

Asif Khan

List of Publications by Year in descending order

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68
papers

1,985
citations

430874

18
h-index

243625

44
g-index

70
all docs

70
docs citations

70
times ranked

2096
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultraviolet light-emitting diodes based on group three nitrides. <i>Nature Photonics</i> , 2008, 2, 77-84.	31.4	891
2	AlGaIn/InGaIn/GaN Double Heterostructure Field-Effect Transistor. <i>Japanese Journal of Applied Physics</i> , 2001, 40, L1142-L1144.	1.5	111
3	Low resistance Ti/Pt/Au ohmic contacts to p-type GaN. <i>Applied Physics Letters</i> , 2000, 76, 3451-3453.	3.3	79
4	High-Temperature Performance of AlGaIn/GaN MOSHEMT With SiO_2 Gate Insulator Fabricated on Si (111) Substrate. <i>IEEE Transactions on Electron Devices</i> , 2012, 59, 2424-2429.	3.0	72
5	Deep ultraviolet light-emitting diodes. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2006, 203, 1815-1818.	1.8	67
6	Experimental observation of high intrinsic thermal conductivity of AlN. <i>Physical Review Materials</i> , 2020, 4, .	2.4	60
7	High In-Plane Thermal Conductivity of Aluminum Nitride Thin Films. <i>ACS Nano</i> , 2021, 15, 9588-9599.	14.6	58
8	High Electron Mobility Transistors With $\text{Al}_{0.65}\text{Ga}_{0.35}\text{N}$ Channel Layers on Thick AlN/Sapphire Templates. <i>IEEE Electron Device Letters</i> , 2017, 38, 914-917.	3.9	50
9	276 nm Substrate-Free Flip-Chip AlGaIn Light-Emitting Diodes. <i>Applied Physics Express</i> , 2011, 4, 032102.	2.4	45
10	Doped Barrier $\text{Al}_{0.65}\text{Ga}_{0.35}\text{N}/\text{Al}_{0.40}\text{Ga}_{0.60}\text{N}$ MOSHFET With SiO_2 Gate-Insulator and Zr-Based Ohmic Contacts. <i>IEEE Electron Device Letters</i> , 2018, 39, 1568-1571.	3.9	33
11	A Hybrid Micro-Pixel Based Deep Ultraviolet Light-Emitting Diode Lamp. <i>Applied Physics Express</i> , 2011, 4, 012102.	2.4	31
12	Enhanced light extraction efficiency of micropixel geometry AlGaIn DUV light-emitting diodes. <i>Applied Physics Express</i> , 2021, 14, 084002.	2.4	25
13	$\text{Al}_{0.75}\text{Ga}_{0.25}\text{N}/\text{Al}_{0.6}\text{Ga}_{0.4}\text{N}$ heterojunction field effect transistor with f_T of 40 GHz. <i>Applied Physics Express</i> , 2019, 12, 066502.	2.4	24
14	Metal-Organic Hydride Vapor Phase Epitaxy of $\text{Al}_x\text{Ga}_{1-x}\text{N}$ Films over Sapphire. <i>Japanese Journal of Applied Physics</i> , 2007, 46, L752-L754.	1.5	23
15	Bulk-like Intrinsic Phonon Thermal Conductivity of Micrometer-Thick AlN Films. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 29443-29450.	8.0	22
16	High-speed solar-blind UV photodetectors using high-Al content $\text{Al}_{0.64}\text{Ga}_{0.36}\text{N}/\text{Al}_{0.34}\text{Ga}_{0.66}\text{N}$ multiple quantum wells. <i>Applied Physics Express</i> , 2017, 10, 011004.	2.4	20
17	High temperature operation of n-AlGaIn channel metal semiconductor field effect transistors on low-defect AlN templates. <i>Applied Physics Letters</i> , 2017, 110, 193501.	3.3	19
18	$\text{Al}_{0.65}\text{Ga}_{0.35}\text{N}/\text{Al}_{0.4}\text{Ga}_{0.6}\text{N}$ Micro-Channel Heterojunction Field Effect Transistors With Current Density Over 900 mA/mm. <i>IEEE Electron Device Letters</i> , 2020, 41, 677-680.	3.9	19

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19	Enhancement of light extraction efficiency in sub-300nm nitride thin-film flip-chip light-emitting diodes. <i>Solid-State Electronics</i> , 2013, 89, 156-160.	1.4	18
20	Ohmic Contact to High-Aluminum-Content AlGaIn Epilayers. <i>Journal of Electronic Materials</i> , 2009, 38, 2348-2352.	2.2	17
21	Structural Characterization of Highly Conducting AlGaIn ($x \geq 50\%$) for Deep-Ultraviolet Light-Emitting Diode. <i>Journal of Electronic Materials</i> , 2011, 40, 377-381.	2.2	17
22	Design of compositionally graded contact layers for MOCVD grown high Al-content AlGaIn transistors. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	17
23	All MOCVD grown Al _{0.7} Ga _{0.3} N/Al _{0.5} Ga _{0.5} N HFET: An approach to make ohmic contacts to Al-rich AlGaIn channel transistors. <i>Solid-State Electronics</i> , 2020, 164, 107696.	1.4	17
24	BaTiO ₃ /Al _{0.58} Ga _{0.42} N lateral heterojunction diodes with breakdown field exceeding 8 MV/cm. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	17
25	Selective area deposited Al _{0.5} Ga _{0.5} N channel field effect transistors with high solar-blind ultraviolet photo-responsivity. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	16
26	High detectivity visible-blind SiF ₄ grown epitaxial graphene/SiC Schottky contact bipolar phototransistor. <i>Applied Physics Letters</i> , 2017, 111, .	3.3	16
27	High voltage operation of field-plated AlInN HEMTs. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011, 8, 2454-2456.	0.8	15
28	Substrate Lifted-off AlGaIn/AlGaIn Lateral Conduction Thin-Film Light-Emitting Diodes Operating at 285 nm. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 08JG14.	1.5	13
29	Scatterings and Quantum Effects in $\text{Al}_x\text{Ga}_{1-x}\text{N}$ ($x \geq 0.4$) Channel Metal Oxide Semiconductor Heterostructure Field Effect Transistors with High-k Atomic Layer Deposited Gate Oxides. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020, 217, 1900802.	3.8	13
30	Deep ultraviolet photopumped stimulated emission from partially relaxed AlGaIn multiple quantum well heterostructures grown on sapphire substrates. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2014, 32, .	1.2	12
31	Ultra-wide bandgap AlGaIn metal oxide semiconductor heterostructure field effect transistors with high-k ALD ZrO ₂ dielectric. <i>Semiconductor Science and Technology</i> , 2019, 34, 125001.	2.0	12
32	Current collapse in high-Al channel AlGaIn HFETs. <i>Applied Physics Express</i> , 2019, 12, 074001.	2.4	11
33	Growth evolution of high-quality MOCVD aluminum nitride using nitrogen as carrier gas on the sapphire substrate. <i>Journal of Materials Research</i> , 2021, 36, 4360-4369.	2.6	9
34	Dislocation reduction in high Al-content AlGaIn films for deep ultraviolet light emitting diodes. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2011, 208, 1501-1503.	1.8	8
35	High-temperature Operation of Al _x Ga _{1-x} N ($x \geq 0.4$) Channel Metal Oxide Semiconductor Heterostructure Field Effect Transistors with High-k Atomic Layer Deposited Gate Oxides. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020, 217, 1900802.	1.8	8
36	High-current recessed gate enhancement-mode ultrawide bandgap Al _x Ga _{1-x} N channel MOSHFET with drain current 0.48 A mm^{-1} and threshold voltage +3.6 V. <i>Applied Physics Express</i> , 2021, 14, 014003.	2.4	8

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37	Ultrawide bandgap Al _x Ga _{1-x} N channel heterostructure field transistors with drain currents exceeding 1.3 A mm ⁻¹ . Applied Physics Express, 2020, 13, 094002.	2.4	8
38	Pseudomorphic Al _x Ga _{1-x} N MQW based deep ultraviolet light emitting diodes over sapphire. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 798-801.	0.8	7
39	Thermoreflectance Imaging of (Ultra)wide Band-Gap Devices with MoS ₂ Enhancement Coatings. ACS Applied Materials & Interfaces, 2021, 13, 42195-42204.	8.0	7
40	AlGa _N /Ga _N HEMT high-power and low-noise performance at f _{max} 20 GHz. , 0, , .		6
41	Nanoscale Capacitance-Voltage Characterization of Two-Dimensional Electron Gas in AlGa _N /Ga _N Heterostructures. Japanese Journal of Applied Physics, 2005, 44, L1348-L1351.	1.5	5
42	Reliability issues in AlGa _N based deep ultraviolet light emitting diodes. Reliability Physics Symposium, 2009 IEEE International, 2009, , .	0.0	5
43	Temperature characteristics of high-current UWBG enhancement and depletion mode AlGa _N -channel MOSFETs. Applied Physics Letters, 2020, 117, 232105.	3.3	5
44	High-Current-Density Enhancement-Mode Ultrawide-Bandgap AlGa _N Channel Metal-Insulator-Semiconductor Heterojunction Field-Effect Transistors with a Threshold Voltage of 5 V. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2000576.	2.4	5
45	Investigation of MOCVD grown crack-free 4¼m thick aluminum nitride using nitrogen as a carrier gas. MRS Advances, 2021, 6, 456-460.	0.9	5
46	Excimer laser liftoff of AlGa _N /Ga _N HEMTs on thick AlN heat spreaders. Applied Physics Letters, 2021, 119, .	3.3	5
47	An Initial Study of Ultraviolet C Optical Losses for Monolithically Integrated AlGa _N Heterojunction Optoelectronic Devices. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900801.	1.8	4
48	Subterahertz detection by high electron mobility transistors at large forward gate bias. , 0, , .		3
49	RF large-signal model for SiO ₂ /AlGa _N /Ga _N MOSFETs. , 2008, , .		3
50	Elevated-Temperature Annealing Effects on AlGa _N /Ga _N Heterostructures. Journal of Electronic Materials, 2011, 40, 2344-2347.	2.2	3
51	Ultra-wide band gap materials for high frequency applications. , 2018, , .		3
52	Trap characterization in ultra-wide bandgap Al _{0.65} Ga _{0.4} N/Al _{0.4} Ga _{0.6} N MOSFET's with ZrO ₂ gate dielectric using optical response and cathodoluminescence. Applied Physics Letters, 2019, 115, 213502.	3.3	3
53	Electron mobility and velocity in Al _{0.45} Ga _{0.55} N-channel ultra-wide bandgap HEMTs at high temperatures for RF power applications. Applied Physics Letters, 2022, 120, .	3.3	3
54	STRAIN ENERGY BAND ENGINEERING APPROACH TO AlN/Ga _N /InN HETEROJUNCTION DEVICES. International Journal of High Speed Electronics and Systems, 2002, 12, 401-419.	0.7	2

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55	Small signal analysis of ultra-wide bandgap Al _{0.7} Ga _{0.3} N channel MESFETs. Microelectronic Engineering, 2021, 237, 111495.	2.4	2
56	X-ray diffraction imaging of wide bandgap materials. , 0, , .		1
57	Epitaxial Al/GaN and Au/GaN junctions on as-grown GaN(0001)1 Å– 1 surfaces. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 804-807.	1.8	1
58	Pulsed modulation doping of Al _x Ga _{1-x} N (x>0.6) AlGa _N epilayers for deep UV optoelectronic devices. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 408-411.	0.8	1
59	Quasi-pseudomorphic AlGa _N based deep ultraviolet LEDs over sapphire substrates. , 2015, , .		1
60	Al ^{<inf>0.65</inf>} Ga ^{<inf>0.35</inf>} N channel high electron mobility transistors on AlN/ sapphire templates. , 2017, , .		1
61	All MOCVD grown 250 nm gate length Al _{<sub>0.70</sub>} Ga _{<sub>0.30</sub>} N MESFETs. , 2018, , .		1
62	Surface Acoustic Waves And Guided Optical Waves In AlGa _N Films. Materials Research Society Symposia Proceedings, 2003, 764, 1.	0.1	1
63	Strain energy band engineering approach to AlN/GaN/InN heterojunction devices. , 0, , .		0
64	Determination of the channel temperature in GaN MOSHFETs under microwave operational conditions. , 2007, , .		0
65	Selective doping and optimization of InGa _N channel and InGa _N backbarrier in deep submicron Ga _N heterojunction field effect transistor with a recessed gate. , 2007, , .		0
66	RF Performance of 130 nm Al _{0.75} Ga _{0.25} N/Al _{0.6} Ga _{0.4} N HFETs with MBE-Regrown Contacts. , 2019, , .		0
67	Spatially resolved Fourier transform impedance spectroscopy: A technique to rapidly characterize interfaces, applied to a QD/SiC heterojunction. Applied Physics Letters, 2021, 118, 223102.	3.3	0
68	Realization of flexible AlGa _N /Ga _N HEMT by laser liftoff. Applied Physics Express, 0, , .	2.4	0