Ignacio IÃ±iguez de la Torre

List of Publications by Year
in descending order

92 papers	785 citations	566801 15 h-index	580395 25 g-index
93 all docs	93 docs citations	93 times ranked	465 citing authors

#	Article	IF	Citations
1	Optimization of the Epilayer Design for the Fabrication of Doped GaN Planar Gunn Diodes. IEEE Transactions on Electron Devices, 2022, 69, 514-520.	1.6	3
2	Temperature and Gate-Length Dependence of Subthreshold RF Detection in GaN HEMTs. Sensors, 2022, 22, 1515.	2.1	5
3	Monte Carlo analysis of thermal effects in the DC and AC performance of AlGaN/GaN HEMTs. Solid-State Electronics, 2022, 193, 108289.	0.8	3
4	Non-linear thermal resistance model for the simulation of high power GaN-based devices. Semiconductor Science and Technology, 2021, 36, 055002.	1.0	7
5	Bias-dependence of surface charge at low temperature in GaN Self-Switching Diodes. , 2021, , .		0
6	Temperature Behavior of Gunn Oscillations in Planar InGaAs Diodes. IEEE Electron Device Letters, 2021, 42, 1136-1139.	2.2	2
7	Monte Carlo analysis of the influence of surface charges on GaN asymmetric nanochannels: Bias and temperature dependence. Journal of Applied Physics, 2021, 130, .	1.1	5
8	Analysis of trap states in AlGaN/GaN self-switching diodes via impedance measurements. Microelectronics Reliability, 2020, 114, 113806.	0.9	2
9	Trap-related frequency dispersion of zero-bias microwave responsivity at low temperature in GaN-based self-switching diodes. Nanotechnology, 2020, 31, 405204.	1.3	8
10	Comprehensive characterization of Gunn oscillations in In_{0.53}Ga_{0.47}As planar diodes. Semiconductor Science and Technology, 2020, 35, 115009.	1.0	3
11	Experiences on the Design, Creation, and Analysis of Multimedia Content to Promote Active Learning. Journal of Science Education and Technology, 2019, 28, 445-451.	2.4	4
12	Design and Fabrication of Planar Gunn Nanodiodes Based on Doped GaN. , 2019, , .		5
13	GaN-based SSD structure for THz applications. , 2019, , .		5
14	Fabrication Process of Non-Linear Planar Diodes Based on GaN. , 2018, , .		0
15	Voltage controlled sub-THz detection with gated planar asymmetric nanochannels. Applied Physics Letters, 2018, 113, .	1.5	13
16	GaN nanodiode arrays with improved design for zero-bias sub-THz detection. Semiconductor Science and Technology, 2018, 33, 095016.	1.0	12
17	Geometry and bias dependence of trapping effects in planar GaN nanodiodes. , 2017, , .		3
18	Microwave detection up to 43.5 GHz by GaN nanodiodes: Experimental and analytical responsivity. , 2017, , .		3

#	Article	IF	Citations
19	Anomalous DC and RF behavior of virgin AlGaN/AlN/GaN HEMTs. Semiconductor Science and Technology, 2017, 32, 035011.	1.0	9
20	A high performance Full Adder based on Ballistic Deflection Transistor technology. , 2017, , .		1
21	Impact of substrate and thermal boundary resistance on the performance of AlGaN/GaN HEMTs analyzed by means of electro-thermal Monte Carlo simulations. Semiconductor Science and Technology, 2016, 31, 065005.	1.0	21
22	Modeling and Study of Two-BDT-Nanostructure based Sequential Logic Circuits. , 2016, , .		2
23	Ballistic deflection transistor very high frequency modeling. , 2016, , .		0
24	Characterization and modeling of traps and RF frequency dispersion in AlGaN/AlN/GaN HEMTs. , 2016, , .		0
25	Monte Carlo modeling of ultra-fast operating Ballistic Deflection Transistor. , 2016, , .		3
26	Design and Analysis of High Performance Ballistic Nanodevice-Based Sequential Circuits Using Monte Carlo and Verilog AMS Simulations. IEEE Transactions on Circuits and Systems I: Regular Papers, 2016, 63, 2236-2244.	3.5	2
27	Room Temperature Direct and Heterodyne Detection of 0.28â€“0.69-THz Waves Based on GaN 2-DEG Unipolar Nanochannels. IEEE Transactions on Electron Devices, 2016, 63, 353-359.	1.6	27
28	Exploration of digital latch design using ballistic deflection transistors â€” Modeling and simulation. , 2015, , .		3
29	Modelling of Thermal Boundary Resistance in a GaN Diode by means of Electro-Thermal Monte Carlo Simulations. Journal of Physics: Conference Series, 2015, 609, 012005.	0.3	2
30	0.69 THz room temperature heterodyne detection using GaN nanodiodes. Journal of Physics: Conference Series, 2015, 647, 012006.	0.3	0
31	Ultrahigh responsivity of optically active, semiconducting asymmetric nano-channel diodes. Journal of Physics: Conference Series, 2015, 647, 012013.	0.3	1
32	Optimization of Ballistic Deflection Transistors by Monte Carlo Simulations. Journal of Physics: Conference Series, 2015, 647, 012066.	0.3	5
33	Temperature and Surface Traps Influence on the THz Emission from InGaAs Diodes. Journal of Physics: Conference Series, 2015, 647, 012039.	0.3	0
34	Experimental verification of low-frequency noise effects at the onset of oscillations in planar Gunn diodes. , 2015, , .		0
35	Study of surface charges in ballistic deflection transistors. Nanotechnology, 2015, 26, 485202.	1.3	11
36	Self-consistent electro-thermal simulations of AlGaN/GaN diodes by means of Monte Carlo method. Semiconductor Science and Technology, 2015, 30, 035001.	1.0	5

#	Article	IF	Citations
37	Fabrication and Characterization of Fully Transparent ZnO Thin-Film Transistors and Self-Switching Nano-Diodes. Journal of Physics: Conference Series, 2015, 647, 012068.	0.3	3
38	Evaluation of the thermal resistance in GaN-diodes by means of electro-thermal Monte Carlo simulations. , 2015, , .		0
39	Anomalous low-frequency noise increase at the onset of oscillations in Gunn diodes. , 2015, , .		0
40	Optimization and small-signal modeling of zero-bias InAs self-switching diode detectors. Solid-State Electronics, 2015, 104, 79-85.	0.8	21
41	Phonon black-body radiation limit for heat dissipation in electronics. Nature Materials, 2015, 14, 187-192.	13.3	69
42	GaN-based Implanted self switching diodes for THz imaging. , 2014, , .		0
43	Time-domain Monte Carlo simulation of GaN planar Gunn nanodiodes in resonant circuits. , 2014, , .		0
44	Experimental assessment of anomalous low-frequency noise increase at the onset of Gunn oscillations in InGaAs planar diodes. Applied Physics Letters, 2014, 105, .	1.5	9
45	Monte Carlo study of the operation of GaN planar nanodiodes as sub-THz emitters in resonant circuits. Semiconductor Science and Technology, 2014, 29, 115032.	1.0	6
46	Comparative Monte Carlo analysis of InP- and GaN-based Gunn diodes. Journal of Applied Physics, 2014, 115, .	1.1	25
47	Operation of GaN Planar Nanodiodes as THz Detectors and Mixers. IEEE Transactions on Terahertz Science and Technology, 2014, 4, 670-677.	2.0	13
48	On the effect of Î´-doping in self-switching diodes. Applied Physics Letters, 2014, 105, .	1.5	12
49	Optimized V-shape design of GaN nanodiodes for the generation of Gunn oscillations. Applied Physics Letters, 2014, 104, .	1.5	27
50	Numerical study of sub-millimeter Gunn oscillations in InP and GaN vertical diodes: Dependence on bias, doping, and length. Journal of Applied Physics, 2013, 114, .	1.1	19
51	Monte Carlo analysis of thermal effects in self-switching diodes. , 2013, , .		3
52	Ballistic deflection transistor: Geometry dependence and boolean operations. , 2013, , .		4
53	Nonlinear nanochannels for room temperature terahertz heterodyne detection. Semiconductor Science and Technology, 2013, 28, 125024.	1.0	15
54	Room temperature THz detection and emission with semiconductor nanodevices. , 2013, , .		2

#	Article	IF	Citations
55	Experimental demonstration of direct terahertz detection at room-temperature in AlGaN/GaN asymmetric nanochannels. Journal of Applied Physics, 2013, 113, .	1.1	62
56	200 GHz communication system using unipolar InAs THz rectifiers. , 2013, , .		0
57	Noise in terahertz detectors based on semiconductor nanochannels. , 2013, , .		1
58	Searching for THz Gunn oscillations in GaN planar nanodiodes. Journal of Applied Physics, 2012, 111, .	1.1	48
59	Monte Carlo studies of the intrinsic time-domain response of nanoscale three-branch junctions. Journal of Applied Physics, 2012, 111, 084511.	1.1	0
60	Effects of a High-k Dielectric on the Performance of IIIâ€“V Ballistic Deflection Transistors. IEEE Electron Device Letters, 2012, 33, 1120-1122.	2.2	9
61	Toward THz Gunn oscillations in planar GaN nanodiodes. , 2011, , .		0
62	General purpose logic gate using ballistic nanotransistors. , 2011, , .		5
63	Noise and Terahertz rectification in semiconductor diodes and transistors. , 2011, , .		1
64	Nonlinear electron properties of an InGaAs/InAlAs-based ballistic deflection transistor: Room temperature DC experiments and numerical simulations. Solid-State Electronics, 2011, 56, 120-129.	0.8	10
65	Evidence of surface charge effects in T-branch nanojunctions using microsecond-pulse testing. Nanotechnology, 2011, 22, 445203.	1.3	2
66	Correlation between low-frequency current-noise enhancement and high-frequency oscillations in GaN-based planar nanodiodes: A Monte Carlo study. Applied Physics Letters, 2011, 99, 062109.	1.5	15
67	Exploring Digital Logic Design Using Ballistic Deflection Transistors Through Monte Carlo Simulations. IEEE Nanotechnology Magazine, 2011, 10, 1337-1346.	1.1	12
68	Realization of Logic Operations Through Optimized Ballistic Deflection Transistors. , 2011, , .		0
69	Enhanced Terahertz detection in selfâ€switching diodes. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2010, 23, 301-314.	1.2	7
70	Three-terminal junctions operating as mixers, frequency doublers and detectors: a broad-band frequency numerical and experimental study at room temperature. Semiconductor Science and Technology, 2010, 25, 125013.	1.0	18
71	High performance digital circuit design using Ballistic Nano-electronics. , 2010, , .		0
72	Sub-THz frequency analysis in nano-scale devices at room temperature. , 2010, , .		3

#	Article	IF	Citations
73	A Study of Geometry Effects on the Performance of Ballistic Deflection Transistor. IEEE Nanotechnology Magazine, 2010, 9, 723-733.	1.1	23
74	THz generation based on Gunn oscillations in GaN planar asymmetric nanodiodes. , 2010, , .		1
75	Topology impact on the room temperature performance of THz-range ballistic deflection transistors. , 2010, , .		0
76	Noise and terahertz rectification linked by geometry in planar asymmetric nanodiodes. Applied Physics Letters, 2009, 94, 093512.	1.5	24
77	Influence of the branches width on the nonlinear output characteristics of InAlAs/InGaAs-based three-terminal junctions. Journal of Applied Physics, 2009, 105, 094504.	1.1	15
78	Noise Enhanced THz Rectification Tuned by Geometry in Planar Asymmetric Nanodiodes. , 2009, , .		0
79	Frequency response of T-shaped Three Branch Junctions as Mixers and Detectors. , 2009, , .		2
80	Monte Carlo analysis of Gunn oscillations in narrow and wide band-gap asymmetric nanodiodes. Journal of Physics: Conference Series, 2009, 193, 012018.	0.3	10
81	RF doubling and rectification in three-terminal junctions: experimental characterization and Monte Carlo analysis. Journal of Physics: Conference Series, 2009, 193, 012021.	0.3	1
82	Terahertz tunable detection in self-switching diodes based on high mobility semiconductors: InGaAs, InAs and InSb. Journal of Physics: Conference Series, 2009, 193, 012082.	0.3	11
83	Monte Carlo simulation of surface charge effects in Tâ€branch nanojunctions. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 94-97.	0.8	3
84	Monte Carlo analysis of memory effects in nanoâ€scale rectifying diodes. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 82-85.	0.8	1
85	Monte Carlo analysis of noise spectra in self-switching nanodiodes. Journal of Applied Physics, 2008, 103, 024502.	1.1	24
86	Microscopic Analysis of Noise in Self-Switching Diodes. AIP Conference Proceedings, 2007, , .	0.3	0
87	Influence of the surface charge on the operation of ballistic T-branch junctions: a self-consistent model for Monte Carlo simulations. Semiconductor Science and Technology, 2007, 22, 663-670.	1.0	51
88	Hysteresis phenomena in nanoscale rectifying diodes: A Monte Carlo interpretation in terms of surface effects. Applied Physics Letters, 2007, 91, .	1.5	13
89	Monte Carlo simulation of AlGaN/GaN heterostructures. , 2007, , .		1
90	Surface Charge Effects in Ballistic T-Branch Nanojunctions. , 2007, , .		0

#	Article	IF	Citations
91	Cycling and wind: does sidewind brake?. European Journal of Physics, 2006, 27, 71-74.	0.3	8
92	Monte Carlo Simulation of Room Temperature Ballistic Nanodevices. , 0, , .		1