japanese Journal of Applied Physics, 2017, 56, 085506.	1.5	23
28	Size-controllable nanopyramids photonic crystal selectively grown on p-GaN for enhanced light-extraction of light-emitting diodes. Optics Express, 2013, 21, 25373.	3.4	22
29	High-performance nanoporous-GaN metal-insulator-semiconductor ultraviolet photodetectors with a thermal oxidized Î²-Ga₂O₃ layer. Optics Letters, 2019, 44, 2197.	3.3	22
30	Crystallographic orientation control and optical properties of GaN nanowires. RSC Advances, 2018, 8, 2181-2187.	3.6	21
31	Phosphor-free nanopyramid white light-emitting diodes grown on {101Â¯1} planes using nanospherical-lens photolithography. Applied Physics Letters, 2013, 103, .	3.3	20
32	Graphene-assisted growth of high-quality AlN by metalorganic chemical vapor deposition. Japanese Journal of Applied Physics, 2016, 55, 085501.	1.5	20
33	Tailoring of Energy Band in Electron-Blocking Structure Enhancing the Efficiency of AlGaN-Based Deep Ultraviolet Light-Emitting Diodes. IEEE Photonics Journal, 2016, 8, 1-7.	2.0	18
34	Direct Growth of 5 in. Uniform Hexagonal Boron Nitride on Glass for Highâ€Performance Deepâ€Ultraviolet Lightâ€Emitting Diodes. Advanced Materials Interfaces, 2018, 5, 1800662.	3.7	18
35	Semipolar (112Ì…2) AlGaN-Based Solar-Blind Ultraviolet Photodetectors with Fast Response. ACS Applied Materials & Interfaces, 2022, 14, 21232-21241.	8.0	18
36	Direct van der Waals Epitaxy of Crack-Free AlN Thin Film on Epitaxial WS2. Materials, 2018, 11, 2464.	2.9	17

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37	Transferâ€Enabled Fabrication of Graphene Wrinkle Arrays for Epitaxial Growth of AlN Films. Advanced Materials, 2022, 34, e2105851.	21.0	15
38	Direct Growth of AlGaN Nanorod LEDs on Graphene-Covered Si. Materials, 2018, 11, 2372.	2.9	14
39	Flexible graphene-assisted van der Waals epitaxy growth of crack-free AlN epilayer on SiC by lattice engineering. Applied Surface Science, 2020, 520, 146358.	6.1	14
40	275 nm Deep Ultraviolet AlGaN-Based Micro-LED Arrays for Ultraviolet Communication. IEEE Photonics Journal, 2022, 14, 1-5.	2.0	14
41	The improvement of GaN-based light-emitting diodes using nanopatterned sapphire substrate with small pattern spacing. AIP Advances, 2014, 4, .	1.3	12
42	Grapheneâ€Nanorod Enhanced Quasiâ€Van Der Waals Epitaxy for High Indium Composition Nitride Films. Small, 2021, 17, e2100098.	10.0	12
43	Cross-stacked carbon nanotubes assisted self-separation of free-standing GaN substrates by hydride vapor phase epitaxy. Scientific Reports, 2016, 6, 28620.	3.3	11
44	Influence of lateral growth on the optical properties of GaN nanowires grown by hydride vapor phase epitaxy. Journal of Applied Physics, 2017, 122, 205302.	2.5	11
45	Super-aligned carbon nanotubes patterned sapphire substrate to improve quantum efficiency of InGaN/GaN light-emitting diodes. Optics Express, 2015, 23, A957.	3.4	10
46	Phosphor-free InGaN micro-pyramid white light emitting diodes with multilayer graphene electrode. RSC Advances, 2015, 5, 100646-100650.	3.6	10
47	Toward Direct Growth of Ultraâ€Flat Graphene. Advanced Functional Materials, 2022, 32, .	14.9	10
48	Atomic Mechanism of Strain Alleviation and Dislocation Reduction in Highly Mismatched Remote Heteroepitaxy Using a Graphene Interlayer. Nano Letters, 2022, 22, 3364-3371.	9.1	10
49	Interplay between various active regions and the interband transition for AlGaN-based deep-ultraviolet light-emitting diodes to enable a reduced TM-polarized emission. Journal of Applied Physics, 2019, 126, 245702.	2.5	9
50	Graphene-induced crystal-healing of AlN film by thermal annealing for deep ultraviolet light-emitting diodes. Applied Physics Letters, 2020, 117, .	3.3	9
51	Rectification behavior of polarization effect induced type-II n-GaN/n-type Î²-Ga2O3 isotype heterojunction grown by metal organic vapor phase epitaxy. Journal of Applied Physics, 2020, 127, .	2.5	9
52	Experimental Optical Properties of Single-Photon Emitters in Aluminum Nitride Films. Journal of Physical Chemistry C, 2021, 125, 11043-11047.	3.1	9
53	Nanospherical-lens lithographical Ag nanodisk arrays embedded in <i>p</i>-GaN for localized surface plasmon-enhanced blue light emitting diodes. AIP Advances, 2014, 4, .	1.3	8
54	Implementation of slow and smooth etching of GaN by inductively coupled plasma. Journal of Semiconductors, 2018, 39, 113002.	3.7	8

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55	Localized exciton emission in CsPbBr₃nanocrystals synthesized with excess bromide ions. Journal of Materials Chemistry C, 2019, 7, 10783-10788.	5.5	8
56	Phosphor-Free Three-Dimensional Hybrid White LED With High Color-Rendering Index. IEEE Photonics Journal, 2019, 11, 1-8.	2.0	7
57	Enhancement in the Light Output Power of GaN-Based Light-Emitting Diodes with Nanotextured Indium Tin Oxide Layer Using Self-Assembled Cesium Chloride Nanospheres. Japanese Journal of Applied Physics, 2012, 51, 020204.	1.5	7
58	Catalytic Activation of Mg-Doped GaN by Hydrogen Desorption Using Different Metal Thin Layers. Japanese Journal of Applied Physics, 2010, 49, 100201.	1.5	6
59	Efficiency improvement of InGaN light emitting diodes with embedded self-assembled SiO2 nanosphere arrays. Journal of Crystal Growth, 2014, 394, 7-10.	1.5	6
60	GaN-based parallel micro-light-emitting diode arrays with dual-wavelength In_xGa_{1-x}N/GaN MQWs for visible light communication. Optics Express, 2022, 30, 18461.	3.4	6
61	Enhanced light extraction of InGaN LEDs with photonic crystals grown on p-GaN using selective-area epitaxy and nanospherical-lens photolithography. Journal of Semiconductors, 2013, 34, 104005.	3.7	5
62	GaN-Based LEDs Grown on Graphene-Covered SiO2/Si (100) Substrate. Crystals, 2020, 10, 787.	2.2	5
63	Freestanding GaN substrate enabled by dual-stack multilayer graphene via hydride vapor phase epitaxy. Applied Surface Science, 2020, 526, 146747.	6.1	5
64	Transfer-free graphene-guided high-quality epitaxy of AlN film for deep ultraviolet light-emitting diodes. Journal of Applied Physics, 2021, 130, .	2.5	5
65	Enhanced Light Emission of Light-Emitting Diodes with Silicon Oxide Nanobowls Photonic Crystal without Electrical Performance Damages. Japanese Journal of Applied Physics, 2013, 52, 040207.	1.5	4
66	(100)-Oriented gallium oxide substrate for metal organic vapor phase epitaxy for ultraviolet emission. CrystEngComm, 2020, 22, 3122-3129.	2.6	4
67	Role of energy-band offset in photo-electrochemical etching mechanism of p-GaN heterostructures. Journal of Applied Physics, 2021, 129, 165701.	2.5	4
68	Semipolar (11â€“22) AlN Grown on m-Plane Sapphire by Flow-Rate Modulation Epitaxy for Vacuum-Ultraviolet Photodetection. Crystal Growth and Design, 2022, 22, 1731-1737.	3.0	4
69	Hydride vapor phase epitaxy of high quality {101Ì„3Ì„} semipolar GaN on m-plane sapphire coated with self-assembled SiO2 nanospheres. Journal of Crystal Growth, 2014, 387, 101-105.	1.5	3
70	Investigation of pattern-orientation on stress in GaN grown on Si(111) substrate in lateral confinement epitaxy. Superlattices and Microstructures, 2018, 122, 336-342.	3.1	3
71	Multicolored-light emission from InGaN/GaN multiple quantum wells grown by selective-area epitaxy on patterned Si(100) substrates. Journal of Materials Science, 2018, 53, 16439-16446.	3.7	3
72	High quality GaN epitaxial growth on Î²-Ga2O3 substrate enabled by self-assembled SiO2 nanospheres. Journal of Crystal Growth, 2019, 525, 125211.	1.5	3

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73	UV Lightâ€Emitting Diodes: Enhancement of Heat Dissipation in Ultraviolet Lightâ€Emitting Diodes by a Vertically Oriented Graphene Nanowall Buffer Layer (Adv. Mater. 29/2019). Advanced Materials, 2019, 31, 1970211.	21.0	2
74	The Optical Properties of InGaN/GaN Nanorods Fabricated on (-201) Î²-Ga2O3 Substrate for Vertical Light Emitting Diodes. Photonics, 2021, 8, 42.	2.0	2
75	The Optical Properties of Dual-Wavelength InxGa1âˆ'xN/GaN Nanorods for Wide-Spectrum Light-Emitting Diodes. Journal of Electronic Packaging, Transactions of the ASME, 2020, 142, .	1.8	2
76	High-quality semipolar $(10ar{1}ar{3})$ GaN grown on carbon nanotube-patterned sapphire by hydride vapor phase epitaxy. Japanese Journal of Applied Physics, 2018, 57, 125505.	1.5	2
77	Graphene-Assisted Quasi-van der Waals Epitaxy of AlN Film on Nano-Patterned Sapphire Substrate for Ultraviolet Light Emitting Diodes. Journal of Visualized Experiments, 2020, , .	0.3	2
78	Improved barrier homogeneity in Pt/Al_{0.75}Ga_{0.25}N Schottky barrier diodes by graphene interlayer. Journal Physics D: Applied Physics, 2022, 55, 304001.	2.8	2
79	Three dimensional truncated-hexagonal-pyramid vertical InGaN-based white light emitting diodes based on Î²-Ga₂O₃. Optics Letters, 2022, 47, 3299.	3.3	2
80	Enhancement in the Light Output Power of GaN-Based Light-Emitting Diodes with Nanotextured Indium Tin Oxide Layer Using Self-Assembled Cesium Chloride Nanospheres. Japanese Journal of Applied Physics, 2012, 51, 020204.	1.5	1
81	Nanopatterned Graphene: Direct Growth of Nanopatterned Graphene on Sapphire and Its Application in Light Emitting Diodes (Adv. Funct. Mater. 31/2020). Advanced Functional Materials, 2020, 30, 2070209.	14.9	1
82	Ridge-channel AlGaN/GaN normally-off high-electron mobility transistor based on epitaxial lateral overgrowth. Semiconductor Science and Technology, 2021, 36, 075003.	2.0	0