

Rongming Chu

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8742482/publications.pdf>

Version: 2024-02-01

88
papers

3,030
citations

218381

26
h-index

174990

52
g-index

89
all docs

89
docs citations

89
times ranked

2630
citing authors

#	ARTICLE	IF	CITATIONS
1	High-Temperature Static and Dynamic Characteristics of 4.2-kV GaN Super-Heterojunction p-n Diodes. IEEE Transactions on Electron Devices, 2022, 69, 1912-1917.	1.6	4
2	Impact of Charge Balance on Static and Dynamic Characteristics of GaN Super-Heterojunction Schottky Barrier Diodes. IEEE Electron Device Letters, 2022, 43, 701-704.	2.2	5
3	8.85-kV/0.72-A Charge-Balanced GaN Super-Heterojunction Schottky Barrier Diode. , 2022, , .		1
4	Investigation of phase evolution within ZnO/Bi ₂ O ₃ varistors utilizing thin film prototypes. Journal of Materials Science, 2021, 56, 12740-12752.	1.7	4
5	GaN Super-Heterojunction Schottky Barrier Diode with Over 10 kV Blocking Voltage. , 2021, , .		2
6	Study of interface trap density of AlO _x Ny/GaN MOS structures. Applied Physics Letters, 2021, 119, .	1.5	6
7	12.5 kV GaN Super-Heterojunction Schottky Barrier Diodes. IEEE Transactions on Electron Devices, 2021, 68, 5736-5741.	1.6	8
8	Design of GaN/AlGaN/GaN Super-Heterojunction Schottky Diode. IEEE Transactions on Electron Devices, 2020, 67, 69-74.	1.6	19
9	Experimental Demonstration of Charge- Balanced GaN Super-Heterojunction Schottky Barrier Diode Capable of 2.8 kV Switching. IEEE Electron Device Letters, 2020, 41, 1758-1761.	2.2	17
10	GaN power switches on the rise: Demonstrated benefits and unrealized potentials. Applied Physics Letters, 2020, 116, .	1.5	43
11	Effect of Substrate Choice on Transient Performance of Lateral GaN FETs. IEEE Journal of the Electron Devices Society, 2020, 8, 331-335.	1.2	3
12	Exploring benefits of composition grading for forward-IV characteristics of In _{1-x} Ga _x As LEDs for cryogenic applications. Journal of Applied Physics, 2020, 128, 175701.	1.1	0
13	Enhancement of the Electrical and Thermal Performance of AlGaN/GaN HEMTs Using a Novel Resistive Field Plate Structure. , 2019, , .		2
14	III-Nitride lateral transistor power switch. Semiconductors and Semimetals, 2019, 102, 185-218.	0.4	0
15	High- Q GaN Varactors for mm-Wave Applications: A Physics-Based Simulation Study. IEEE Transactions on Electron Devices, 2019, 66, 4134-4139.	1.6	2
16	Evaluation of an Automated Modeling Tool Applied to New 600 V, 2 A Vertical GaN Transistors. , 2019, , .		2
17	TCAD modeling of a lateral GaN HEMT using empirical data. , 2018, , .		9
18	The 2018 GaN power electronics roadmap. Journal Physics D: Applied Physics, 2018, 51, 163001.	1.3	843

#	ARTICLE	IF	CITATIONS
19	Non-polar GaN film growth on (0 1 0) gallium oxide substrate by metal organic chemical vapor deposition. Journal of Materials Research, 2017, 32, 1611-1617.	1.2	3
20	Modeling and Characterization of Vertical GaN Schottky Diodes With AlGa _n Cap Layers. IEEE Transactions on Electron Devices, 2017, 64, 2172-2178.	1.6	12
21	Static and dynamic characterization of a GaN-on-GaN 600 V, 2 a vertical transistor. , 2017, , .		6
22	High-voltage vertical GaN Schottky diode enabled by low-carbon metal-organic chemical vapor deposition growth. Applied Physics Letters, 2016, 108, .	1.5	114
23	Improved performance in vertical GaN Schottky diode assisted by AlGa _n tunneling barrier. Applied Physics Letters, 2016, 108, .	1.5	43
24	600 V/ \$1.7-\Omega\$ Normally-Off GaN Vertical Trench Metal-oxide-semiconductor Field-Effect Transistor. IEEE Electron Device Letters, 2016, 37, 1466-1469.	2.2	108
25	An Experimental Demonstration of GaN CMOS Technology. IEEE Electron Device Letters, 2016, 37, 269-271.	2.2	113
26	Increasing the switching frequency of GaN HFET converters. , 2015, , .		10
27	Trap-related parametric shifts under DC bias and switched operation life stress in power AlGa _n /GaN HEMTs. , 2014, , .		3
28	Modeling and characterization of a 300 V GaN based boost converter with 96% efficiency at 1 MHz. , 2014, , .		4
29	Improvement of the dynamic on-resistance characteristics of GaN-on-Si power transistors with a sloped field-plate. , 2014, , .		9
30	Normally-off GaN-on-Si multi-chip module boost converter with 96% efficiency and low gate and drain overshoot. , 2014, , .		21
31	High-Speed, Enhancement-Mode GaN Power Switch With Regrown $\{m n\}$ -Ga _n Ohmic Contacts and Staircase Field Plates. IEEE Electron Device Letters, 2013, 34, 1118-1120.	2.2	28
32	Recent advances in GaN power electronics. , 2013, , .		15
33	Normally-Off GaN-on-Si transistors enabling nanosecond power switching at one kilowatt. , 2013, , .		16
34	Analyzing losses using junction temperature of 300V 2.4kW 96% efficient, 1MHz GaN synchronous boost converter. , 2013, , .		6
35	Normally-off GaN switching 400V in 1.4ns using an ultra-low resistance and inductance gate drive. , 2013, , .		17
36	Normally-off GaN-on-Si metal-insulator-semiconductor field-effect transistor with 600-V blocking capability at 200 °C. , 2012, , .		13

#	ARTICLE	IF	CITATIONS
37	Critical gate module process enabling the implementation of a 50A/600V AlGaIn/GaN MOS-HEMT. , 2012, , .		2
38	GaN power electronics for automotive application. , 2012, , .		34
39	High performance GaN-on-Si power switch: Role of substrate bias in device characteristics. , 2011, , .		18
40	1200-V Normally Off GaN-on-Si Field-Effect Transistors With Low Dynamic on -Resistance. IEEE Electron Device Letters, 2011, 32, 632-634.	2.2	287
41	Effects of Barrier Thinning on Small-Signal and 30-GHz Power Characteristics of AlGaIn/GaN Heterostructure Field-Effect Transistors. IEEE Transactions on Electron Devices, 2011, 58, 1681-1686.	1.6	25
42	Temperature-dependence and microscopic origin of low frequency $1/f$ noise in GaN/AlGaIn high electron mobility transistors. Applied Physics Letters, 2011, 99, .	1.5	44
43	Normally-off gate-recessed AlGaIn/GaN-on-Si hybrid MOS-HFET with Al _{0.2} O ₃ gate dielectric. , 2011, , .		5
44	Growth and characterization of AlGaIn/GaN/AlGaIn field effect transistors. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 2404-2407.	0.8	5
45	High-temperature molecular beam epitaxial growth of AlGaIn/GaN on GaN templates with reduced interface impurity levels. Journal of Applied Physics, 2010, 107, .	1.1	70
46	Growth of AlGaIn/GaN heterojunction field effect transistors on semi-insulating GaN using an AlGaIn interlayer. Applied Physics Letters, 2009, 94, 112108.	1.5	36
47	Electrical properties of N-polar AlGaIn/GaN high electron mobility transistors grown on SiC by metalorganic chemical vapor deposition. Applied Physics Letters, 2009, 94, .	1.5	28
48	A comparative study of effects of SiNx deposition method on AlGaIn/GaN heterostructure field-effect transistors. Applied Physics Letters, 2009, 94, .	1.5	40
49	AlGaIn/GaN HEMT With a Transparent Gate Electrode. IEEE Electron Device Letters, 2009, 30, 439-441.	2.2	20
50	Small-signal and 30-GHz power performance of AlGaIn/GaN HFETs without back barriers. , 2009, , .		0
51	MOCVD-Grown AlGaIn Buffer GaN HEMTs With V-Gates for Microwave Power Applications. IEEE Electron Device Letters, 2009, 30, 910-912.	2.2	21
52	Properties of N-polar AlGaIn/GaN heterostructures and field effect transistors grown by metalorganic chemical vapor deposition. Journal of Applied Physics, 2008, 103, .	1.1	85
53	Effect of Al Composition and Gate Recess on Power Performance of AlGaIn/GaN High-Electron Mobility Transistors. IEEE Electron Device Letters, 2008, 29, 300-302.	2.2	18
54	Influence of the substrate misorientation on the properties of N-polar InGaIn/GaN and AlGaIn/GaN heterostructures. Journal of Applied Physics, 2008, 104, .	1.1	54

#	ARTICLE	IF	CITATIONS
55	N-Face Metal-Insulator-Semiconductor High-Electron-Mobility Transistors With AlN Back-Barrier. IEEE Electron Device Letters, 2008, 29, 1101-1104.	2.2	39
56	Correlation Between DC-RF Dispersion and Gate Leakage in Deeply Recessed GaN/AlGaIn/GaN HEMTs. IEEE Electron Device Letters, 2008, 29, 303-305.	2.2	16
57	Power performance of MBE-grown N-face high electron mobility transistors with AlN back barrier. , 2008, , .		0
58	Plasma Treatment for Leakage Reduction in AlGaIn/GaN and GaN Schottky Contacts. IEEE Electron Device Letters, 2008, 29, 297-299.	2.2	42
59	V-Gate GaN HEMTs With Engineered Buffer for Normally Off Operation. IEEE Electron Device Letters, 2008, 29, 1184-1186.	2.2	41
60	V-Gate GaN HEMTs for X-Band Power Applications. IEEE Electron Device Letters, 2008, 29, 974-976.	2.2	62
61	A comparative study of SiN deposition methods for millimeter-wave AlGaIn/GaN HFETs. , 2008, , .		2
62	V-Gate GaN HEMTs with 12.2 W/mm and 65% PAE at X-Band. , 2008, , .		1
63	X- and Ka-band power performance of AlGaIn/GaN HEMTs grown by ammonia-MBE. Electronics Letters, 2008, 44, 598.	0.5	13
64	Function of quantum-confinement effect in the AlGaIn-AlN-GaN heterostructure with an AlN interfacial layer. Journal of Vacuum Science & Technology B, 2007, 25, 873.	1.3	4
65	Recessed Slant Gate AlGaIn/GaN High Electron Mobility Transistors with 20.9 W/mm at 10 GHz. Japanese Journal of Applied Physics, 2007, 46, L1087.	0.8	47
66	Power Performance of AlGaIn/GaN HEMTs Grown on SiC by Ammonia-MBE at 4 and 10 GHz. IEEE Electron Device Letters, 2007, 28, 945-947.	2.2	29
67	Surface Treatment for Leakage Reduction in AlGaIn/GaN HEMTs. Device Research Conference, IEEE Annual, 2007, , .	0.0	4
68	AlGaIn/GaNHEMT with High PAE and Breakdown Voltage Grown by Ammonia MBE. Device Research Conference, IEEE Annual, 2007, , .	0.0	0
69	Impact of CF_4 Plasma Treatment on GaN. IEEE Electron Device Letters, 2007, 28, 781-783.	2.2	39
70	N-face high electron mobility transistors with a GaN-spacer. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 2049-2053.	0.8	22
71	Theoretical study of improved two-dimensional electron gas density in AlGaIn/GaN/AlGaIn double heterostructure. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1018-1023.	0.8	2
72	AlGaIn-GaN Double-Channel HEMTs. IEEE Transactions on Electron Devices, 2005, 52, 438-446.	1.6	114

#	ARTICLE	IF	CITATIONS
73	Correlation of in-situ reflectance spectra and resistivity of GaN/Al ₂ O ₃ interfacial layer in metalorganic chemical vapor deposition. <i>Journal of Electronic Materials</i> , 2005, 34, 112-118.	1.0	3
74	Gate leakage in AlGaN/GaN HEMTs and its suppression by optimization of MOCVD growth. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005, 2, 2663-2667.	0.8	7
75	Highly linear Al/sub 0.3/Ga/sub 0.7/N-Al/sub 0.05/Ga/sub 0.95/N-GaN composite-channel HEMTs. <i>IEEE Electron Device Letters</i> , 2005, 26, 145-147.	2.2	57
76	Synthesis and optical properties of germanium nanorod array fabricated on porous anodic alumina and Si-based templates. <i>Applied Physics Letters</i> , 2005, 86, 021111.	1.5	30
77	A low-cost horizontal current bipolar transistor (HCBT) technology for the BiCMOS integration with FinFETs. <i>Solid-State Electronics</i> , 2004, 48, 2047-2050.	0.8	5
78	Strong quantum confinement and high carrier concentration in AlGaN/InGaN/GaN heterostructure field-effect transistors. <i>Applied Physics A: Materials Science and Processing</i> , 2003, 77, 669-671.	1.1	15
79	Study on the AlN/Si interface properties. <i>Optical Materials</i> , 2003, 23, 143-146.	1.7	17
80	Designing two-dimensional electron gas in AlGaN/InGaN/GaN heterostructures through the incorporated InGaN layer. <i>Optical Materials</i> , 2003, 23, 207-210.	1.7	13
81	Admittance characterization and analysis of trap states in AlGaN/GaN heterostructures. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2003, 0, 2400-2403.	0.8	28
82	Impact of dopants in GaN on the formation of two-dimensional electron gas in AlGaN/GaN heterostructure field-effect transistors. <i>Applied Physics A: Materials Science and Processing</i> , 2002, 75, 387-389.	1.1	3
83	Influence of doping on the two-dimensional electron gas distribution in AlGaN/GaN heterostructure transistors. <i>Applied Physics Letters</i> , 2001, 79, 2270-2272.	1.5	43
84	Continuous in situ growth rate extraction using pyrometric interferometry and laser reflectance measurement during molecular beam epitaxy. <i>Journal of Electronic Materials</i> , 1997, 26, 1083-1089.	1.0	3
85	Al/sub 0.3/Ga/sub 0.7/N/GaN composite-channel HEMTs with enhanced linearity. , 0, , .		8
86	GaN-based radio-frequency planar inter-digitated metal-insulator-semiconductor varactors. , 0, , .		4
87	Dislocation Reduction in AlGaN/GaN Heterostructures on 4H-SiC by Molecular Beam Epitaxy in the Thermal Decomposition Regime. <i>Applied Physics Express</i> , 0, 1, 061103.	1.1	9
88	Improved Performance of Plasma-Assisted Molecular Beam Epitaxy Grown AlGaN/GaN High Electron Mobility Transistors with Gate-Recess and CF ₄ -Treatment. <i>Applied Physics Express</i> , 0, 1, 061101.	1.1	5