Xuelin Yang

List of Publications by Year
in descending order

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103 papers	1,599 citations	304743 22 h-index	377865 34 g-index
103 all docs	103 docs citations	103 times ranked	1805 citing authors

#	Article	IF	Citations
1	Highâ€Outputâ€Power Ultraviolet Light Source from Quasiâ€2D GaN Quantum Structure. Advanced Materials, 2016, 28, 7978-7983.	21.0	72
2	O3-sourced atomic layer deposition of high quality Al2O3 gate dielectric for normally-off GaN metal-insulator-semiconductor high-electron-mobility transistors. Applied Physics Letters, 2015, 106, .	3.3	58
3	High mobility AlGaN/GaN heterostructures grown on Si substrates using a large lattice-mismatch induced stress control technology. Applied Physics Letters, 2015, 106, .	3.3	55
4	A review on the GaN-on-Si power electronic devices. Fundamental Research, 2022, 2, 462-475.	3.3	54
5	Epitaxial growth of AlN films on sapphire via a multilayer structure adopting a low- and high-temperature alternation technique. CrystEngComm, 2015, 17, 7496-7499.	2.6	53
6	Growth of high quality and uniformity AlGaN/GaN heterostructures on Si substrates using a single AlGaN layer with low Al composition. Scientific Reports, 2016, 6, 23020.	3.3	52
7	Identification of Helicity-Dependent Photocurrents from Topological Surface States in Bi2Se3 Gated by Ionic Liquid. Scientific Reports, 2014, 4, 4889.	3.3	51
8	Epitaxy of Singleâ€Crystalline GaN Film on CMOSâ€Compatible Si(100) Substrate Buffered by Graphene. Advanced Functional Materials, 2019, 29, 1905056.	14.9	51
9	High-temperature annealing induced evolution of strain in AlN epitaxial films grown on sapphire substrates. Applied Physics Letters, 2019, 114, .	3.3	51
10	Quasi-Vertical GaN Schottky Barrier Diode on Silicon Substrate With 10¹⁰ High On/Off Current Ratio and Low Specific On-Resistance. IEEE Electron Device Letters, 2020, 41, 329-332.	3.9	51
11	Unambiguous Identification of Carbon Location on the N Site in Semi-insulating GaN. Physical Review Letters, 2018, 121, 145505.	7.8	45
12	Deep-level traps induced dark currents in extended wavelength InxGa1â^'xAs/InP photodetector. Journal of Applied Physics, 2013, 114, .	2.5	43
13	Deep Ultraviolet Light Source from Ultrathin GaN/AlN MQW Structures with Output Power Over 2 Watt. Advanced Optical Materials, 2019, 7, 1801763.	7.3	43
14	Study on the formation of dodecagonal pyramid on nitrogen polar GaN surface etched by hot H3PO4. Applied Physics Letters, 2009, 95, 071114.	3.3	41
15	Grapheneâ€Assisted Epitaxy of Nitrogen Lattice Polarity GaN Films on Nonâ€Polar Sapphire Substrates for Green Light Emitting Diodes. Advanced Functional Materials, 2020, 30, 2001283.	14.9	41
16	Lattice-Polarity-Driven Epitaxy of Hexagonal Semiconductor Nanowires. Nano Letters, 2016, 16, 1328-1334.	9.1	35
17	Structural, optical, and magnetic properties of Cu-implanted GaN films. Journal of Applied Physics, 2009, 105, .	2.5	31
18	High performance of AlGaN deep-ultraviolet light emitting diodes due to improved vertical carrier transport by delta-accelerating quantum barriers. Applied Physics Letters, 2019, 114, .	3.3	30

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19	Revealing of the transition from n- to p-type conduction of InN:Mg by photoconductivity effect measurement. Scientific Reports, 2015, 4, 4371.	3.3	25
20	Positron annihilation in (Ga, Mn)N: A study of vacancy-type defects. Applied Physics Letters, 2009, 94, .	3.3	23
21	Al diffusion at AlN/Si interface and its suppression through substrate nitridation. Applied Physics Letters, 2020, 116, .	3.3	23
22	2.6 Î¼m MBE grown InGaAs detectors with dark current of SRH and TAT. AIP Advances, 2014, 4, .	1.3	22
23	High-electron-mobility InN epilayers grown on silicon substrate. Applied Physics Letters, 2018, 112, .	3.3	22
24	Sub-nanometer ultrathin epitaxy of AlGaN and its application in efficient doping. Light: Science and Applications, 2022, 11, 71.	16.6	22
25	Experimental Evidence of Large Bandgap Energy in Atomically Thin AlN. Advanced Functional Materials, 2019, 29, 1902608.	14.9	21
26	Interface charge engineering in down-scaled AlGaN (<6â€‰nm)/GaN heterostructure for fabrication of GaN-based power HEMTs and MIS-HEMTs. Applied Physics Letters, 2020, 116, .	3.3	20
27	Vacancy-engineering-induced dislocation inclination in III-nitrides on Si substrates. Physical Review Materials, 2020, 4, .	2.4	20
28	Effect of interface and bulk traps on theCâ€“Vcharacterization of a LPCVD-SiN_x/AlGaN/GaN metal-insulator-semiconductor structure. Semiconductor Science and Technology, 2016, 31, 065014.	2.0	19
29	Lattice Polarity Manipulation of Quasiâ€vdW Epitaxial GaN Films on Graphene Through Interface Atomic Configuration. Advanced Materials, 2022, 34, e2106814.	21.0	19
30	Highâ€Mobility Twoâ€Dimensional Electron Gas at InGaN/InN Heterointerface Grown by Molecular Beam Epitaxy. Advanced Science, 2018, 5, 1800844.	11.2	18
31	Temperature sensitive photoconductivity observed in InN layers. Applied Physics Letters, 2013, 102, .	3.3	17
32	Electronic properties of polycrystalline graphene under large local strain. Applied Physics Letters, 2014, 104, .	3.3	17
33	Positive temperature coefficient of photovoltaic efficiency in solar cells based on InGaN/GaN MQWs. Applied Physics Letters, 2016, 109, .	3.3	17
34	Latticeâ€Symmetryâ€Driven Epitaxy of Hierarchical GaN Nanotripods. Advanced Functional Materials, 2017, 27, 1604854.	14.9	17
35	Greatly enhanced performance of AlGaN-based deep ultraviolet light emitting diodes by introducing a polarization modulated electron blocking layer. Optics Express, 2019, 27, A1458.	3.4	17
36	Controlled bunching approach for achieving high efficiency active region in AlGaN-based deep ultraviolet light-emitting devices with dual-band emission. Applied Physics Letters, 2020, 116, .	3.3	16

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37	Thermally annealed wafer-scale h-BN films grown on sapphire substrate by molecular beam epitaxy. Applied Physics Letters, 2020, 116, .	3.3	16
38	Exciton emission of quasi-2D InGaN in GaN matrix grown by molecular beam epitaxy. Scientific Reports, 2017, 7, 46420.	3.3	14
39	Realization of high efficiency AlGaN-based multiple quantum wells grown on nano-patterned sapphire substrates. CrystEngComm, 2021, 23, 1201-1206.	2.6	14
40	Stress evolution in AlN growth on nano-patterned sapphire substrates. Applied Physics Express, 2020, 13, 015504.	2.4	13
41	High quality AlN film grown on a nano-concave-circle patterned Si substrate with an AlN seed layer. Applied Physics Letters, 2020, 117, .	3.3	13
42	Luminescent properties in the strain adjusted phosphor-free GaN based white light-emitting diode. Applied Physics Letters, 2008, 93, .	3.3	12
43	Period size effect induced crystalline quality improvement of AlN on a nano-patterned sapphire substrate. Japanese Journal of Applied Physics, 2019, 58, 100912.	1.5	12
44	Direct evidence of hydrogen interaction with carbon: Câ€“H complex in semi-insulating GaN. Applied Physics Letters, 2020, 116, .	3.3	12
45	High quality GaN-on-SiC with low thermal boundary resistance by employing an ultrathin AlGaN buffer layer. Applied Physics Letters, 2021, 118, .	3.3	12
46	Enhanced transport properties in InAlGaN/AlN/GaN heterostructures on Si (111) substrates: The role of interface quality. Applied Physics Letters, 2017, 110, .	3.3	11
47	Three Subband Occupation of the Twoâ€Dimensional Electron Gas in Ultrathin Barrier AlN/GaN Heterostructures. Advanced Functional Materials, 2020, 30, 2004450.	14.9	11
48	Strain-enhanced high Q-factor GaN micro-electromechanical resonator. Science and Technology of Advanced Materials, 2020, 21, 515-523.	6.1	11
49	Control of dislocations in heteroepitaxial AlN films by extrinsic supersaturated vacancies introduced through thermal desorption of heteroatoms. Applied Physics Letters, 2021, 118, .	3.3	11
50	Formation of p-n-p junction with ionic liquid gate in graphene. Applied Physics Letters, 2014, 104, .	3.3	10
51	AlGaN/GaN pressure sensor with a Wheatstone bridge structure. AIP Advances, 2018, 8, .	1.3	10
52	Improved Ohmic contacts to plasma etched high Al fraction n-AlGaN by active surface pretreatment. Applied Physics Letters, 2021, 118, .	3.3	10
53	Temperature-dependent polarization characteristics in Al0.25Ga0.75N/AlN/GaN heterostructure. Applied Physics Letters, 2016, 108, .	3.3	9
54	Vertical leakage induced current degradation and relevant traps with large lattice relaxation in AlGaN/GaN heterostructures on Si. Applied Physics Letters, 2018, 112, 032104.	3.3	8

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55	The sapphire substrate pretreatment effects on high-temperature annealed AlN templates in deep ultraviolet light emitting diodes. CrystEngComm, 2019, 21, 4632-4636.	2.6	8
56	Influence of intrinsic or extrinsic doping on lattice locations of carbon in semi-insulating GaN. Applied Physics Express, 2019, 12, 061002.	2.4	8
57	Correlation between electrical properties and growth dynamics for Si-doped Al-rich AlGaN grown by metal-organic chemical vapor deposition. Superlattices and Microstructures, 2022, 163, 107141.	3.1	8
58	Edge Dislocations Triggered Surface Instability in Tensile Epitaxial Hexagonal Nitride Semiconductor. ACS Applied Materials & Interfaces, 2016, 8, 34108-34114.	8.0	7
59	Floating GaN whispering gallery mode micro-ring lasing with Burstein–Moss effect. AIP Advances, 2020, 10, .	1.3	7
60	Investigation of carrier compensation traps in nâ^'-GaN drift layer by high-temperature deep-level transient spectroscopy. Applied Physics Letters, 2020, 117, .	3.3	7
61	Full-composition-graded InxGa1â^'xN films grown by molecular beam epitaxy. Applied Physics Letters, 2020, 117, 182101.	3.3	7
62	Hot electron induced non-saturation current behavior at high electric field in InAlN/GaN heterostructures with ultrathin barrier. Scientific Reports, 2016, 6, 37415.	3.3	6
63	Migration of carbon from Ga sites to N sites in GaN: a combined PAS and hybrid DFT study. Japanese Journal of Applied Physics, 2019, 58, 090901.	1.5	6
64	Polarization-induced hole doping for long-wavelength In-rich InGaN solar cells. Applied Physics Letters, 2021, 119, .	3.3	6
65	Step-graded AlGaN vs superlattice: Role of strain relief layer in dynamic on-resistance degradation. Applied Physics Express, 0, , .	2.4	6
66	Polarizationâ€Drivenâ€Orientation Selective Growth of Singleâ€Crystalline IIIâ€Nitride Semiconductors on Arbitrary Substrates. Advanced Functional Materials, 2022, 32, .	14.9	6
67	Regulation of surface kinetics: rapid growth of n-AlGaN with high conductivity for deep-ultraviolet light emitters. CrystEngComm, 2022, 24, 4251-4255.	2.6	6
68	Hysteresis phenomena of the two dimensional electron gas density in lattice-matched InAlN/GaN heterostructures. Applied Physics Letters, 2015, 107, 052102.	3.3	5
69	Spatial identification of traps in AlGaN/GaN heterostructures by the combination of lateral and vertical electrical stress measurements. Applied Physics Letters, 2016, 108, 042107.	3.3	5
70	Planar anisotropic Shubnikov-de-Haas oscillations of two-dimensional electron gas in AlN/GaN heterostructure. Applied Physics Letters, 2019, 115, 152107.	3.3	5
71	Low-temperature epitaxy of transferable high-quality Pd(111) films on hybrid graphene/Cu(111) substrate. Nano Research, 2019, 12, 2712-2717.	10.4	5
72	Epitaxial growth mechanisms of single-crystalline GaN on single-crystalline graphene. CrystEngComm, 2021, 23, 5451-5455.	2.6	5

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73	High-mobility nâ^'-GaN drift layer grown on Si substrates. Applied Physics Letters, 2021, 118, .	3.3	5
74	Anisotropic strain relaxation and high quality AlGaN/GaN heterostructures on Si (110) substrates. Applied Physics Letters, 2017, 110, .	3.3	5
75	Direct observation of room-temperature ferromagnetism of single-phase Ga0.962Mn0.038N by magnetic force microscopy. Journal of Applied Physics, 2010, 108, 093913.	2.5	4
76	Effects of light illumination on electron velocity of AlGaN/GaN heterostructures under high electric field. Applied Physics Letters, 2014, 105, 242104.	3.3	4
77	Hot electron assisted vertical leakage/breakdown in AlGaN/GaN heterostructures on Si substrates. Superlattices and Microstructures, 2017, 107, 240-245.	3.1	4
78	Role of hole trapping in the unintentionally doped GaN layer in suppressing the two-dimensional electron gas degradation in AlGaN/GaN heterostructures on Si. Nanotechnology, 2019, 30, 314002.	2.6	4
79	Carrier Velocity Modulation by Asymmetrical Concave Quantum Barriers to Improve the Performance of AlGaN-Based Deep Ultraviolet Light Emitting Diodes. IEEE Photonics Journal, 2021, 13, 1-8.	2.0	4
80	High quality AlN with uniform in-plane strain on nano-patterned AlN templates achieved by preset strain modulation. Japanese Journal of Applied Physics, 2021, 60, 120903.	1.5	4
81	GaN HEMTs on low resistivity Si substrates with thick buffer layers for RF signal amplification and power conversion. AIP Advances, 2022, 12, .	1.3	4
82	Evolution of traps in TiN/O3-sourced Al2O3/GaN gate structures with thermal annealing temperature. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2018, 36, 022202.	1.2	3
83	Impact of Silicon Substrate with Low Resistivity on Vertical Leakage Current in AlGaN/GaN HEMTs. Applied Sciences (Switzerland), 2019, 9, 2373.	2.5	3
84	Highâ€pressure MOCVD growth of InGaN thick films toward the photovoltaic applications. Fundamental Research, 2023, 3, 403-408.	3.3	3
85	Low RF loss and low dislocation density of GaN grown on high-resistivity Si substrates. Applied Physics Express, 2022, 15, 031003.	2.4	3
86	High-Performance Quasi-Vertical GaN Schottky Barrier Diode on Silicon Substrate with a Low Dislocation Density Drift Layer. , 2019, , .		2
87	Infrared stimulated emission with an ultralow threshold from low-dislocation-density InN films grown on a vicinal GaN substrate. Fundamental Research, 2022, 2, 794-798.	3.3	2
88	Influence of intrinsic or extrinsic doping on charge state of carbon and its interaction with hydrogen in GaN. Applied Physics Letters, 2022, 120, .	3.3	2
89	Low-Resistive Ohmic Contacts in High-Electron-Mobility AlN/GaN Heterostructures by Suppressing the Oxygen Incorporation. ACS Applied Electronic Materials, 2022, 4, 3632-3639.	4.3	2
90	Mechanism of ultrahigh Mn concentration in epitaxially grown wurtzite Ga1â^'xMnxN. Applied Physics Letters, 2010, 97, 222108.	3.3	1

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91	Influence of Si co-doping on magnetic, electrical and optical properties of Ga1â€“x Mn x N film grown by MOCVD. Science China Technological Sciences, 2011, 54, 1703-1707.	4.0	1
92	Fluorine plasma treatment induced deep level traps and their effect on current transportation in Al0.83In0.17N/AlN/GaN Schottky barrier diodes. Journal Physics D: Applied Physics, 2016, 49, 305103.	2.8	1
93	Enhanced Hydrogen Detection Based on Mg-Doped InN Epilayer. Sensors, 2018, 18, 2065.	3.8	1
94	GaNâ€onâ€Si(100): Epitaxy of Singleâ€Crystalline GaN Film on CMOSâ€Compatible Si(100) Substrate Buffered by Graphene (Adv. Funct. Mater. 42/2019). Advanced Functional Materials, 2019, 29, 1970293.	14.9	1
95	The effect of kink and vertical leakage mechanisms in GaN-on-Si epitaxial layers. Semiconductor Science and Technology, 2020, 35, 085015.	2.0	1
96	Elastic strain engineered nanomechanical GaN resonators with thermoelastic dissipation dilution up to 600â€‰K. Journal of Applied Physics, 2022, 131, .	2.5	1
97	Accurate characterization of room-temperature long range magnetic order in GaN: Mn by magnetic force microscope. Science China Technological Sciences, 2011, 54, 15-18.	4.0	0
98	Magnetotransport properties of high equivalent Al composition AlGaN/GaN heterostructures using AlN/GaN superlattice as a barrier. Journal of Applied Physics, 2013, 114, .	2.5	0
99	Influence of barrier thickness on luminescence lifetime of the two-dimensional electron gas in InAlN/GaN heterostructures. Superlattices and Microstructures, 2017, 106, 170-173.	3.1	0
100	Direct-readout pressure sensor based on AlGaN/GaN heterostructure. Microsystem Technologies, 2020, 26, 3189-3192.	2.0	0
101	Lattice Polarity Manipulation of Quasiâ€vdW Epitaxial GaN Films on Graphene Through Interface Atomic Configuration (Adv. Mater. 5/2022). Advanced Materials, 2022, 34, .	21.0	0
102	Polarizationâ€Drivenâ€Orientation Selective Growth of Singleâ€Crystalline IIIâ€Nitride Semiconductors on Arbitrary Substrates (Adv. Funct. Mater. 14/2022). Advanced Functional Materials, 2022, 32, .	14.9	0
103	Low radio frequency loss and buffer-free GaN directly on physical-vapor-deposition AlN/Si templates. Applied Physics Express, 2022, 15, 081001.	2.4	0