

# Liu-An Li

## List of Publications by Year in descending order

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95  
papers

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citations

394390

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526264

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g-index

95  
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95  
docs citations

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times ranked

975  
citing authors

#	ARTICLE	IF	CITATIONS
1	Investigation on crystalline structure, boron distribution, and residual stresses in freestanding boron-doped CVD diamond films. <i>Journal of Crystal Growth</i> , 2010, 312, 1986-1991.	1.5	72
2	Fabrication, structure, and photocatalytic activities of boron-doped ZnO nanorods hydrothermally grown on CVD diamond film. <i>Chemical Physics Letters</i> , 2012, 539-540, 74-78.	2.6	53
3	GaN Schottky Barrier Diode With TiN Electrode for Microwave Rectification. <i>IEEE Journal of the Electron Devices Society</i> , 2014, 2, 168-173.	2.1	44
4	Self-powered GaN ultraviolet photodetectors with p-NiO electrode grown by thermal oxidation. <i>Materials Science in Semiconductor Processing</i> , 2018, 76, 61-64.	4.0	40
5	Synthesis and characterization of p-type NiO films suitable for normally-off AlGaIn/GaN HFETs application. <i>Materials Science in Semiconductor Processing</i> , 2017, 67, 141-146.	4.0	30
6	Synthesis and properties of boron doped ZnO nanorods on silicon substrate by low-temperature hydrothermal reaction. <i>Applied Surface Science</i> , 2011, 257, 5984-5988.	6.1	29
7	NiO/GaN heterojunction diode deposited through magnetron reactive sputtering. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2016, 34, .	2.1	28
8	Correlation Between Anode Area and Sensitivity for the TiN/GaN Schottky Barrier Diode Temperature Sensor. <i>IEEE Transactions on Electron Devices</i> , 2020, 67, 1171-1175.	3.0	28
9	Process dependency on threshold voltage of GaN MOSFET on AlGaIn/GaN heterostructure. <i>Solid-State Electronics</i> , 2014, 99, 59-64.	1.4	27
10	p-NiO/n-GaN Heterostructure Diode for Temperature Sensor Application. <i>IEEE Sensors Journal</i> , 2020, 20, 62-66.	4.7	27
11	Enhanced pH sensitivity of AlGaIn/GaN ion-sensitive field effect transistor with Al <sub>2</sub> O <sub>3</sub> synthesized by atomic layer deposition. <i>Applied Surface Science</i> , 2018, 427, 1199-1202.	6.1	26
12	Application of p-type NiO deposited by magnetron reactive sputtering on GaN vertical diodes. <i>Materials Science in Semiconductor Processing</i> , 2021, 125, 105628.	4.0	26
13	High Threshold Voltage Uniformity and Low Hysteresis Recessed-Gate Al <sub>2</sub> O <sub>3</sub> /AlN/GaN MISFET by Selective Area Growth. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 1554-1560.	3.0	25
14	High-Mobility Normally OFF Al <sub>2</sub> O <sub>3</sub> /AlGaIn/GaN MISFET With Damage-Free Recessed-Gate Structure. <i>IEEE Electron Device Letters</i> , 2018, 39, 1720-1723.	3.9	23
15	Temperature sensor using thermally stable TiN anode GaN Schottky barrier diode for high power device application. <i>Superlattices and Microstructures</i> , 2018, 123, 274-279.	3.1	23
16	Fast and slow interface traps in transparent NiO gated AlGaIn/GaN heterostructure field-effect transistors. <i>Applied Surface Science</i> , 2019, 475, 1043-1047.	6.1	22
17	Electrical properties of TiN on gallium nitride grown using different deposition conditions and annealing. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2014, 32, 02B116.	2.1	21
18	Enhanced Sensitivity of GaN-Based Temperature Sensor by Using the Series Schottky Barrier Diode Structure. <i>IEEE Electron Device Letters</i> , 2020, 41, 601-604.	3.9	21

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19	Dependence of reaction pressure on deposition and properties of boron-doped freestanding diamond films. <i>Applied Surface Science</i> , 2010, 256, 1764-1768.	6.1	20
20	Temperature-dependent electrical transport characteristics of a NiO/GaN heterojunction diode. <i>Surfaces and Interfaces</i> , 2016, 5, 15-18.	3.0	19
21	Threshold voltage tuning in AlGaIn/GaN HFETs with p-type Cu <sub>2</sub> O gate synthesized by magnetron reactive sputtering. <i>Applied Surface Science</i> , 2018, 437, 98-102.	6.1	19
22	Normally-Off AlGaIn/GaN Heterojunction Metal-Insulator-Semiconductor Field-Effect Transistors With Gate-First Process. <i>IEEE Electron Device Letters</i> , 2019, 40, 185-188.	3.9	19
23	Effect of thermal oxidation treatment on pH sensitivity of AlGaIn/GaN heterostructure ion-sensitive field-effect transistors. <i>Applied Surface Science</i> , 2017, 411, 144-148.	6.1	18
24	Hydrothermal synthesis, characterization and properties of TiO <sub>2</sub> nanorods on boron-doped diamond film. <i>Materials Letters</i> , 2010, 64, 2012-2015.	2.6	17
25	Reduction of leakage current by O <sub>2</sub> plasma treatment for device isolation of AlGaIn/GaN heterojunction field-effect transistors. <i>Applied Surface Science</i> , 2015, 351, 1155-1160.	6.1	17
26	Quasi-vertical GaN heterojunction diodes with p-NiO anodes deposited by sputtering and post-annealing. <i>Vacuum</i> , 2020, 182, 109784.	3.5	17
27	Positive threshold voltage shift in AlGaIn/GaN HEMTs with p-type NiO gate synthesized by magnetron reactive sputtering. <i>Applied Surface Science</i> , 2018, 462, 799-803.	6.1	16
28	Vertical GaN-Based Temperature Sensor by Using TiN Anode Schottky Barrier Diode. <i>IEEE Sensors Journal</i> , 2021, 21, 1273-1278.	4.7	16
29	Effect of nitrogen on deposition and field emission properties of boron-doped micro- and nano-crystalline diamond films. <i>Nano-Micro Letters</i> , 2010, 2, 154-159.	27.0	15
30	Synthesis of titanium nitride for self-aligned gate AlGaIn/GaN heterostructure field-effect transistors. <i>Nanoscale Research Letters</i> , 2014, 9, 590.	5.7	15
31	Determination of band offsets between p-NiO gate electrode and unintentionally doped GaN for normally-off GaN power device. <i>Journal of Alloys and Compounds</i> , 2017, 728, 400-403.	5.5	15
32	Normally off AlGaIn/GaN ion-sensitive field effect transistors realized by photoelectrochemical method for pH sensor application. <i>Superlattices and Microstructures</i> , 2019, 128, 99-104.	3.1	15
33	Evaluation of a Gate-First Process for AlGaIn/GaN Heterostructure Field-Effect Transistors. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 11NH01.	1.5	14
34	Effects of recess process and surface treatment on the threshold voltage of GaN MOSFETs fabricated on a AlGaIn/GaN heterostructure. <i>Semiconductor Science and Technology</i> , 2015, 30, 065004.	2.0	12
35	The effect of CO <sub>2</sub> on the high-rate homoepitaxial growth of CVD single crystal diamonds. <i>Diamond and Related Materials</i> , 2011, 20, 496-500.	3.9	11
36	Characterization of GaN MOSFETs on AlGaIn/GaN Heterostructure With Variation in Channel Dimensions. <i>IEEE Transactions on Electron Devices</i> , 2014, 61, 498-504.	3.0	11

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37	The influence of Al composition in AlGaIn back barrier layer on leakage current and dynamic R ON characteristics of AlGaIn/GaN HEMTs. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2017, 214, 1600824.	1.8	11
38	Dependence of carbon doping concentration on the strain-state and properties of GaN grown on Si substrate. <i>Superlattices and Microstructures</i> , 2018, 120, 720-726.	3.1	10
39	GaN Schottky barrier diode with thermally stable nickel nitride electrode deposited by reactive sputtering. <i>Materials Science in Semiconductor Processing</i> , 2019, 93, 1-5.	4.0	10
40	GaN Schottky barrier diodes with nickel nitride anodes sputtered at different nitrogen partial pressure. <i>Vacuum</i> , 2019, 162, 72-77.	3.5	10
41	Transparent ohmic contact for boron doped diamond using p-type NiO film synthesized through oxidation. <i>Materials Science in Semiconductor Processing</i> , 2020, 105, 104740.	4.0	8
42	Correlating device behaviors with semiconductor lattice damage at MOS interface by comparing plasma-etching and regrown recessed-gate Al <sub>2</sub> O <sub>3</sub> /GaN MOS-FETs. <i>Applied Surface Science</i> , 2021, 546, 148710.	6.1	8
43	Analysis of electrical properties in Ni/GaN schottky contacts on nonpolar/semipolar GaN free-standing substrates. <i>Journal of Alloys and Compounds</i> , 2022, 898, 162817.	5.5	8
44	Effect of Anode Material on the Sensitivity of GaN Schottky Barrier Diode Temperature Sensor. <i>IEEE Sensors Journal</i> , 2022, 22, 1933-1938.	4.7	8
45	Normally-off AlGaIn/GaN heterostructure junction field-effect transistors with blocking layers. <i>Superlattices and Microstructures</i> , 2018, 120, 448-453.	3.1	7
46	Vertical GaN Schottky barrier diodes with area-selectively deposited p-NiO guard ring termination structure. <i>Superlattices and Microstructures</i> , 2021, 151, 106820.	3.1	7
47	Design of bevel junction termination extension structure for high-performance vertical GaN Schottky barrier diode. <i>Superlattices and Microstructures</i> , 2021, 159, 107048.	3.1	7
48	Plasma-assisted ohmic contact for AlGaIn/GaN heterostructure field-effect transistors. <i>Semiconductor Science and Technology</i> , 2016, 31, 035015.	2.0	6
49	Improvement of device isolation using field implantation for GaN MOSFETs. <i>Semiconductor Science and Technology</i> , 2016, 31, 035019.	2.0	6
50	A review of selective area grown recess structure for insulated-gate E-mode GaN transistors. <i>Japanese Journal of Applied Physics</i> , 2020, 59, SA0806.	1.5	6
51	Gate-first GaN MOSFET based on dry-etching-assisted non-annealing ohmic process. <i>Applied Physics Express</i> , 2015, 8, 046501.	2.4	5
52	Evaluation of a gate-first process for AlGaIn/GaN metal-oxide-semiconductor heterostructure field-effect transistors with low ohmic annealing temperature. <i>Chinese Physics B</i> , 2016, 25, 038503.	1.4	5
53	Effect of overdrive voltage on PBTI trapping behavior in GaN MIS-HEMT with LPCVD SiN <sub>x</sub> gate dielectric*. <i>Chinese Physics B</i> , 2020, 29, 037201.	1.4	5
54	Synthesis and Application of Metal Nitrides as Schottky Electrodes for Gallium Nitride Electron Devices. <i>Science of Advanced Materials</i> , 2014, 6, 1645-1649.	0.7	5

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55	Metal-oxide-semiconductor AlGa <sub>N</sub> /Ga <sub>N</sub> heterostructure field-effect transistors using TiN/AIO stack gate layer deposited by reactive sputtering. Semiconductor Science and Technology, 2015, 30, 015019.	2.0	4
56	Influence of AlGa <sub>N</sub> back barrier layer thickness on the dynamic ron characteristics of AlGa <sub>N</sub> /Ga <sub>N</sub> HEMTs. , 2016, , .		4
57	Plasma-assisted surface treatment for low-temperature annealed ohmic contact on AlGa <sub>N</sub> /Ga <sub>N</sub> heterostructure field-effect transistors. Chinese Physics B, 2017, 26, 037201.	1.4	4
58	Impact of dislocation pits on device performances and interface quality degradation for E-mode recessed-gate Al <sub>2</sub> O <sub>3</sub> /Ga <sub>N</sub> MOSFETs. Journal of Alloys and Compounds, 2021, 854, 157144.	5.5	4
59	Threshold Voltage Engineering in Al <sub>2</sub> O <sub>3</sub> /AlGa <sub>N</sub> /Ga <sub>N</sub> MISHEMTs with Thin Barrier Layer: MIS-gate Charge Control and High Threshold Voltage Achievement. , 2021, , .		4
60	MoO <sub>x</sub> -Si heterojunction with wide-band-gap MoO <sub>x</sub> contact layer in the application of low-intensity visible-light sensing. Materials Science in Semiconductor Processing, 2021, 131, 105879.	4.0	4
61	Recessed-anode AlGa <sub>N</sub> /Ga <sub>N</sub> diode with a high Baliga's FOM by combining a p-Ga <sub>N</sub> cap layer and an anode-connected p-Ga <sub>N</sub> buried layer. Superlattices and Microstructures, 2021, 156, 106986.	3.1	4
62	Surface sensibility and stability of AlGa <sub>N</sub> /Ga <sub>N</sub> ion-sensitive field-effect transistors with high Al-content AlGa <sub>N</sub> barrier layer. Applied Surface Science, 2021, 570, 151190.	6.1	4
63	Field isolation for Ga <sub>N</sub> MOSFETs on AlGa <sub>N</sub> /Ga <sub>N</sub> heterostructure with boron ion implantation. Semiconductor Science and Technology, 2014, 29, 055002.	2.0	3
64	A balancing method for low Ron and high Vth normally-off Ga <sub>N</sub> MISFET by preserving a damage-free thin AlGa <sub>N</sub> barrier layer. , 2018, , .		3
65	Influence of metal-insulator-semiconductor gate structure on normally-off p-Ga <sub>N</sub> heterojunction field-effect transistors. Journal of Crystal Growth, 2020, 532, 125395.	1.5	3
66	Physical-Based Simulation of the Ga <sub>N</sub> -Based Grooved-Anode Planar Gunn Diode. Micromachines, 2020, 11, 97.	2.9	3
67	Effect of geometry on the sensing mechanism of Ga <sub>N</sub> Schottky barrier diode temperature sensor. IEICE Electronics Express, 2021, 18, .	0.8	3
68	Vertical Ga <sub>N</sub> Shottky barrier diode with thermally stable TiN anode*. Chinese Physics B, 2021, 30, 038101.	1.4	3
69	Ohmic and Schottky contacts of hydrogenated and oxygenated boron-doped single-crystal diamond with hill-like polycrystalline grains*. Chinese Physics B, 2021, 30, 096803.	1.4	3
70	Evaluation of stress voltage on off-state time-dependent breakdown for Ga <sub>N</sub> MIS-HEMT with Si <sub>N</sub> x gate dielectric. Chinese Physics B, 2020, 29, 107201.	1.4	3
71	Charge Control in Schottky-Type p-Ga <sub>N</sub> Gate HEMTs With Partially and Fully Depleted p-Ga <sub>N</sub> Conditions. IEEE Transactions on Electron Devices, 2022, 69, 2262-2269.	3.0	3
72	Growth and Characteristics of Freestanding Hemispherical Diamond Films by Microwave Plasma Chemical Vapor Deposition. Chinese Physics Letters, 2010, 27, 047802.	3.3	2

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73	A self-aligned gate GaN MOSFET using an ICP-assisted low-temperature Ohmic process. Semiconductor Science and Technology, 2015, 30, 075003.	2.0	2
74	GaN metal-oxide-semiconductor field-effect transistors on AlGaIn/GaN heterostructure with recessed gate. Frontiers of Materials Science, 2015, 9, 151-155.	2.2	2
75	A novel normally-off GaN MISFET with an in-situ AlN space layer using selective area growth. , 2016, , .		2
76	Self-aligned-gate AlGaIn/GaN heterostructure field-effect transistor with titanium nitride gate. Chinese Physics B, 2016, 25, 087308.	1.4	2
77	Synthesis of thermally stable HfO <sub>x</sub> N <sub>y</sub> as gate dielectric for AlGaIn/GaN heterostructure field-effect transistors. Chinese Physics B, 2018, 27, 078503.	1.4	2
78	Thermal Analysis of AlGaIn/GaN Hetero-Structural Gunn Diodes on Different Substrates Through Numerical Simulation. IEEE Journal of the Electron Devices Society, 2020, 8, 134-139.	2.1	2
79	Experimental evaluation of interface states during time-dependent dielectric breakdown of GaN-based MIS-HEMTs with LPCVD-SiN <sub>x</sub> gate dielectric. Chinese Physics B, 2020, 29, 067203.	1.4	2
80	Recent Progress on Photoelectrochemical Water Splitting of Graphitic Carbon Nitride (g <sup>α</sup> -CN) Electrodes. Nanomaterials, 2022, 12, 2374.	4.1	2
81	The breakdown behavior of GaN epitaxial material on silicon. , 2016, , .		1
82	Influence of interface contamination on transport properties of two-dimensional electron gas in selective area growth AlGaIn/GaN heterostructure. Journal of Materials Science: Materials in Electronics, 2016, 27, 9061-9066.	2.2	1
83	Enhanced voltage blocking ability of AlGaIn/GaN heterojunction FETs-on-Si by eliminating leakage path introduced by low-temperature-AlN interlayers. Japanese Journal of Applied Physics, 2017, 56, 065503.	1.5	1
84	Understanding of impact of carbon doping on background carrier conduction in GaN*. Chinese Physics B, 2021, 30, 107201.	1.4	1
85	Band alignment between NiO <sub>x</sub> and nonpolar/semipolar GaN planes for selective-area-doped termination structure*. Chinese Physics B, 2021, 30, 067701.	1.4	1
86	Hybrid-anode structure designed for a high-performance quasi-vertical GaN Schottky barrier diode. Chinese Physics B, 2022, 31, 057702.	1.4	1
87	Influence of the Groove Depth on the Electrical Characteristics of the Vertical GaN Trench MOSFETs. , 2020, , .		1
88	Effect of GaN interlayer thickness on the AlGaIn/GaN heterostructure field-effect transistors for self-terminated wet etching process. , 2016, , .		0
89	Influence of the AlIn/GaN superlattices buffer thickness on the electrical properties of AlGaIn/GaN HFET on Si substrate. , 2016, , .		0
90	GaN Schottky Barrier Diodes with TiN Electrode for Microwave Power Transmission. Materials Science Forum, 2019, 954, 126-132.	0.3	0

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91	Breakdown Mechanism of AlGaIn/GaN-based HFET With Carbon-doped GaN Buffer Layer grown on Si substrate. , 2019, , .		0
92	Study on Self-Parallel GaN-Based Terahertz Hetero-Structural Gunn Diode. Applied Sciences (Switzerland), 2020, 10, 5777.	2.5	0
93	Normally-Off GaN Power Device Based on Stack AlGaIn Barrier Structure and P-Type NiO Gate Electrode. Materials Science Forum, 0, 1014, 86-92.	0.3	0
94	Metal-nitride dual-anode AlGaIn/GaN heterostructure Schottky barrier diodes with tunable turn-on voltage and reverse leakage current. Semiconductor Science and Technology, 2022, 37, 045013.	2.0	0
95	Determination of band alignment between GaOx and boron doped diamond for selective-area-doped termination structure. Chinese Physics B, 0, , .	1.4	0