

Alessandro Chini

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91
papers

2,670
citations

27
h-index

50
g-index

106
ext. papers

3,192
ext. citations

2.4
avg, IF

4.63
L-index

#	Paper	IF	Citations
91	High breakdown voltage AlGa _N -Ga _N HEMTs achieved by multiple field plates. <i>IEEE Electron Device Letters</i> , 2004 , 25, 161-163	4.4	250
90	Deep-Level Characterization in Ga _N HEMTs-Part I: Advantages and Limitations of Drain Current Transient Measurements. <i>IEEE Transactions on Electron Devices</i> , 2013 , 60, 3166-3175	2.9	235
89	. <i>IEEE Transactions on Electron Devices</i> , 2004 , 51, 1554-1561	2.9	207
88	N-polar Ga _N /AlGa _N /Ga _N high electron mobility transistors. <i>Journal of Applied Physics</i> , 2007 , 102, 044501	2.5	176
87	N-polar Ga _N epitaxy and high electron mobility transistors. <i>Semiconductor Science and Technology</i> , 2013 , 28, 074009	1.8	124
86	Time-dependent degradation of AlGa _N /Ga _N high electron mobility transistors under reverse bias. <i>Applied Physics Letters</i> , 2012 , 100, 033505	3.4	96
85	Buffer Traps in Fe-Doped AlGa _N /Ga _N HEMTs: Investigation of the Physical Properties Based on Pulsed and Transient Measurements. <i>IEEE Transactions on Electron Devices</i> , 2014 , 61, 4070-4077	2.9	94
84	AlGa _N /Ga _N -Based HEMTs Failure Physics and Reliability: Mechanisms Affecting Gate Edge and Schottky Junction. <i>IEEE Transactions on Electron Devices</i> , 2013 , 60, 3119-3131	2.9	86
83	High-power polarization-engineered Ga _N /AlGa _N /Ga _N HEMTs without surface passivation. <i>IEEE Electron Device Letters</i> , 2004 , 25, 7-9	4.4	83
82	12 W/cm ² power density AlGa _N /Ga _N HEMTs on sapphire substrate. <i>Electronics Letters</i> , 2004 , 40, 73	1.1	77
81	. <i>IEEE Transactions on Device and Materials Reliability</i> , 2008 , 8, 240-247	1.6	73
80	Reliability issues of Gallium Nitride High Electron Mobility Transistors. <i>International Journal of Microwave and Wireless Technologies</i> , 2010 , 2, 39-50	0.8	69
79	. <i>IEEE Electron Device Letters</i> , 2004 , 25, 229-231	4.4	67
78	Origin of etch delay time in Cl ₂ dry etching of AlGa _N /Ga _N structures. <i>Applied Physics Letters</i> , 2003 , 83, 4779-4781	3.4	66
77	Use of double-channel heterostructures to improve the access resistance and linearity in Ga _N -based HEMTs. <i>IEEE Transactions on Electron Devices</i> , 2006 , 53, 562-565	2.9	60
76	Experimental and Numerical Analysis of Hole Emission Process From Carbon-Related Traps in Ga _N Buffer Layers. <i>IEEE Transactions on Electron Devices</i> , 2016 , 63, 3473-3478	2.9	53
75	A C-band high-dynamic range Ga _N HEMT low-noise amplifier. <i>IEEE Microwave and Wireless Components Letters</i> , 2004 , 14, 262-264	2.6	48

74	Evaluation and Numerical Simulations of GaN HEMTs Electrical Degradation. <i>IEEE Electron Device Letters</i> , 2009 , 30, 1021-1023	4.4	43
73	p-capped GaN-AlGaIn-GaN high-electron mobility transistors (HEMTs). <i>IEEE Electron Device Letters</i> , 2002 , 23, 588-590	4.4	41
72	High linearity and high efficiency of class-B power amplifiers in GaN HEMT technology. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2003 , 51, 643-652	4.1	39
71	Evaluation of GaN HEMT degradation by means of pulsed I_V , leakage and DLTS measurements. <i>Electronics Letters</i> , 2009 , 45, 426	1.1	38
70	GaN-based power devices: Physics, reliability, and perspectives. <i>Journal of Applied Physics</i> , 2021 , 130, 181101	2.5	37
69	Systematic characterization of Cl ₂ reactive ion etching for improved ohmics in AlGaIn/GaN HEMTs. <i>IEEE Electron Device Letters</i> , 2002 , 23, 76-78	4.4	36
68	Deep Levels Characterization in GaN HEMTs Part II: Experimental and Numerical Evaluation of Self-Heating Effects on the Extraction of Traps Activation Energy. <i>IEEE Transactions on Electron Devices</i> , 2013 , 60, 3176-3182	2.9	34
67	2.1 A/cm ² current density AlGaIn/GaN HEMT. <i>Electronics Letters</i> , 2003 , 39, 625	1.1	32
66	Power and linearity characteristics of GaN MISFETs on sapphire substrate. <i>IEEE Electron Device Letters</i> , 2004 , 25, 55-57	4.4	31
65	Systematic characterization of Cl ₂ reactive ion etching for gate recessing in AlGaIn/GaN HEMTs. <i>IEEE Electron Device Letters</i> , 2002 , 23, 118-120	4.4	27
64	SELECTIVE DRY ETCHING OF GaN OVER AlGaIn IN BCL ₃ /SF ₆ MIXTURES. <i>International Journal of High Speed Electronics and Systems</i> , 2004 , 14, 756-761	0.5	26
63	Degradation of AlGaIn/GaN Schottky diodes on silicon: Role of defects at the AlGaIn/GaN interface. <i>Applied Physics Letters</i> , 2013 , 102, 163501	3.4	23
62	Hot-Electron Degradation of AlGaIn/GaN High-Electron Mobility Transistors During RF Operation: Correlation With GaN Buffer Design. <i>IEEE Electron Device Letters</i> , 2015 , 36, 1011-1014	4.4	22
61	Boost-converter-based solar harvester for low power applications. <i>Electronics Letters</i> , 2010 , 46, 296	1.1	21
60	2009 ,		20
59	Unpassivated GaN/AlGaIn/GaN power high electron mobility transistors with dispersion controlled by epitaxial layer design. <i>Journal of Electronic Materials</i> , 2004 , 33, 422-425	1.9	18
58	Analytical Model for Power Switching GaN-Based HEMT Design. <i>IEEE Transactions on Electron Devices</i> , 2011 , 58, 1456-1461	2.9	17
57	. <i>IEEE Transactions on Electron Devices</i> , 2012 , 59, 1385-1392	2.9	16

56	Hole Redistribution Model Explaining the Thermally Activated RON Stress/Recovery Transients in Carbon-Doped AlGaIn/GaN Power MIS-HEMTs. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 697-703	2.9	15
55	Characterization of GaN-based metal-semiconductor field-effect transistors by comparing electroluminescence, photoionization, and cathodoluminescence spectroscopies. <i>Journal of Applied Physics</i> , 2002 , 92, 2401-2405	2.5	13
54	Metal-oxide barrier extraction by Fowler-Nordheim tunnelling onset in Al ₂ O ₃ -on-GaN MOS diodes. <i>Electronics Letters</i> , 2012 , 48, 347	1.1	11
53	The effects of carbon on the bidirectional threshold voltage instabilities induced by negative gate bias stress in GaN MIS-HEMTs. <i>Journal of Computational Electronics</i> , 2020 , 19, 1555-1563	1.8	11
52	2014 ,		10
51	Experimental and numerical correlation between current-collapse and Fe-doping profiles in GaN HEMTs 2012 ,		10
50	Electroluminescence analysis of time-dependent reverse-bias degradation of HEMTs: A complete model 2011 ,		9
49	Measurements of the InGaAs hole impact ionization coefficient in InAlAs/InGaAs pnp HBTs. <i>IEEE Electron Device Letters</i> , 2001 , 22, 197-199	4.4	9
48	The Role of Carbon Doping on Breakdown, Current Collapse, and Dynamic On-Resistance Recovery in AlGaIn/GaN High Electron Mobility Transistors on Semi-Insulating SiC Substrates. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020 , 217, 1900762	1.6	9
47	Correlation between dynamic R _{ds(on)} transients and Carbon related buffer traps in AlGaIn/GaN HEMTs 2016 ,		8
46	Trapping and high field related issues in GaN power HEMTs 2014 ,		8
45	Micro-power photovoltaic harvester based on a frequency-to-voltage MPPT tracker. <i>Electronics Letters</i> , 2010 , 46, 587	1.1	8
44	. <i>IEEE Transactions on Electron Devices</i> , 2003 , 50, 324-332	2.9	8
43	Effects of buffer compensation strategies on the electrical performance and RF reliability of AlGaIn/GaN HEMTs. <i>Microelectronics Reliability</i> , 2015 , 55, 1662-1666	1.2	7
42	Trap Dynamics Model Explaining the RON Stress/Recovery Behavior in Carbon-Doped Power AlGaIn/GaN MOS-HEMTs 2020 ,		7
41	The Influence of Interface States at the Schottky Junction on the Large Signal Behavior of Copper-Gate GaN HEMTs. <i>Journal of Electronic Materials</i> , 2013 , 42, 15-20	1.9	7
40	High-linearity class B power amplifiers in GaN HEMT technology. <i>IEEE Microwave and Wireless Components Letters</i> , 2003 , 13, 284-286	2.6	7
39	DC-to-RF dispersion effects in GaAs- and GaN-based heterostructure FETs: performance and reliability issues. <i>Microelectronics Reliability</i> , 2005 , 45, 1585-1592	1.2	7

38	Evolution of on-resistance (RON) and threshold voltage (VTH) in GaN HEMTs during switch-mode operation. <i>Materials Science in Semiconductor Processing</i> , 2018 , 78, 127-131	4.3	7
37	Traps localization and analysis in GaN HEMTs. <i>Microelectronics Reliability</i> , 2014 , 54, 2222-2226	1.2	6
36	Impact of field-plate geometry on the reliability of GaN-on-SiC HEMTs. <i>Microelectronics Reliability</i> , 2013 , 53, 1461-1465	1.2	6
35	Unpassivated p-GaN/AlGaIn/GaN HEMTs with 7.1 W/cm at 10 GHz. <i>Electronics Letters</i> , 2003 , 39, 1419	1.1	6
34	Parasitic effects and long term stability of InP-based HEMTs. <i>Microelectronics Reliability</i> , 2000 , 40, 1715-1720		6
33	Study of threshold voltage instability in E-mode GaN MOS-HEMTs. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2016 , 13, 321-324		6
32	Field plate related reliability improvements in GaN-on-Si HEMTs. <i>Microelectronics Reliability</i> , 2012 , 52, 2153-2158	1.2	5
31	False surface-trap signatures induced by buffer traps in AlGaIn-GaN HEMTs 2009 ,		5
30	Experimental and simulated dc degradation of GaN HEMTs by means of gate-drain and gate-source reverse bias stress. <i>Microelectronics Reliability</i> , 2010 , 50, 1523-1527	1.2	5
29	HIGH LINEARITY GaN HEMT POWER AMPLIFIER WITH PRE-LINEARIZATION GATE DIODE. <i>International Journal of High Speed Electronics and Systems</i> , 2004 , 14, 847-852	0.5	5
28	. <i>IEEE Transactions on Electron Devices</i> , 2005 , 52, 594-602	2.9	5
27	Experimental and Numerical Evaluation of RON Degradation in GaN HEMTs During Pulse-Mode Operation. <i>IEEE Journal of the Electron Devices Society</i> , 2017 , 5, 491-495	2.3	4
26	Use of multichannel heterostructures to improve the access resistance and $f_{sub T}$ /linearity in GaN-based HEMTs		4
25	High performance AlGaIn/GaN HEMTs with a field plated gate structure		4
24	Trap characterization in buried-gate n-channel 6H-SiC JFETs. <i>IEEE Electron Device Letters</i> , 2001 , 22, 432-434	4.4	4
23	Electric Field and Self-Heating Effects on the Emission Time of Iron Traps in GaN HEMTs. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 3325-3332	2.9	4
22	Partial Recovery of Dynamic RON Versus OFF-State Stress Voltage in p-GaN Gate AlGaIn/GaN Power HEMTs. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 4862-4868	2.9	4
21	A novel degradation mechanism of AlGaIn/GaN/Silicon heterostructures related to the generation of interface traps 2012 ,		3

20	Influence of properties of Si ₃ N ₄ passivation layer on the electrical characteristics of Normally-off AlGa _N /Ga _N HEMT 2013 ,		3
19	Physical Investigation of High-Field Degradation Mechanisms in Ga _N /AlGa _N /Ga _N HEMTs 2006 ,		3
18	. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 2564-2567	2.9	3
17	On the Modeling of the Donor/Acceptor Compensation Ratio in Carbon-Doped Ga _N to Univocally Reproduce Breakdown Voltage and Current Collapse in Lateral Ga _N Power HEMTs. <i>Micromachines</i> , 2021 , 12,	3.3	3
16	Experimental and numerical analysis of V _{TH} and RON drifts in E-mode Ga _N HEMTs during switch-mode operation. <i>Materials Science in Semiconductor Processing</i> , 2019 , 98, 77-80	4.3	2
15	Reliability Investigation of Ga _N HEMTs for MMICs Applications. <i>Micromachines</i> , 2014 , 5, 570-582	3.3	2
14	Long Term Stability of InGaAs/AlInAs/GaAs Methamorphic HEMTs. <i>Microelectronics Reliability</i> , 2001 , 41, 1579-1584	1.2	2
13	A NEW FIELD-PLATED Ga _N HEMT STRUCTURE WITH IMPROVED POWER AND NOISE PERFORMANCE 2005 ,		2
12	Evaluation of V _{TH} and RON Drifts during Switch-Mode Operation in Packaged SiC MOSFETs. <i>Electronics (Switzerland)</i> , 2021 , 10, 441	2.6	2
11	Influence of device self-heating on trap activation energy extraction 2013 ,		1
10	Analysis of self-oscillating switched-mode circuit for low-voltage energy harvesting. <i>Electronics Letters</i> , 2013 , 49, 955-957	1.1	1
9	2010 ,		1
8	Comparison of Cu-gate and Ni/Au-gate Ga _N HEMTs large signal characteristics 2009 ,		1
7	Very High Performance Ga _N HEMT devices by Optimized Buffer and Field Plate Technology 2006 ,		1
6	Fabrication, Characterization and Numerical Simulation of High Breakdown Voltage pHEMTs 2006 ,		1
5	Study on the origin of dc-to-RF dispersion effects in GaAs- and Ga _N -based beterostructure FETs 2003 ,		1
4	A NEW FIELD-PLATED Ga _N HEMT STRUCTURE WITH IMPROVED POWER AND NOISE PERFORMANCE. <i>International Journal of High Speed Electronics and Systems</i> , 2004 , 14, 810-815	0.5	1
3	Effect of gate recessing on linearity characteristics of AlGa _N /Ga _N HEMTs		1

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| 2 | Experimental and numerical investigation of Poole-Frenkel effect on dynamic R ON transients in C-doped p-GaN HEMTs. <i>Semiconductor Science and Technology</i> , 2022 , 37, 025006 | 1.8 | o |
| 1 | An Investigation of the Electrical Degradation of GaN High-Electron-Mobility Transistors by Numerical Simulations of DC Characteristics and Scattering Parameters. <i>Journal of Electronic Materials</i> , 2011 , 40, 362-368 | 1.9 | |