

Ignacio Iñiguez de la Torre

List of Publications by Year in descending order

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92
papers

785
citations

566801

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580395

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93
all docs

93
docs citations

93
times ranked

465
citing authors

#	ARTICLE	IF	CITATIONS
1	Phonon black-body radiation limit for heat dissipation in electronics. <i>Nature Materials</i> , 2015, 14, 187-192.	13.3	69
2	Experimental demonstration of direct terahertz detection at room-temperature in AlGaIn/GaN asymmetric nanochannels. <i>Journal of Applied Physics</i> , 2013, 113, .	1.1	62
3	Influence of the surface charge on the operation of ballistic T-branch junctions: a self-consistent model for Monte Carlo simulations. <i>Semiconductor Science and Technology</i> , 2007, 22, 663-670.	1.0	51
4	Searching for THz Gunn oscillations in GaN planar nanodiodes. <i>Journal of Applied Physics</i> , 2012, 111, .	1.1	48
5	Optimized V-shape design of GaN nanodiodes for the generation of Gunn oscillations. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	27
6	Room Temperature Direct and Heterodyne Detection of 0.28–0.69-THz Waves Based on GaN 2-DEG Unipolar Nanochannels. <i>IEEE Transactions on Electron Devices</i> , 2016, 63, 353-359.	1.6	27
7	Comparative Monte Carlo analysis of InP- and GaN-based Gunn diodes. <i>Journal of Applied Physics</i> , 2014, 115, .	1.1	25
8	Monte Carlo analysis of noise spectra in self-switching nanodiodes. <i>Journal of Applied Physics</i> , 2008, 103, 024502.	1.1	24
9	Noise and terahertz rectification linked by geometry in planar asymmetric nanodiodes. <i>Applied Physics Letters</i> , 2009, 94, 093512.	1.5	24
10	A Study of Geometry Effects on the Performance of Ballistic Deflection Transistor. <i>IEEE Nanotechnology Magazine</i> , 2010, 9, 723-733.	1.1	23
11	Optimization and small-signal modeling of zero-bias InAs self-switching diode detectors. <i>Solid-State Electronics</i> , 2015, 104, 79-85.	0.8	21
12	Impact of substrate and thermal boundary resistance on the performance of AlGaIn/GaN HEMTs analyzed by means of electro-thermal Monte Carlo simulations. <i>Semiconductor Science and Technology</i> , 2016, 31, 065005.	1.0	21
13	Numerical study of sub-millimeter Gunn oscillations in InP and GaN vertical diodes: Dependence on bias, doping, and length. <i>Journal of Applied Physics</i> , 2013, 114, .	1.1	19
14	Three-terminal junctions operating as mixers, frequency doublers and detectors: a broad-band frequency numerical and experimental study at room temperature. <i>Semiconductor Science and Technology</i> , 2010, 25, 125013.	1.0	18
15	Influence of the branches width on the nonlinear output characteristics of InAlAs/InGaAs-based three-terminal junctions. <i>Journal of Applied Physics</i> , 2009, 105, 094504.	1.1	15
16	Correlation between low-frequency current-noise enhancement and high-frequency oscillations in GaN-based planar nanodiodes: A Monte Carlo study. <i>Applied Physics Letters</i> , 2011, 99, 062109.	1.5	15
17	Nonlinear nanochannels for room temperature terahertz heterodyne detection. <i>Semiconductor Science and Technology</i> , 2013, 28, 125024.	1.0	15
18	Hysteresis phenomena in nanoscale rectifying diodes: A Monte Carlo interpretation in terms of surface effects. <i>Applied Physics Letters</i> , 2007, 91, .	1.5	13

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19	Operation of GaN Planar Nanodiodes as THz Detectors and Mixers. IEEE Transactions on Terahertz Science and Technology, 2014, 4, 670-677.	2.0	13
20	Voltage controlled sub-THz detection with gated planar asymmetric nanochannels. Applied Physics Letters, 2018, 113, .	1.5	13
21	Exploring Digital Logic Design Using Ballistic Deflection Transistors Through Monte Carlo Simulations. IEEE Nanotechnology Magazine, 2011, 10, 1337-1346.	1.1	12
22	On the effect of δ -doping in self-switching diodes. Applied Physics Letters, 2014, 105, .	1.5	12
23	GaN nanodiode arrays with improved design for zero-bias sub-THz detection. Semiconductor Science and Technology, 2018, 33, 095016.	1.0	12
24	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
25	Study of surface charges in ballistic deflection transistors. Nanotechnology, 2015, 26, 485202.	1.3	11
26	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
27	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
28	Effects of a High-k Dielectric on the Performance of μ m Ballistic Deflection Transistors. IEEE Electron Device Letters, 2012, 33, 1120-1122.	2.2	9
29	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
30	Anomalous DC and RF behavior of virgin AlGaIn/AlN/GaN HEMTs. Semiconductor Science and Technology, 2017, 32, 035011.	1.0	9
31	Cycling and wind: does sidewind brake?. European Journal of Physics, 2006, 27, 71-74.	0.3	8
32	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
33	Enhanced Terahertz detection in self-switching diodes. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2010, 23, 301-314.	1.2	7
34	Non-linear thermal resistance model for the simulation of high power GaN-based devices. Semiconductor Science and Technology, 2021, 36, 055002.	1.0	7
35	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
36	General purpose logic gate using ballistic nanotransistors. , 2011, , .		5

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37	Optimization of Ballistic Deflection Transistors by Monte Carlo Simulations. Journal of Physics: Conference Series, 2015, 647, 012066.	0.3	5
38	Self-consistent electro-thermal simulations of AlGaIn/GaN diodes by means of Monte Carlo method. Semiconductor Science and Technology, 2015, 30, 035001.	1.0	5
39	Design and Fabrication of Planar Gunn Nanodiodes Based on Doped GaN. , 2019, , .		5
40	GaN-based SSD structure for THz applications. , 2019, , .		5
41	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
42	Temperature and Gate-Length Dependence of Subthreshold RF Detection in GaN HEMTs. Sensors, 2022, 22, 1515.	2.1	5
43	Ballistic deflection transistor: Geometry dependence and boolean operations. , 2013, , .		4
44	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
45	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
46	Sub-THz frequency analysis in nano-scale devices at room temperature. , 2010, , .		3
47	Monte Carlo analysis of thermal effects in self-switching diodes. , 2013, , .		3
48	Exploration of digital latch design using ballistic deflection transistors â€” Modeling and simulation. , 2015, , .		3
49	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
50	Monte Carlo modeling of ultra-fast operating Ballistic Deflection Transistor. , 2016, , .		3
51	Geometry and bias dependence of trapping effects in planar GaN nanodiodes. , 2017, , .		3
52	Microwave detection up to 43.5 GHz by GaN nanodiodes: Experimental and analytical responsivity. , 2017, , .		3
53	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
54	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

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55	Monte Carlo analysis of thermal effects in the DC and AC performance of AlGaIn/GaN HEMTs. Solid-State Electronics, 2022, 193, 108289.	0.8	3
56	Frequency response of T-shaped Three Branch Junctions as Mixers and Detectors. , 2009, , .		2
57	Evidence of surface charge effects in T-branch nanojunctions using microsecond-pulse testing. Nanotechnology, 2011, 22, 445203.	1.3	2
58	Room temperature THz detection and emission with semiconductor nanodevices. , 2013, , .		2
59	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
60	Modeling and Study of Two-BDT-Nanostructure based Sequential Logic Circuits. , 2016, , .		2
61	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
62	Analysis of trap states in AlGaIn/GaN self-switching diodes via impedance measurements. Microelectronics Reliability, 2020, 114, 113806.	0.9	2
63	Temperature Behavior of Gunn Oscillations in Planar InGaAs Diodes. IEEE Electron Device Letters, 2021, 42, 1136-1139.	2.2	2
64	Monte Carlo simulation of AlGaIn/GaN heterostructures. , 2007, , .		1
65	Monte Carlo analysis of memory effects in nano-scale rectifying diodes. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 82-85.	0.8	1
66	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
67	THz generation based on Gunn oscillations in GaN planar asymmetric nanodiodes. , 2010, , .		1
68	Noise and Terahertz rectification in semiconductor diodes and transistors. , 2011, , .		1
69	Noise in terahertz detectors based on semiconductor nanochannels. , 2013, , .		1
70	Ultrahigh responsivity of optically active, semiconducting asymmetric nano-channel diodes. Journal of Physics: Conference Series, 2015, 647, 012013.	0.3	1
71	A high performance Full Adder based on Ballistic Deflection Transistor technology. , 2017, , .		1
72	Monte Carlo Simulation of Room Temperature Ballistic Nanodevices. , 0, , .		1

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73	Microscopic Analysis of Noise in Self-Switching Diodes. AIP Conference Proceedings, 2007, , .	0.3	0
74	Surface Charge Effects in Ballistic T-Branch Nanojunctions. , 2007, , .		0
75	Noise Enhanced THz Rectification Tuned by Geometry in Planar Asymmetric Nanodiodes. , 2009, , .		0
76	High performance digital circuit design using Ballistic Nano-electronics. , 2010, , .		0
77	Toward THz Gunn oscillations in planar GaN nanodiodes. , 2011, , .		0
78	Realization of Logic Operations Through Optimized Ballistic Deflection Transistors. , 2011, , .		0
79	Monte Carlo studies of the intrinsic time-domain response of nanoscale three-branch junctions. Journal of Applied Physics, 2012, 111, 084511.	1.1	0
80	200 GHz communication system using unipolar InAs THz rectifiers. , 2013, , .		0
81	GaN-based Implanted self switching diodes for THz imaging. , 2014, , .		0
82	Time-domain Monte Carlo simulation of GaN planar Gunn nanodiodes in resonant circuits. , 2014, , .		0
83	0.69 THz room temperature heterodyne detection using GaN nanodiodes. Journal of Physics: Conference Series, 2015, 647, 012006.	0.3	0
84	Temperature and Surface Traps Influence on the THz Emission from InGaAs Diodes. Journal of Physics: Conference Series, 2015, 647, 012039.	0.3	0
85	Experimental verification of low-frequency noise effects at the onset of oscillations in planar Gunn diodes. , 2015, , .		0
86	Evaluation of the thermal resistance in GaN-diodes by means of electro-thermal Monte Carlo simulations. , 2015, , .		0
87	Anomalous low-frequency noise increase at the onset of oscillations in Gunn diodes. , 2015, , .		0
88	Ballistic deflection transistor very high frequency modeling. , 2016, , .		0
89	Characterization and modeling of traps and RF frequency dispersion in AlGaIn/AlN/GaN HEMTs. , 2016, , .		0
90	Fabrication Process of Non-Linear Planar Diodes Based on GaN. , 2018, , .		0

#	ARTICLE	IF	CITATIONS
91	Bias-dependence of surface charge at low temperature in GaN Self-Switching Diodes. , 2021, , .		0
92	Topology impact on the room temperature performance of THz-range ballistic deflection transistors. , 2010, , .		0