

Hong Zhou

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2749979/publications.pdf>

Version: 2024-02-01

91
papers

3,592
citations

136950

32
h-index

144013

57
g-index

91
all docs

91
docs citations

91
times ranked

3542
citing authors

#	ARTICLE	IF	CITATIONS
1	Steep-slope hysteresis-free negative capacitance MoS ₂ transistors. Nature Nanotechnology, 2018, 13, 24-28.	31.5	422
2	High-Performance Depletion/Enhancement-mode α -Ga ₂ O ₃ on Insulator (GOOI) Field-Effect Transistors With Record Drain Currents of 600/450 mA/mm. IEEE Electron Device Letters, 2017, 38, 103-106.	3.9	247
3	Controlled Growth of a Large-Size 2D Selenium Nanosheet and Its Electronic and Optoelectronic Applications. ACS Nano, 2017, 11, 10222-10229.	14.6	189
4	$\hat{\Gamma}$ -Ga ₂ O ₃ on insulator field-effect transistors with drain currents exceeding 1.5 A/mm and their self-heating effect. Applied Physics Letters, 2017, 111, .	3.3	170
5	Al ₂ O ₃ / α -Ga ₂ O ₃ (-201) Interface Improvement Through Piranha Pretreatment and Postdeposition Annealing. IEEE Electron Device Letters, 2016, 37, 1411-1414.	3.9	109
6	Lateral $\hat{\Gamma}$ -Ga ₂ O ₃ MOSFETs With High Power Figure of Merit of 277 MW/cm ² . IEEE Electron Device Letters, 2020, 41, 537-540.	3.9	89
7	Demonstration of $\hat{\Gamma}$ -Ga ₂ O ₃ Junction Barrier Schottky Diodes With a Baliga's Figure of Merit of 0.85 GW/cm ² or a 5A/700ÅV Handling Capabilities. IEEE Transactions on Power Electronics, 2021, 36, 6179-6182.	7.9	88
8	Progress in state-of-the-art technologies of Ga ₂ O ₃ devices. Journal Physics D: Applied Physics, 2021, 54, 243001.	2.8	86
9	Demonstration of the p-NiO _x /n-Ga ₂ O ₃ Heterojunction Gate FETs and Diodes With BV ² /R _{on,sp} Figures of Merit of 0.39 GW/cm ² and 1.38 GW/cm ² . IEEE Electron Device Letters, 2021, 42, 485-488.	3.9	86
10	Field-Plated Lateral $\hat{\Gamma}$ -Ga ₂ O ₃ Schottky Barrier Diode with High Reverse Blocking Voltage of More Than 3 kV and High DC Power Figure-of-Merit of 500 MW/cm ² . IEEE Electron Device Letters, 2018, , 1-1.	3.9	85
11	High-Performance Vertical α -Ga ₂ O ₃ Schottky Barrier Diode With Implanted Edge Termination. IEEE Electron Device Letters, 2019, 40, 1788-1791.	3.9	84
12	Observation of Optical and Electrical In-Plane Anisotropy in High-Mobility Few-Layer ZrTe ₅ . Nano Letters, 2016, 16, 7364-7369.	9.1	80
13	A review of the most recent progresses of state-of-art gallium oxide power devices. Journal of Semiconductors, 2019, 40, 011803.	3.7	80
14	Thermodynamic Studies of $\hat{\Gamma}$ -Ga ₂ O ₃ Nanomembrane Field-Effect Transistors on a Sapphire Substrate. ACS Omega, 2017, 2, 7723-7729.	3.5	75
15	$\hat{\Gamma}$ -Ga ₂ O ₃ hetero-junction barrier Schottky diode with reverse leakage current modulation and BV ² /Ron,sp value of 0.93 GW/cm ² . Applied Physics Letters, 2021, 118, .	3.3	72
16	6 kV/3.4 m $\hat{\Gamma}$ -cm ² Vertical $\hat{\Gamma}$ -Ga ₂ O ₃ Schottky Barrier Diode With BV ² /R _{on,sp} Performance Exceeding 1-D Unipolar Limit of GaN and SiC. IEEE Electron Device Letters, 2022, 43, 765-768.	3.9	65
17	A 5.8-GHz High-Power and High-Efficiency Rectifier Circuit With Lateral GaN Schottky Diode for Wireless Power Transfer. IEEE Transactions on Power Electronics, 2020, 35, 2247-2252.	7.9	60
18	Recent progress of integrated circuits and optoelectronic chips. Science China Information Sciences, 2021, 64, 1.	4.3	56

#	ARTICLE	IF	CITATIONS
19	Toward emerging gallium oxide semiconductors: A roadmap. <i>Fundamental Research</i> , 2021, 1, 697-716.	3.3	56
20	Performance Enhancement of Black Phosphorus Field-Effect Transistors by Chemical Doping. <i>IEEE Electron Device Letters</i> , 2016, 37, 429-432.	3.9	55
21	Charge Trapping in Al ₂ O ₃ /Ga ₂ O ₃ -Based MOS Capacitors. <i>IEEE Electron Device Letters</i> , 2018, 39, 1022-1025.	3.9	50
22	A 3 kV/2.94 mΩ·cm and Low Leakage Current With Low Turn-On Voltage Lateral GaN Schottky Barrier Diode on Silicon Substrate With Anode Engineering Technique. <i>IEEE Electron Device Letters</i> , 2019, 40, 1583-1586.	3.9	50
23	Beveled Fluoride Plasma Treatment for Vertical Ga ₂ O ₃ Schottky Barrier Diode With High Reverse Blocking Voltage and Low Turn-On Voltage. <i>IEEE Electron Device Letters</i> , 2020, 41, 441-444.	3.9	49
24	Ultrawide-bandgap semiconductor AlN crystals: growth and applications. <i>Journal of Materials Chemistry C</i> , 2021, 9, 1852-1873.	5.5	49
25	High-Voltage $\hat{\Gamma}^2$ -Ga ₂ O ₃ Schottky Diode with Argon-Implanted Edge Termination. <i>Nanoscale Research Letters</i> , 2019, 14, 8.	5.7	47
26	High-Performance InAlN/GaN MOSHEMTs Enabled by Atomic Layer Epitaxy MgCaO as Gate Dielectric. <i>IEEE Electron Device Letters</i> , 2016, 37, 556-559.	3.9	46
27	Lateral Ga ₂ O ₃ Schottky Barrier Diode on Sapphire Substrate With Reverse Blocking Voltage of 1.7 kV. <i>IEEE Journal of the Electron Devices Society</i> , 2018, 6, 815-820.	2.1	43
28	Normally-Off-Ga ₂ O ₃ Power MOSFET With Ferroelectric Charge Storage Gate Stack Structure. <i>IEEE Electron Device Letters</i> , 2020, 41, 333-336.	3.9	43
29	High Performance $\hat{\Gamma}^2$ -Ga ₂ O ₃ Nano-Membrane Field Effect Transistors on a High Thermal Conductivity Diamond Substrate. <i>IEEE Journal of the Electron Devices Society</i> , 2019, 7, 914-918.	2.1	42
30	$\hat{\Gamma}^2$ -Ga ₂ O ₃ Nanomembrane Negative Capacitance Field-Effect Transistors with Steep Subthreshold Slope for Wide Band Gap Logic Applications. <i>ACS Omega</i> , 2017, 2, 7136-7140.	3.5	41
31	Design and fabrication of field-plated normally off $\hat{\Gamma}^2$ -Ga ₂ O ₃ MOSFET with laminated-ferroelectric charge storage gate for high power application. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	40
32	Low density of interface trap states and temperature dependence study of Ga ₂ O ₃ Schottky barrier diode with p-NiOx termination. <i>Applied Physics Letters</i> , 2022, 120, .	3.3	38
33	High-Performance $\hat{\Gamma}^2$ -Ga ₂ O ₃ Solar-Blind Schottky Barrier Photodiode With Record Detectivity and Ultrahigh Gain via Carrier Multiplication Process. <i>IEEE Electron Device Letters</i> , 2020, 41, 1794-1797.	3.9	33
34	Lateral GaN Schottky Barrier Diode for Wireless High-Power Transfer Application With High RF/DC Conversion Efficiency: From Circuit Construction and Device Technologies to System Demonstration. <i>IEEE Transactions on Industrial Electronics</i> , 2020, 67, 6597-6606.	7.9	32
35	Epitaxial Growth of Mg _x Ca _{1-x} O on GaN by Atomic Layer Deposition. <i>Nano Letters</i> , 2016, 16, 7650-7654.	9.1	30
36	A 800 V $\hat{\Gamma}^2$ -Ga ₂ O ₃ Metal-Oxide Semiconductor Field-Effect Transistor with High Power Figure of Merit of Over 86.3 MW·cm ² . <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2019, 216, 1900421.		29

#	ARTICLE	IF	CITATIONS
37	Investigation of temperature dependent electrical characteristics on Au/Ni/ $\text{In}_2\text{Ga}_2\text{O}_3$ Schottky diodes. Superlattices and Microstructures, 2018, 119, 212-217.	3.1	28
38	High Performance $\text{In}_2\text{Ga}_2\text{O}_3$ Solar-Blind Metal-Oxide-Semiconductor Field-Effect Phototransistor With Hafnium Oxide Gate Dielectric Process. IEEE Electron Device Letters, 2021, 42, 545-548.	3.9	28
39	DC and RF Performance of AlGaIn/GaN/SiC MOSHEMTs With Deep Sub-Micron T-Gates and Atomic Layer Epitaxy MgCaO as Gate Dielectric. IEEE Electron Device Letters, 2017, 38, 1409-1412.	3.9	27
40	High-performance lateral GaN Schottky barrier diode on silicon substrate with low turn-on voltage of 0.31 V, high breakdown voltage of 2.65 kV and high-power figure-of-merit of 2.65 GW cm^{-2} . Applied Physics Express, 2019, 12, 046502.	2.4	27
41	First experimental demonstration of Ge 3D FinFET CMOS circuits. , 2015, , .		26
42	Experimental and Theoretical Studies of Mo/Au Schottky Contact on Mechanically Exfoliated $\text{In}_2\text{Ga}_2\text{O}_3$ Thin Film. Nanoscale Research Letters, 2019, 14, 2.	5.7	26
43	Impact of Implanted Edge Termination on Vertical $\text{In}_2\text{Ga}_2\text{O}_3$ Schottky Barrier Diodes Under OFF-State Stressing. IEEE Transactions on Electron Devices, 2020, 67, 3948-3953.	3.0	26
44	Self-driven photodetector based on a GaSe/MoSe ₂ selenide van der Waals heterojunction with the hybrid contact. Applied Physics Letters, 2020, 117, .	3.3	25
45	Oxygen annealing impact on $\text{In}_2\text{Ga}_2\text{O}_3$ MOSFETs: Improved pinch-off characteristic and output power density. Applied Physics Letters, 2020, 117, .	3.3	24
46	Hysteresis-free and $\frac{1}{4}$ s-switching of D/E-modes Ga_2O_3 hetero-junction FETs with the BV ₂ /Ron,sp of 0.74/0.28 GW/cm ² . Applied Physics Letters, 2022, 120, .	3.3	24
47	A 1.9 kV/2.61 mA, 1 A/cm^2 Lateral GaN Schottky Barrier Diode on Silicon Substrate with Tungsten Anode and Low Turn-On Voltage of 0.35 V. IEEE Electron Device Letters, 2018, , 1-1.	3.9	23
48	Band alignments of SiO ₂ and HfO ₂ dielectrics with (Al _{0.53} Ga _{0.47}) ₂ O ₃ film (0.53) grown on Ga ₂ O ₃ buffer layer on sapphire. Journal of Alloys and Compounds, 2018, 745, 292-298.	5.5	22
49	AlGaIn-Channel Gate Injection Transistor on Silicon Substrate With Adjustable 4-7-V Threshold Voltage and 1.3-kV Breakdown Voltage. IEEE Electron Device Letters, 2018, 39, 1026-1029.	3.9	21
50	Comprehensive Study and Optimization of Implementing p-NiO in $\text{In}_2\text{Ga}_2\text{O}_3$ Based Diodes via TCAD Simulation. Crystals, 2021, 11, 1186.	2.2	21
51	Enhancement-Mode AlGaIn/GaN Fin-MOSHEMTs on Si Substrate With Atomic Layer Epitaxy MgCaO. IEEE Electron Device Letters, 2017, 38, 1294-1297.	3.9	20
52	The Investigation of $\text{In}_2\text{Ga}_2\text{O}_3$ Schottky Diode with Floating Field Ring Termination and the Interface States. ECS Journal of Solid State Science and Technology, 2020, 9, 025001.	1.8	20
53	Leakage Current Reduction in $\text{In}_2\text{Ga}_2\text{O}_3$ Schottky Barrier Diodes by CF ₄ Plasma Treatment. IEEE Electron Device Letters, 2020, 41, 1312-1315.	3.9	19
54	Leakage current mechanisms of groove-type tungsten-anode GaN SBDs with ultra low turn-ON voltage and low reverse current. Solid-State Electronics, 2020, 169, 107807.	1.4	15

#	ARTICLE	IF	CITATIONS
55	Comprehensive Annealing Effects on AlGaIn/GaN Schottky Barrier Diodes With Different Work-Function Metals. IEEE Transactions on Electron Devices, 2021, 68, 2661-2666.	3.0	15
56	Deep sub-100 nm Ge CMOS devices on Si with the recessed S/D and channel. , 2014, , .		13
57	InGaIn-channel high-electron-mobility transistor with enhanced linearity and high-temperature performance. Applied Physics Express, 2018, 11, 094101.	2.4	13
58	Demonstration of a 2 kV Al _{0.85} Ga _{0.15} N Schottky Barrier Diode With Improved On-Current and Ideality Factor. IEEE Electron Device Letters, 2020, 41, 457-460.	3.9	13
59	Design and Fabrication of Vertical Metal/TiO ₂ /In _{0.2} Ga _{0.8} O ₃ Dielectric Heterojunction Diode With Reverse Blocking Voltage of 1010 V. IEEE Transactions on Electron Devices, 2020, 67, 5628-5632.	3.0	13
60	Transport studies in 2D transition metal dichalcogenides and black phosphorus. Journal of Physics Condensed Matter, 2016, 28, 263002.	1.8	12
61	Total-Ionizing-Dose Responses of GaN-Based HEMTs With Different Channel Thicknesses and MOSHEMTs With Epitaxial MgCaO as Gate Dielectric. IEEE Transactions on Nuclear Science, 2018, 65, 46-52.	2.0	12
62	Fin-Width Effects on Characteristics of InGaAs-Based Independent Double-Gate FinFETs. IEEE Electron Device Letters, 2017, 38, 441-444.	3.9	11
63	The investigation of temperature dependent electrical characteristics of Au/Ni/In _{0.2} Ga _{0.8} O ₃ Schottky diode. Superlattices and Microstructures, 2019, 133, 106179.	3.1	11
64	Single Pulse Charge Pumping Measurements on GaN MOS-HEMTs: Fast and Reliable Extraction of Interface Traps Density. IEEE Transactions on Electron Devices, 2020, 67, 444-448.	3.0	11
65	Proposal and Simulation of Ga ₂ O ₃ MOSFET With PN Heterojunction Structure for High-Performance E-Mode Operation. IEEE Transactions on Electron Devices, 2022, 69, 3617-3622.	3.0	11
66	High-performance quasi-vertical GaN Schottky diode with low turn-on voltage. Superlattices and Microstructures, 2019, 125, 295-301.	3.1	10
67	The Impact of Substrates on the Performance of Top-Gate p-Ga ₂ O ₃ Field-Effect Transistors: Record High Drain Current of 980 mA/mm on Diamond. , 2018, , .		8
68	Comprehensive Design of Device Parameters for GaN Vertical Trench MOSFETs. IEEE Access, 2020, 8, 57126-57135.	4.2	8
69	Performance Improvement of a In _{0.2} Ga _{0.8} O ₃ -Based Solar-Blind Metal Oxide Semiconductor Field-Effect Phototransistor Using In Situ Ozone Pretreatment Technology. IEEE Transactions on Electron Devices, 2022, 69, 1143-1148.	3.0	8
70	(In _x Ga _{1-x}) ₂ O ₃ Photodetectors Fabricated on Sapphire at Different Temperatures by PLD. IEEE Photonics Journal, 2018, 10, 1-8.	2.0	7
71	Demonstration of Al _{0.85} Ga _{0.15} N Schottky barrier diode with > 3 kV breakdown voltage and the reverse leakage currents formation mechanism analysis. Applied Physics Letters, 2021, 118, .	3.3	7
72	GaN High-Electron-Mobility-Transistor on Free-Standing GaN Substrate With Low Contact Resistance and State-of-the-Art f _T Value. IEEE Transactions on Electron Devices, 2022, 69, 968-972.	3.0	7

#	ARTICLE	IF	CITATIONS
73	Wide-range-adjusted threshold voltages for E-mode AlGaIn/GaN HEMT with a p-SnO cap gate. Science China Materials, 2022, 65, 795-802.	6.3	7
74	Impact of Surface Treatments and Post-Deposition Annealing Upon Interfacial Property of ALD-Al ₂ O ₃ on a-Plane GaN. IEEE Journal of the Electron Devices Society, 2020, 8, 970-975.	2.1	6
75	Forward Current Conduction Mechanism of Mechanically Exfoliated In _{0.15} Ga _{0.85} O ₃ /GaN pn Heterojunction Diode. ECS Journal of Solid State Science and Technology, 2020, 9, 035001.	1.8	6
76	Experimental Investigation on Threshold Voltage Instability for In _{0.15} Ga _{0.85} O ₃ MOSFET Under Electrical and Thermal Stress. IEEE Transactions on Electron Devices, 2022, 69, 5048-5054.	3.0	6
77	Ionic liquid gating on atomic layer deposition passivated GaN: Ultra-high electron density induced high drain current and low contact resistance. Applied Physics Letters, 2016, 108, .	3.3	5
78	Ultra-thin AlGaIn/GaN HFET with a high breakdown voltage on sapphire substrates. Applied Physics Letters, 2021, 119, .	3.3	5
79	Integration and Electrical Properties of Ferroelectric Hf _{0.5} Zr _{0.5} O ₂ Thin Film on Bulk In _{0.15} Ga _{0.85} O ₃ (-201) Substrate for Memory Applications. IEEE Electron Device Letters, 2018, , 1-1.	3.9	4
80	Simulation Investigation of Laterally Downscaled N-Polar GaN HEMTs. IEEE Transactions on Electron Devices, 2019, 66, 4673-4678.	3.0	4
81	Model of Electron Population and Energy Band Diagram of Multiple-Channel GaN Heterostructures. IEEE Transactions on Electron Devices, 2021, 68, 1557-1562.	3.0	4
82	Self-Aligned and Low-Capacitance Lateral GaN Diode for X-Band High-Efficiency Rectifier. IEEE Electron Device Letters, 2022, 43, 537-540.	3.9	4
83	Research on the crystal phase and orientation of Ga ₂ O ₃ Hetero-epitaxial film. Superlattices and Microstructures, 2021, 159, 107053.	3.1	3
84	P-type surface charge transfer doping of black phosphorus field-effect transistors. , 2016, , .		2
85	High-Performance In _{0.15} Ga _{0.85} O ₃ -Based Solar-Blind Metal-Oxide Semiconductor Field-Effect Phototransistor Under Zero Gate Bias. IEEE Transactions on Electron Devices, 2022, 69, 3807-3810.	3.0	2
86	Side-gate effects on the direct current and radio frequency characteristics of AlGaIn/GaN high-electron-mobility transistor on Si. Applied Physics Letters, 2011, 99, 163505.	3.3	1
87	InAlN/GaN MOSHEMTs with high drain current of 2.3 A/mm high on/off ratio of 10 ⁸ and 12 ⁸ ; and low SS of 64 mV/dec enabled by atomic-layer-epitaxial MgCaO as gate dielectric. , 2015, , .		1
88	Depletion/enhancement-mode In _{0.15} Ga _{0.85} O ₃ on insulator field-effect transistors with drain currents exceeding 1.5/1.0 A/mm. , 2017, , .		1
89	High resolution thermal imaging of pre-breakdown in power AlGaIn/GaN MOSHEMTs. , 2017, , .		1
90	Field-Effect Transistors 4. Springer Series in Materials Science, 2020, , 623-638.	0.6	1

#	ARTICLE	IF	CITATIONS
91	Impacts of oxygen source on band alignment of ALD Al ₂ O ₃ /($\hat{\Gamma}$ _± , $\hat{\Gamma}$ _μ -)Ga ₂ O ₃ interface. Journal of Crystal Growth, 2022, 580, 126462.	1.5	1