Alessandro Chini

List of Publications by Year in Descending Order

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	Experimental and numerical investigation of Poole–Frenkel effect on dynamic R ON transients in C-doped p-GaN HEMTs. *Semiconductor Science and Technology*, **2022**, 37, 025006	1.8	0
90	GaN-based power devices: Physics, reliability, and perspectives. *Journal of Applied Physics*, **2021**, 130, 181101	2.5	37
89	. *IEEE Transactions on Electron Devices*, **2021**, 68, 2564-2567	2.9	3
88	On the Modeling of the Donor/Acceptor Compensation Ratio in Carbon-Doped GaN to Univocally Reproduce Breakdown Voltage and Current Collapse in Lateral GaN Power HEMTs. *Micromachines*, **2021**, 12,	3.3	3
87	Hole Redistribution Model Explaining the Thermally Activated RON Stress/Recovery Transients in Carbon-Doped AlGaN/GaN Power MIS-HEMTs. *IEEE Transactions on Electron Devices*, **2021**, 68, 697-703	2.9	15
86	Evaluation of VTH and RON Drifts during Switch-Mode Operation in Packaged SiC MOSFETs. *Electronics (Switzerland)*, **2021**, 10, 441	2.6	2
85	Electric Field and Self-Heating Effects on the Emission Time of Iron Traps in GaN HEMTs. *IEEE Transactions on Electron Devices*, **2021**, 68, 3325-3332	2.9	4
84	Partial Recovery of Dynamic RON Versus OFF-State Stress Voltage in p-GaN Gate AlGaN/GaN Power HEMTs. *IEEE Transactions on Electron Devices*, **2021**, 68, 4862-4868	2.9	4
83	Trap Dynamics Model Explaining the RON Stress/Recovery Behavior in Carbon-Doped Power AlGaN/GaN MOS-HEMTs **2020**,		7
82	The Role of Carbon Doping on Breakdown, Current Collapse, and Dynamic On-Resistance Recovery in AlGaN/GaN High Electron Mobility Transistors on Semi-Insulating SiC Substrates. *Physica Status Solidi (A) Applications and Materials Science*, **2020**, 217, 1900762	1.6	9
81	The effects of carbon on the bidirectional threshold voltage instabilities induced by negative gate bias stress in GaN MIS-HEMTs. *Journal of Computational Electronics*, **2020**, 19, 1555-1563	1.8	11
80	Experimental and numerical analysis of VTH and RON drifts in E-mode GaN HEMTs during switch-mode operation. *Materials Science in Semiconductor Processing*, **2019**, 98, 77-80	4.3	2
79	Evolution of on-resistance (RON) and threshold voltage (VTH) in GaN HEMTs during switch-mode operation. *Materials Science in Semiconductor Processing*, **2018**, 78, 127-131	4.3	7
78	Experimental and Numerical Evaluation of RON Degradation in GaN HEMTs During Pulse-Mode Operation. *IEEE Journal of the Electron Devices Society*, **2017**, 5, 491-495	2.3	4
77	Experimental and Numerical Analysis of Hole Emission Process From Carbon-Related Traps in GaN Buffer Layers. *IEEE Transactions on Electron Devices*, **2016**, 63, 3473-3478	2.9	53
76	Correlation between dynamic Rdsou transients and Carbon related buffer traps in AlGaN/GaN HEMTs **2016**,		8
75	Study of threshold voltage instability in E-mode GaN MOS-HEMTs. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2016**, 13, 321-324		6

74	Hot-Electron Degradation of AlGaN/GaN High-Electron Mobility Transistors During RF Operation: Correlation With GaN Buffer Design. *IEEE Electron Device Letters*, **2015**, 36, 1011-1014	4.4	22
73	Effects of buffer compensation strategies on the electrical performance and RF reliability of AlGaN/GaN HEMTs. *Microelectronics Reliability*, **2015**, 55, 1662-1666	1.2	7
72	Traps localization and analysis in GaN HEMTs. *Microelectronics Reliability*, **2014**, 54, 2222-2226	1.2	6
71	Reliability Investigation of GaN HEMTs for MMICs Applications. *Micromachines*, **2014**, 5, 570-582	3.3	2
70	Trapping and high field related issues in GaN power HEMTs **2014**,		8
69	**2014**,		10
68	Buffer Traps in Fe-Doped AlGaN/GaN HEMTs: Investigation of the Physical Properties Based on Pulsed and Transient Measurements. *IEEE Transactions on Electron Devices*, **2014**, 61, 4070-4077	2.9	94
67	AlGaN/GaN-Based HEMTs Failure Physics and Reliability: Mechanisms Affecting Gate Edge and Schottky Junction. *IEEE Transactions on Electron Devices*, **2013**, 60, 3119-3131	2.9	86
66	Deep-Level Characterization in GaN HEMTs-Part I: Advantages and Limitations of Drain Current Transient Measurements. *IEEE Transactions on Electron Devices*, **2013**, 60, 3166-3175	2.9	235
65	Deep Levels Characterization in GaN HEMTs-Part II: Experimental and Numerical Evaluation of Self-Heating Effects on the Extraction of Traps Activation Energy. *IEEE Transactions on Electron Devices*, **2013**, 60, 3176-3182	2.9	34
64	Impact of field-plate geometry on the reliability of GaN-on-SiC HEMTs. *Microelectronics Reliability*, **2013**, 53, 1461-1465	1.2	6
63	Influence of device self-heating on trap activation energy extraction **2013**,		1
62	The Influence of Interface States at the Schottky Junction on the Large Signal Behavior of Copper-Gate GaN HEMTs. *Journal of Electronic Materials*, **2013**, 42, 15-20	1.9	7
61	N-polar GaN epitaxy and high electron mobility transistors. *Semiconductor Science and Technology*, **2013**, 28, 074009	1.8	124
60	Degradation of AlGaN/GaN Schottky diodes on silicon: Role of defects at the AlGaN/GaN interface. *Applied Physics Letters*, **2013**, 102, 163501	3.4	23
59	Analysis of self-oscillating switched-mode circuit for low-voltage energy harvesting. *Electronics Letters*, **2013**, 49, 955-957	1.1	1
58	Influence of properties of Si3N4 passivation layer on the electrical characteristics of Normally-off AlGaN/GaN HEMT **2013**,		3
57	. *IEEE Transactions on Electron Devices*, **2012**, 59, 1385-1392	2.9	16

56	A novel degradation mechanism of AlGaN/GaN/Silicon heterostructures related to the generation of interface traps **2012**,		3
55	Field plate related reliability improvements in GaN-on-Si HEMTs. *Microelectronics Reliability*, **2012**, 52, 2153-2158	1.2	5
54	Experimental and numerical correlation between current-collapse and fe-doping profiles in GaN HEMTs **2012**,		10
53	Time-dependent degradation of AlGaN/GaN high electron mobility transistors under reverse bias. *Applied Physics Letters*, **2012**, 100, 033505	3.4	96
52	Metal-oxide barrier extraction by Fowler-Nordheim tunnelling onset in Al2O3-on-GaN MOS diodes. *Electronics Letters*, **2012**, 48, 347	1.1	11
51	Analytical Model for Power Switching GaN-Based HEMT Design. *IEEE Transactions on Electron Devices*, **2011**, 58, 1456-1461	2.9	17
50	An Investigation of the Electrical Degradation of GaN High-Electron-Mobility Transistors by Numerical Simulations of DC Characteristics and Scattering Parameters. *Journal of Electronic Materials*, **2011**, 40, 362-368	1.9	
49	Electroluminescence analysis of time-dependent reverse-bias degradation of HEMTs: A complete model **2011**,		9
48	Micro-power photovoltaic harvester based on a frequency-to-voltage MPPT tracker. *Electronics Letters*, **2010**, 46, 587	1.1	8
47	**2010**,		1
46	Boost-converter-based solar harvester for low power applications. *Electronics Letters*, **2010**, 46, 296	1.1	21
45	Reliability issues of Gallium Nitride High Electron Mobility Transistors. *International Journal of Microwave and Wireless Technologies*, **2010**, 2, 39-50	0.8	69
44	Experimental and simulated dc degradation of GaN HEMTs by means of gate-drain and gate-source reverse bias stress. *Microelectronics Reliability*, **2010**, 50, 1523-1527	1.2	5
43	False surface-trap signatures induced by buffer traps in AlGaN-GaN HEMTs **2009**,		5
42	Evaluation of GaN HEMT degradation by means of pulsed I□V, leakage and DLTS measurements. *Electronics Letters*, **2009**, 45, 426	1.1	38
41	Evaluation and Numerical Simulations of GaN HEMTs Electrical Degradation. *IEEE Electron Device Letters*, **2009**, 30, 1021-1023	4.4	43
40	Comparison of Cu-gate and Ni/Au-gate GaN HEMTs large signal characteristics **2009**,		1
39	**2009**,		20

38	. *IEEE Transactions on Device and Materials Reliability*, **2008**, 8, 240-247	1.6	73
37	N-polar GaN/AlGaN/GaN high electron mobility transistors. *Journal of Applied Physics*, **2007**, 102, 044501	2.5	176
36	Use of double-channel heterostructures to improve the access resistance and linearity in GaN-based HEMTs. *IEEE Transactions on Electron Devices*, **2006**, 53, 562-565	2.9	60
35	Very High Performance GaN HEMT devices by Optimized Buffer and Field Plate Technology **2006**,		1
34	Fabrication, Characterization and Numerical Simulation of High Breakdown Voltage pHEMTs **2006**,		1
33	Physical Investigation of High-Field Degradation Mechanisms in GaN/AlGaN/GaN HEMTS **2006**,		3
32	DC-to-RF dispersion effects in GaAs- and GaN-based heterostructure FETs: performance and reliability issues. *Microelectronics Reliability*, **2005**, 45, 1585-1592	1.2	7
31	. *IEEE Transactions on Electron Devices*, **2005**, 52, 594-602	2.9	5
30	A NEW FIELD-PLATED GaN HEMT STRUCTURE WITH IMPROVED POWER AND NOISE PERFORMANCE **2005**,		2
29	12 W/mm power density AlGaN/GaN HEMTs on sapphire substrate. *Electronics Letters*, **2004**, 40, 73	1.1	77
28	SELECTIVE DRY ETCHING OF GaN OVER AlGaN IN BCL3/SF6 MIXTURES. *International Journal of High Speed Electronics and Systems*, **2004**, 14, 756-761	0.5	26
27	HIGH LINEARITY GaN HEMT POWER AMPLIFIER WITH PRE-LINEARIZATION GATE DIODE. *International Journal of High Speed Electronics and Systems*, **2004**, 14, 847-852	0.5	5
26	A NEW FIELD-PLATED GaN HEMT STRUCTURE WITH IMPROVED POWER AND NOISE PERFORMANCE. *International Journal of High Speed Electronics and Systems*, **2004**, 14, 810-815	0.5	1
25	. *IEEE Transactions on Electron Devices*, **2004**, 51, 1554-1561	2.9	207
24	Unpassivated GaN/AlGaN/GaN power high electron mobility transistors with dispersion controlled by epitaxial layer design. *Journal of Electronic Materials*, **2004**, 33, 422-425	1.9	18
23	Power and linearity characteristics of GaN MISFETs on sapphire substrate. *IEEE Electron Device Letters*, **2004**, 25, 55-57	4.4	31
22	. *IEEE Electron Device Letters*, **2004**, 25, 229-231	4.4	67
21	High-power polarization-engineered GaN/AlGaN/GaN HEMTs without surface passivation. *IEEE Electron Device Letters*, **2004**, 25, 7-9	4.4	83

20	A C-band high-dynamic range GaN HEMT low-noise amplifier. *IEEE Microwave and Wireless Components Letters*, **2004**, 14, 262-264	2.6	48
19	High breakdown voltage AlGaN-GaN HEMTs achieved by multiple field plates. *IEEE Electron Device Letters*, **2004**, 25, 161-163	4.4	250
18	Study on the origin of dc-to-RF dispersion effects in GaAs- and GaN-based beterostructure FETs **2003**,		1
17	Unpassivated p-GaN/AlGaN/GaN HEMTs with 7.1 W/mm at 10 GHz. *Electronics Letters*, **2003**, 39, 1419	1.1	6
16	. *IEEE Transactions on Electron Devices*, **2003**, 50, 324-332	2.9	8
15	2.1 A/mm current density AlGaN/GaN HEMT. *Electronics Letters*, **2003**, 39, 625	1.1	32
14	Origin of etch delay time in Cl2 dry etching of AlGaN/GaN structures. *Applied Physics Letters*, **2003**, 83, 4779-4781	3.4	66
13	High linearity and high efficiency of class-B power amplifiers in GaN HEMT technology. *IEEE Transactions on Microwave Theory and Techniques*, **2003**, 51, 643-652	4.1	39
12	High-linearity class B power amplifiers in GaN HEMT technology. *IEEE Microwave and Wireless Components Letters*, **2003**, 13, 284-286	2.6	7
11	Characterization of GaN-based metal-semiconductor field-effect transistors by comparing electroluminescence, photoionization, and cathodoluminescence spectroscopies. *Journal of Applied Physics*, **2002**, 92, 2401-2405	2.5	13
10	p-capped GaN-AlGaN-GaN high-electron mobility transistors (HEMTs). *IEEE Electron Device Letters*, **2002**, 23, 588-590	4.4	41
9	Systematic characterization of Cl2 reactive ion etching for gate recessing in AlGaN/GaN HEMTs. *IEEE Electron Device Letters*, **2002**, 23, 118-120	4.4	27
8	Systematic characterization of Cl2 reactive ion etching for improved ohmics in AlGaN/GaN HEMTs. *IEEE Electron Device Letters*, **2002**, 23, 76-78	4.4	36
7	Long Term Stability of InGaAs/AlInAs/GaAs Methamorphic HEMTs. *Microelectronics Reliability*, **2001**, 41, 1579-1584	1.2	2
6	Trap characterization in buried-gate n-channel 6H-SiC JFETs. *IEEE Electron Device Letters*, **2001**, 22, 432-434	4.4	4
5	Measurements of the InGaAs hole impact ionization coefficient in InAlAs/InGaAs pnp HBTs. *IEEE Electron Device Letters*, **2001**, 22, 197-199	4.4	9
4	Parasitic effects and long term stability of InP-based HEMTs. *Microelectronics Reliability*, **2000**, 40, 1715-1720	1.2	6
3	Use of multichannel heterostructures to improve the access resistance and f/sub T/ linearity in GaN-based HEMTs		4

List of Publications

2	Effect of gate recessing on linearity characteristics of AlGaN/GaN HEMTs	1
1	High performance AlGaN/GaN HEMTs with a field plated gate structure	4