

Xuelin Yang

List of Publications by Year in descending order

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103
papers

1,599
citations

304743

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377865

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103
all docs

103
docs citations

103
times ranked

1805
citing authors

#	ARTICLE	IF	CITATIONS
1	High-pressure MOCVD growth of InGaN thick films toward the photovoltaic applications. <i>Fundamental Research</i> , 2023, 3, 403-408.	3.3	3
2	Lattice Polarity Manipulation of Quasi-2D Epitaxial GaN Films on Graphene Through Interface Atomic Configuration. <i>Advanced Materials</i> , 2022, 34, e2106814.	21.0	19
3	Correlation between electrical properties and growth dynamics for Si-doped Al-rich AlGaIn grown by metal-organic chemical vapor deposition. <i>Superlattices and Microstructures</i> , 2022, 163, 107141.	3.1	8
4	Lattice Polarity Manipulation of Quasi-2D Epitaxial GaN Films on Graphene Through Interface Atomic Configuration (<i>Adv. Mater.</i> 5/2022). <i>Advanced Materials</i> , 2022, 34, .	21.0	0
5	Elastic strain engineered nanomechanical GaN resonators with thermoelastic dissipation dilution up to 600%K. <i>Journal of Applied Physics</i> , 2022, 131, .	2.5	1
6	Polarization-Driven Orientation Selective Growth of Single-Crystalline III-Nitride Semiconductors on Arbitrary Substrates. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	6
7	Low RF loss and low dislocation density of GaN grown on high-resistivity Si substrates. <i>Applied Physics Express</i> , 2022, 15, 031003.	2.4	3
8	Sub-nanometer ultrathin epitaxy of AlGaIn and its application in efficient doping. <i>Light: Science and Applications</i> , 2022, 11, 71.	16.6	22
9	Polarization-Driven Orientation Selective Growth of Single-Crystalline III-Nitride Semiconductors on Arbitrary Substrates (<i>Adv. Funct. Mater.</i> 14/2022). <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	0
10	Infrared stimulated emission with an ultralow threshold from low-dislocation-density InN films grown on a vicinal GaN substrate. <i>Fundamental Research</i> , 2022, 2, 794-798.	3.3	2
11	A review on the GaN-on-Si power electronic devices. <i>Fundamental Research</i> , 2022, 2, 462-475.	3.3	54
12	Regulation of surface kinetics: rapid growth of n-AlGaIn with high conductivity for deep-ultraviolet light emitters. <i>CrystEngComm</i> , 2022, 24, 4251-4255.	2.6	6
13	GaN HEMTs on low resistivity Si substrates with thick buffer layers for RF signal amplification and power conversion. <i>AIP Advances</i> , 2022, 12, .	1.3	4
14	Influence of intrinsic or extrinsic doping on charge state of carbon and its interaction with hydrogen in GaN. <i>Applied Physics Letters</i> , 2022, 120, .	3.3	2
15	Low radio frequency loss and buffer-free GaN directly on physical-vapor-deposition AlN/Si templates. <i>Applied Physics Express</i> , 2022, 15, 081001.	2.4	0
16	Low-Resistive Ohmic Contacts in High-Electron-Mobility AlN/GaN Heterostructures by Suppressing the Oxygen Incorporation. <i>ACS Applied Electronic Materials</i> , 2022, 4, 3632-3639.	4.3	2
17	Realization of high efficiency AlGaIn-based multiple quantum wells grown on nano-patterned sapphire substrates. <i>CrystEngComm</i> , 2021, 23, 1201-1206.	2.6	14
18	Epitaxial growth mechanisms of single-crystalline GaN on single-crystalline graphene. <i>CrystEngComm</i> , 2021, 23, 5451-5455.	2.6	5

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19	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
20	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
21	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
22	High-mobility n ⁺ -GaN drift layer grown on Si substrates. Applied Physics Letters, 2021, 118, .	3.3	5
23	Improved Ohmic contacts to plasma etched high Al fraction n-AlGaN by active surface pretreatment. Applied Physics Letters, 2021, 118, .	3.3	10
24	Polarization-induced hole doping for long-wavelength In-rich InGaN solar cells. Applied Physics Letters, 2021, 119, .	3.3	6
25	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
26	Direct-readout pressure sensor based on AlGaN/GaN heterostructure. Microsystem Technologies, 2020, 26, 3189-3192.	2.0	0
27	Stress evolution in AlN growth on nano-patterned sapphire substrates. Applied Physics Express, 2020, 13, 015504.	2.4	13
28	Floating GaN whispering gallery mode micro-ring lasing with Burstein-Moss effect. AIP Advances, 2020, 10, .	1.3	7
29	Three Subband Occupation of the Two-Dimensional Electron Gas in Ultrathin Barrier AlN/GaN Heterostructures. Advanced Functional Materials, 2020, 30, 2004450.	14.9	11
30	Direct evidence of hydrogen interaction with carbon: C-H complex in semi-insulating GaN. Applied Physics Letters, 2020, 116, .	3.3	12
31	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
32	Investigation of carrier compensation traps in n ⁺ -GaN drift layer by high-temperature deep-level transient spectroscopy. Applied Physics Letters, 2020, 117, .	3.3	7
33	The effect of kink and vertical leakage mechanisms in GaN-on-Si epitaxial layers. Semiconductor Science and Technology, 2020, 35, 085015.	2.0	1
34	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
35	Al diffusion at AlN/Si interface and its suppression through substrate nitridation. Applied Physics Letters, 2020, 116, .	3.3	23
36	Graphene-Assisted Epitaxy of Nitrogen Lattice Polarity GaN Films on Non-Polar Sapphire Substrates for Green Light Emitting Diodes. Advanced Functional Materials, 2020, 30, 2001283.	14.9	41

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37	Interface charge engineering in down-scaled AlGaIn (<math>6\text{\AA}</math>)/GaIn heterostructure for fabrication of GaIn-based power HEMTs and MIS-HEMTs. Applied Physics Letters, 2020, 116, .	3.3	20
38	Strain-enhanced high Q-factor GaIn micro-electromechanical resonator. Science and Technology of Advanced Materials, 2020, 21, 515-523.	6.1	11
39	Quasi-Vertical GaIn Schottky Barrier Diode on Silicon Substrate With 10^{10} High On/Off Current Ratio and Low Specific On-Resistance. IEEE Electron Device Letters, 2020, 41, 329-332.	3.9	51
40	Thermally annealed wafer-scale h-BN films grown on sapphire substrate by molecular beam epitaxy. Applied Physics Letters, 2020, 116, .	3.3	16
41	Full-composition-graded In _x Ga _{1-x} N films grown by molecular beam epitaxy. Applied Physics Letters, 2020, 117, 182101.	3.3	7
42	Vacancy-engineering-induced dislocation inclination in III-nitrides on Si substrates. Physical Review Materials, 2020, 4, .	2.4	20
43	High-Performance Quasi-Vertical GaIn Schottky Barrier Diode on Silicon Substrate with a Low Dislocation Density Drift Layer. , 2019, , .		2
44	Migration of carbon from Ga sites to N sites in GaIn: a combined PAS and hybrid DFT study. Japanese Journal of Applied Physics, 2019, 58, 090901.	1.5	6
45	Epitaxy of Single-Crystalline GaIn Film on CMOS-Compatible Si(100) Substrate Buffered by Graphene. Advanced Functional Materials, 2019, 29, 1905056.	14.9	51
46	Impact of Silicon Substrate with Low Resistivity on Vertical Leakage Current in AlGaIn/GaIn HEMTs. Applied Sciences (Switzerland), 2019, 9, 2373.	2.5	3
47	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
48	Experimental Evidence of Large Bandgap Energy in Atomically Thin AlN. Advanced Functional Materials, 2019, 29, 1902608.	14.9	21
49	GaIn-on-Si(100): Epitaxy of Single-Crystalline GaIn Film on CMOS-Compatible Si(100) Substrate Buffered by Graphene (Adv. Funct. Mater. 42/2019). Advanced Functional Materials, 2019, 29, 1970293.	14.9	1
50	Planar anisotropic Shubnikov-de-Haas oscillations of two-dimensional electron gas in AlN/GaIn heterostructure. Applied Physics Letters, 2019, 115, 152107.	3.3	5
51	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
52	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
53	Role of hole trapping in the unintentionally doped GaIn layer in suppressing the two-dimensional electron gas degradation in AlGaIn/GaIn heterostructures on Si. Nanotechnology, 2019, 30, 314002.	2.6	4
54	High performance of AlGaIn 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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55	Influence of intrinsic or extrinsic doping on lattice locations of carbon in semi-insulating GaN. Applied Physics Express, 2019, 12, 061002.	2.4	8
56	High-temperature annealing induced evolution of strain in AlN epitaxial films grown on sapphire substrates. Applied Physics Letters, 2019, 114, .	3.3	51
57	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
58	Greatly enhanced performance of AlGaIn-based deep ultraviolet light emitting diodes by introducing a polarization modulated electron blocking layer. Optics Express, 2019, 27, A1458.	3.4	17
59	Evolution of traps in TiN/O ₃ -sourced Al ₂ O ₃ /GaN gate structures with thermal annealing temperature. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2018, 36, 022202.	1.2	3
60	Vertical leakage induced current degradation and relevant traps with large lattice relaxation in AlGaIn/GaN heterostructures on Si. Applied Physics Letters, 2018, 112, 032104.	3.3	8
61	High-electron-mobility InN epilayers grown on silicon substrate. Applied Physics Letters, 2018, 112, .	3.3	22
62	Unambiguous Identification of Carbon Location on the N Site in Semi-insulating GaN. Physical Review Letters, 2018, 121, 145505.	7.8	45
63	AlGaIn/GaN pressure sensor with a Wheatstone bridge structure. AIP Advances, 2018, 8, .	1.3	10
64	High-mobility Two-dimensional Electron Gas at InGaIn/InN Heterointerface Grown by Molecular Beam Epitaxy. Advanced Science, 2018, 5, 1800844.	11.2	18
65	Enhanced Hydrogen Detection Based on Mg-Doped InN Epilayer. Sensors, 2018, 18, 2065.	3.8	1
66	Lattice-Symmetry-Driven Epitaxy of Hierarchical GaN Nanotriplets. Advanced Functional Materials, 2017, 27, 1604854.	14.9	17
67	Influence of barrier thickness on luminescence lifetime of the two-dimensional electron gas in InAlIn/GaN heterostructures. Superlattices and Microstructures, 2017, 106, 170-173.	3.1	0
68	Exciton emission of quasi-2D InGaIn in GaN matrix grown by molecular beam epitaxy. Scientific Reports, 2017, 7, 46420.	3.3	14
69	Enhanced transport properties in InAlGaIn/AlIn/GaN heterostructures on Si (111) substrates: The role of interface quality. Applied Physics Letters, 2017, 110, .	3.3	11
70	Hot electron assisted vertical leakage/breakdown in AlGaIn/GaN heterostructures on Si substrates. Superlattices and Microstructures, 2017, 107, 240-245.	3.1	4
71	Anisotropic strain relaxation and high quality AlGaIn/GaN heterostructures on Si (110) substrates. Applied Physics Letters, 2017, 110, .	3.3	5
72	Hot electron induced non-saturation current behavior at high electric field in InAlIn/GaN heterostructures with ultrathin barrier. Scientific Reports, 2016, 6, 37415.	3.3	6

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73	Edge Dislocations Triggered Surface Instability in Tensile Epitaxial Hexagonal Nitride Semiconductor. ACS Applied Materials & Interfaces, 2016, 8, 34108-34114.	8.0	7
74	Spatial identification of traps in AlGaIn/GaN heterostructures by the combination of lateral and vertical electrical stress measurements. Applied Physics Letters, 2016, 108, 042107.	3.3	5
75	Temperature-dependent polarization characteristics in Al _{0.25} Ga _{0.75} N/AlN/GaN heterostructure. Applied Physics Letters, 2016, 108, .	3.3	9
76	Fluorine plasma treatment induced deep level traps and their effect on current transportation in Al _{0.83} In _{0.17} N/AlN/GaN Schottky barrier diodes. Journal Physics D: Applied Physics, 2016, 49, 305103.	2.8	1
77	Positive temperature coefficient of photovoltaic efficiency in solar cells based on InGaIn/GaN MQWs. Applied Physics Letters, 2016, 109, .	3.3	17
78	High-Output-Power Ultraviolet Light Source from Quasi-2D GaN Quantum Structure. Advanced Materials, 2016, 28, 7978-7983.	21.0	72
79	Growth of high quality and uniformity AlGaIn/GaN heterostructures on Si substrates using a single AlGaIn layer with low Al composition. Scientific Reports, 2016, 6, 23020.	3.3	52
80	Effect of interface and bulk traps on the ΔV characterization of a LPCVD-SiN _x /AlGaIn/GaN metal-insulator-semiconductor structure. Semiconductor Science and Technology, 2016, 31, 065014.	2.0	19
81	Lattice-Polarity-Driven Epitaxy of Hexagonal Semiconductor Nanowires. Nano Letters, 2016, 16, 1328-1334.	9.1	35
82	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
83	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
84	High mobility AlGaIn/GaN heterostructures grown on Si substrates using a large lattice-mismatch induced stress control technology. Applied Physics Letters, 2015, 106, .	3.3	55
85	O ₃ -sourced atomic layer deposition of high quality Al ₂ O ₃ gate dielectric for normally-off GaN metal-insulator-semiconductor high-electron-mobility transistors. Applied Physics Letters, 2015, 106, .	3.3	58
86	Hysteresis phenomena of the two dimensional electron gas density in lattice-matched InAlN/GaN heterostructures. Applied Physics Letters, 2015, 107, 052102.	3.3	5
87	Effects of light illumination on electron velocity of AlGaIn/GaN heterostructures under high electric field. Applied Physics Letters, 2014, 105, 242104.	3.3	4
88	Formation of p-n-p junction with ionic liquid gate in graphene. Applied Physics Letters, 2014, 104, .	3.3	10
89	Electronic properties of polycrystalline graphene under large local strain. Applied Physics Letters, 2014, 104, .	3.3	17
90	2.6 μ m MBE grown InGaAs detectors with dark current of SRH and TAT. AIP Advances, 2014, 4, .	1.3	22

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91	Identification of Helicity-Dependent Photocurrents from Topological Surface States in Bi ₂ Se ₃ Gated by Ionic Liquid. Scientific Reports, 2014, 4, 4889.	3.3	51
92	Deep-level traps induced dark currents in extended wavelength In _x Ga _{1-x} As/InP photodetector. Journal of Applied Physics, 2013, 114, .	2.5	43
93	Magnetotransport properties of high equivalent Al composition AlGa _{1-x} N/GaN heterostructures using AlN/GaN superlattice as a barrier. Journal of Applied Physics, 2013, 114, .	2.5	0
94	Temperature sensitive photoconductivity observed in InN layers. Applied Physics Letters, 2013, 102, .	3.3	17
95	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
96	Influence of Si co-doping on magnetic, electrical and optical properties of Ga _{1-x} Mn _x N film grown by MOCVD. Science China Technological Sciences, 2011, 54, 1703-1707.	4.0	1
97	Mechanism of ultrahigh Mn concentration in epitaxially grown wurtzite Ga _{1-x} Mn _x N. Applied Physics Letters, 2010, 97, 222108.	3.3	1
98	Direct observation of room-temperature ferromagnetism of single-phase Ga _{0.962} Mn _{0.038} N by magnetic force microscopy. Journal of Applied Physics, 2010, 108, 093913.	2.5	4
99	Study on the formation of dodecagonal pyramid on nitrogen polar GaN surface etched by hot H ₃ PO ₄ . Applied Physics Letters, 2009, 95, 071114.	3.3	41
100	Structural, optical, and magnetic properties of Cu-implanted GaN films. Journal of Applied Physics, 2009, 105, .	2.5	31
101	Positron annihilation in (Ga, Mn)N: A study of vacancy-type defects. Applied Physics Letters, 2009, 94, .	3.3	23
102	Luminescent properties in the strain adjusted phosphor-free GaN based white light-emitting diode. Applied Physics Letters, 2008, 93, .	3.3	12
103	Step-graded AlGa _{1-x} N vs superlattice: Role of strain relief layer in dynamic on-resistance degradation. Applied Physics Express, 0, , .	2.4	6