

Asif Khan

List of Publications by Year in descending order

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68
papers

1,985
citations

430874

18
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243625

44
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70
all docs

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docs citations

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times ranked

2096
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Small signal analysis of ultra-wide bandgap Al _{0.7} Ga _{0.3} N channel MESFETs. Microelectronic Engineering, 2021, 237, 111495.	2.4	2
3	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. Applied Physics Express, 2021, 14, 014003.	2.4	8
4	High-Current-Density Enhancement-Mode Ultrawide-Bandgap AlGaN 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
5	High In-Plane Thermal Conductivity of Aluminum Nitride Thin Films. ACS Nano, 2021, 15, 9588-9599.	14.6	58
6	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
7	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
8	Enhanced light extraction efficiency of micropixel geometry AlGaN DUV light-emitting diodes. Applied Physics Express, 2021, 14, 084002.	2.4	25
9	Thermoreflectance Imaging of (Ultra)wide Band-Gap Devices with MoS ₂ Enhancement Coatings. ACS Applied Materials & Interfaces, 2021, 13, 42195-42204.	8.0	7
10	Growth evolution of high-quality MOCVD aluminum nitride using nitrogen as carrier gas on the sapphire substrate. Journal of Materials Research, 2021, 36, 4360-4369.	2.6	9
11	Excimer laser liftoff of AlGaN/GaN HEMTs on thick AlN heat spreaders. Applied Physics Letters, 2021, 119, .	3.3	5
12	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 AlGaN channel transistors. Solid-State Electronics, 2020, 164, 107696.	1.4	17
13	An Initial Study of Ultraviolet C Optical Losses for Monolithically Integrated AlGaN Heterojunction Optoelectronic Devices. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900801.	1.8	4
14	Temperature characteristics of high-current UWBG enhancement and depletion mode AlGaN-channel MOSHFETs. Applied Physics Letters, 2020, 117, 232105.	3.3	5
15	Bulk-like Intrinsic Phonon Thermal Conductivity of Micrometer-Thick AlN Films. ACS Applied Materials & Interfaces, 2020, 12, 29443-29450.	8.0	22
16	Al _{0.65} Ga _{0.35} N/Al _{0.4} Ga _{0.6} N Micro-Channel Heterojunction Field Effect Transistors With Current Density Over 900 mA/mm. IEEE Electron Device Letters, 2020, 41, 677-680.	3.9	19
17	High-Temperature Operation of Al _x Ga _{1-x} N (x>0.4) Channel Metal Oxide Semiconductor Heterostructure Field Effect Transistors with High-k Atomic Layer Deposited Gate Oxides. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900802.	1.8	8
18	BaTiO ₃ /Al _{0.58} Ga _{0.42} N lateral heterojunction diodes with breakdown field exceeding 8 MV/cm. Applied Physics Letters, 2020, 116, .	3.3	17

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19	Experimental observation of high intrinsic thermal conductivity of AlN. Physical Review Materials, 2020, 4, .	2.4	60
20	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
21	Design of compositionally graded contact layers for MOCVD grown high Al-content AlGaIn transistors. Applied Physics Letters, 2019, 115, .	3.3	17
22	Ultra-wide bandgap AlGaIn metal oxide semiconductor heterostructure field effect transistors with high-k ALD ZrO ₂ dielectric. Semiconductor Science and Technology, 2019, 34, 125001.	2.0	12
23	Current collapse in high-Al channel AlGaIn HFETs. Applied Physics Express, 2019, 12, 074001.	2.4	11
24	Al _{0.75} Ga _{0.25} N/Al _{0.6} Ga _{0.4} N heterojunction field effect transistor with f _T of 40 GHz. Applied Physics Express, 2019, 12, 066502.	2.4	24
25	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
26	Trap characterization in ultra-wide bandgap Al _{0.65} Ga _{0.4} N/Al _{0.4} Ga _{0.6} N MOSHFET's with ZrO ₂ gate dielectric using optical response and cathodoluminescence. Applied Physics Letters, 2019, 115, 213502.	3.3	3
27	Scattering and Quantum Effects in $\text{Al}_{0.75}\text{Ga}_{0.25}\text{N}/\text{Al}_{0.6}\text{Ga}_{0.4}\text{N}$ Heterostructures for High-Power and High-Frequency Electronics. Physical Review Applied, 2018, 9, .	3.8	13
28	All MOCVD grown 250 nm gate length Al _{0.70} Ga _{0.30} N MESFETs. , 2018, , .		1
29	Ultra-wide band gap materials for high frequency applications. , 2018, , .		3
30	Doped Barrier Al _{0.65} Ga _{0.35} N/Al _{0.40} Ga _{0.60} N MOSHFET With SiO ₂ Gate-Insulator and Zr-Based Ohmic Contacts. IEEE Electron Device Letters, 2018, 39, 1568-1571.	3.9	33
31	High-speed solar-blind UV photodetectors using high-Al content Al _{0.64} Ga _{0.36} N/Al _{0.34} Ga _{0.66} N multiple quantum wells. Applied Physics Express, 2017, 10, 011004.	2.4	20
32	Selective area deposited Al _{0.5} Ga _{0.5} N channel field effect transistors with high solar-blind ultraviolet photo-responsivity. Applied Physics Letters, 2017, 110, .	3.3	16
33	High temperature operation of n-AlGaIn channel metal semiconductor field effect transistors on low-defect AlN templates. Applied Physics Letters, 2017, 110, 193501.	3.3	19
34	High Electron Mobility Transistors With Al _{0.65} Ga _{0.35} N Channel Layers on Thick AlN/Sapphire Templates. IEEE Electron Device Letters, 2017, 38, 914-917.	3.9	50
35	High detectivity visible-blind SiF ₄ grown epitaxial graphene/SiC Schottky contact bipolar phototransistor. Applied Physics Letters, 2017, 111, .	3.3	16
36	Al _{0.65} Ga _{0.35} N channel high electron mobility transistors on AlN/ sapphire templates. , 2017, , .		1

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37	Quasi-pseudomorphic AlGaIn based deep ultraviolet LEDs over sapphire substrates. , 2015, , .		1
38	Pulsed modulation doping of Al _x Ga _{1-x} N (x>0.6) AlGaIn epilayers for deep UV optoelectronic devices. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 408-411.	0.8	1
39	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
40	Deep ultraviolet photopumped stimulated emission from partially relaxed AlGaIn multiple quantum well heterostructures grown on sapphire substrates. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2014, 32, .	1.2	12
41	Enhancement of light extraction efficiency in sub-300nm nitride thin-film flip-chip light-emitting diodes. Solid-State Electronics, 2013, 89, 156-160.	1.4	18
42	Substrate Lifted-off AlGaIn/AlGaIn Lateral Conduction Thin-Film Light-Emitting Diodes Operating at 285 nm. Japanese Journal of Applied Physics, 2013, 52, 08JG14.	1.5	13
43	High-Temperature Performance of AlGaIn/GaN MOSHEMT With SiO ₂ Gate Insulator Fabricated on Si (111) Substrate. IEEE Transactions on Electron Devices, 2012, 59, 2424-2429.	3.0	72
44	A Hybrid Micro-Pixel Based Deep Ultraviolet Light-Emitting Diode Lamp. Applied Physics Express, 2011, 4, 012102.	2.4	31
45	Structural Characterization of Highly Conducting AlGaIn (x>50%) for Deep-Ultraviolet Light-Emitting Diode. Journal of Electronic Materials, 2011, 40, 377-381.	2.2	17
46	Elevated-Temperature Annealing Effects on AlGaIn/GaN Heterostructures. Journal of Electronic Materials, 2011, 40, 2344-2347.	2.2	3
47	Dislocation reduction in high Al-content AlGaIn films for deep ultraviolet light emitting diodes. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1501-1503.	1.8	8
48	High voltage operation of field-plated AlInN HEMTs. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2454-2456.	0.8	15
49	276 nm Substrate-Free Flip-Chip AlGaIn Light-Emitting Diodes. Applied Physics Express, 2011, 4, 032102.	2.4	45
50	Ohmic Contact to High-Aluminum-Content AlGaIn Epilayers. Journal of Electronic Materials, 2009, 38, 2348-2352.	2.2	17
51	Reliability issues in AlGaIn based deep ultraviolet light emitting diodes. Reliability Physics Symposium, 2009 IEEE International, 2009, , .	0.0	5
52	Ultraviolet light-emitting diodes based on group three nitrides. Nature Photonics, 2008, 2, 77-84.	31.4	891
53	RF large-signal model for SiO ₂ /AlGaIn/GaN MOSHFETs. , 2008, , .		3
54	Determination of the channel temperature in GaN MOSHFETs under microwave operational conditions. , 2007, , .		0

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55	Selective doping and optimization of InGaN channel and InGaN backbarrier in deep submicron GaN heterojunction field effect transistor with a recessed gate. , 2007, , .		0
56	Metal-Organic Hydride Vapor Phase Epitaxy of Al _x Ga _{1-x} N Films over Sapphire. Japanese Journal of Applied Physics, 2007, 46, L752-L754.	1.5	23
57	Deep ultraviolet light-emitting diodes. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1815-1818.	1.8	67
58	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
59	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
60	Surface Acoustic Waves And Guided Optical Waves In AlGa _N Films. Materials Research Society Symposia Proceedings, 2003, 764, 1.	0.1	1
61	STRAIN ENERGY BAND ENGINEERING APPROACH TO AlN/GaN/InN HETEROJUNCTION DEVICES. International Journal of High Speed Electronics and Systems, 2002, 12, 401-419.	0.7	2
62	AlGa _N /InGa _N /Ga _N Double Heterostructure Field-Effect Transistor. Japanese Journal of Applied Physics, 2001, 40, L1142-L1144.	1.5	111
63	Low resistance Ti/Pt/Au ohmic contacts to p-type GaN. Applied Physics Letters, 2000, 76, 3451-3453.	3.3	79
64	Strain energy band engineering approach to AlN/GaN/InN heterojunction devices. , 0, , .		0
65	Subterahertz detection by high electron mobility transistors at large forward gate bias. , 0, , .		3
66	AlGa _N /Ga _N HEMT high-power and low-noise performance at f _{max} ≈ 20 GHz. , 0, , .		6
67	X-ray diffraction imaging of wide bandgap materials. , 0, , .		1
68	Realization of flexible AlGa _N /Ga _N HEMT by laser liftoff. Applied Physics Express, 0, , .	2.4	0