Javier Mateos

List of Publications by Year in descending order

254 papers	2,713 citations	236612 25 h-index	253896 43 g-index
255 all docs	255 docs citations	255 times ranked	1082 citing authors

#	Article	IF	Citations
1	Voltage tuneable terahertz emission from a ballistic nanometer InGaAsâˆ•InAlAs transistor. Journal of Applied Physics, 2005, 97, 064307.	1.1	133
2	Microwave Detection at 110 GHz by Nanowires with Broken Symmetry. Nano Letters, 2005, 5, 1423-1427.	4.5	99
3	Monte Carlo simulator for the design optimization of low-noise HEMTs. IEEE Transactions on Electron Devices, 2000, 47, 1950-1956.	1.6	92
4	Ballistic nanodevices for terahertz data processing: Monte Carlo simulations. Nanotechnology, 2003, 14, 117-122.	1.3	88
5	Improved Monte Carlo algorithm for the simulation of Î´-doped AlInAs/GaInAs HEMTs. IEEE Transactions on Electron Devices, 2000, 47, 250-253.	1.6	83
6	Operation and high-frequency performance of nanoscale unipolar rectifying diodes. Applied Physics Letters, 2005, 86, 212103.	1.5	82
7	Microscopic modeling of nonlinear transport in ballistic nanodevices. IEEE Transactions on Electron Devices, 2003, 50, 1897-1905.	1.6	81
8	Phonon black-body radiation limit for heat dissipation in electronics. Nature Materials, 2015, 14, 187-192.	13.3	69
9	A 520â€“620-GHz Schottky Receiver Front-End for Planetary Science and Remote Sensing With 1070 Kâ€“1500 K DSB Noise Temperature at Room Temperature. IEEE Transactions on Terahertz Science and Technology, 2016, 6, 148-155.	2.0	67
10	Comparison Between the Dynamic Performance of Double- and Single-Gate AlInAs/InGaAs HEMTs. IEEE Transactions on Electron Devices, 2007, 54, 2815-2822.	1.6	66
11	Experimental demonstration of direct terahertz detection at room-temperature in AlGaN/GaN asymmetric nanochannels. Journal of Applied Physics, 2013, 113, .	1.1	62
12	Universality of the 1/3 Shot-Noise Suppression Factor in Nondegenerate Diffusive Conductors. Physical Review Letters, 1998, 80, 2901-2904.	2.9	59
13	Terahertz Gunn-like oscillations in InGaAs/InAlAs planar diodes. Journal of Applied Physics, 2008, 103, 094516.	1.1	52
14	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
15	Effect of the T-gate on the performance of recessed HEMTs. A Monte Carlo analysis. Semiconductor Science and Technology, 1999, 14, 864-870.	1.0	50
16	Nonlinear Effects in T-Branch Junctions. IEEE Electron Device Letters, 2004, 25, 235-237.	2.2	48
17	Searching for THz Gunn oscillations in GaN planar nanodiodes. Journal of Applied Physics, 2012, 111, .	1.1	48
18	Effect of long-range Coulomb interaction on shot-noise suppression in ballistic transport. Physical Review B, 1997, 56, 6424-6427.	1.1	37

#	Article	IF	Citations
19	Monte Carlo analysis of dynamic and noise performance of submicron MOSFETs at RF and microwave frequencies. Semiconductor Science and Technology, 2001, 16, 939-946.	1.0	36
20	Design Optimization of AlInAsâ€“GaInAs HEMTs for High-Frequency Applications. IEEE Transactions on Electron Devices, 2004, 51, 521-528.	1.6	34
21	High-mobility heterostructures based on InAs and InSb: A Monte Carlo study. Journal of Applied Physics, 2009, 105, .	1.1	34
22	Electron-number statistics and shot-noise suppression by Coulomb correlation in nondegenerate ballistic transport. Physical Review B, 1998, 57, 1366-1369.	1.1	30
23	Microscopic analysis of shot-noise suppression in nondegenerate ballistic transport. Semiconductor Science and Technology, 1998, 13, 714-724.	1.0	28
24	Optimized V-shape design of GaN nanodiodes for the generation of Gunn oscillations. Applied Physics Letters, 2014, 104, .	1.5	27
25	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
26	Comparison Between the Noise Performance of Double- and Single-Gate InP-Based HEMTs. IEEE Transactions on Electron Devices, 2008, 55, 1535-1540.	1.6	25
27	Comparative Monte Carlo analysis of InP- and GaN-based Gunn diodes. Journal of Applied Physics, 2014, 115, .	1.1	25
28	Injection statistics simulator for dynamic analysis of noise in mesoscopic devices. Semiconductor Science and Technology, 1999, 14, L37-L40.	1.0	24
29	THz operation of self-switching nano-diodes and nano-transistors. , 2005, , .		24
30	Monte Carlo analysis of noise spectra in self-switching nanodiodes. Journal of Applied Physics, 2008, 103, 024502.	1.1	24
31	Noise and terahertz rectification linked by geometry in planar asymmetric nanodiodes. Applied Physics Letters, 2009, 94, 093512.	1.5	24
32	Langevin forces and generalized transfer fields for noise modeling in deep submicron devices. IEEE Transactions on Electron Devices, 2000, 47, 1992-1998.	1.6	23
33	Monte Carlo study of kink effect in short-channel InAlAs/InGaAs high electron mobility transistors. Journal of Applied Physics, 2003, 94, 4096-4101.	1.1	23
34	Kink-effect related noise in short-channel InAlAs/InGaAs high electron mobility transistors. Journal of Applied Physics, 2004, 95, 8271-8274.	1.1	23
35	Design Optimization of AlInAsâ€“GaInAs HEMTs for Low-Noise Applications. IEEE Transactions on Electron Devices, 2004, 51, 1228-1233.	1.6	22
36	100nm InAlAs/InGaAs double-gate HEMT using transferred substrate. , 0, , .		21

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37	Monte Carlo investigation of terahertz plasma oscillations in ultrathin layers of n-type In0.53Ga0.47As. Applied Physics Letters, 2008, 92, 042113.	1.5	21
38	Plasma Enhanced Terahertz Rectification and Noise in InGaAs HEMTs. IEEE Transactions on Terahertz Science and Technology, 2012, 2, 562-569.	2.0	21
39	Optimization and small-signal modeling of zero-bias InAs self-switching diode detectors. Solid-State Electronics, 2015, 104, 79-85.	0.8	21
40	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
41	Room temperature nonlinear transport in ballistic nanodevices. Semiconductor Science and Technology, 2004, 19, S125-S127.	1.0	20
42	Microscopic analysis of shot-noise suppression in nondegenerate diffusive conductors. Physical Review B, 1999, 60, 2670-2679.	1.1	19
43	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
44	Transfer-field methods for electronic noise in submicron semiconductor structures. Rivista Del Nuovo Cimento, 2001, 24, 1-72.	2.0	19
45	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
46	Negative Differential Transconductance and Nonreciprocal Effects in a Y-Branch Nanojunction: High-Frequency Analysis. IEEE Nanotechnology Magazine, 2006, 5, 750-757.	1.1	17
47	A microscopic interpretation of the RF noise performance of fabricated FDSOI MOSFETs. IEEE Transactions on Electron Devices, 2006, 53, 523-532.	1.6	17
48	Bohm trajectories for the Monte Carlo simulation of quantum-based devices. Applied Physics Letters, 1998, 72, 806-808.	1.5	16
49	Monte Carlo analysis of four-terminal ballistic rectifiers. Nanotechnology, 2004, 15, S250-S253.	1.3	15
50	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
51	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
52	Nonlinear nanochannels for room temperature terahertz heterodyne detection. Semiconductor Science and Technology, 2013, 28, 125024.	1.0	15
53	Numerical and experimental analysis of the static characteristics and noise in ungated recessed MESFET structures. Solid-State Electronics, 1996, 39, 1629-1636.	0.8	14
54	Monte Carlo study of kink effect in isolated-gate InAs/AlSb high electron mobility transistors. Journal of Applied Physics, 2010, 108, .	1.1	14

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55	Monte Carlo Study of 2-D Capacitance Fringing Effects in GaAs Planar Schottky Diodes. IEEE Transactions on Electron Devices, 2016, 63, 3900-3907.	1.6	14
56	Acceleration fluctuation scheme for diffusion noise sources within a generalized impedance field method. Physical Review B, 1998, 57, 11866-11869.	1.1	13
57	Hysteresis phenomena in nanoscale rectifying diodes: A Monte Carlo interpretation in terms of surface effects. Applied Physics Letters, 2007, 91, .	1.5	13
58	Ballistic nano-devices for high frequency applications. Thin Solid Films, 2007, 515, 4321-4326.	0.8	13
59	Operation of GaN Planar Nanodiodes as THz Detectors and Mixers. IEEE Transactions on Terahertz Science and Technology, 2014, 4, 670-677.	2.0	13
60	Voltage controlled sub-THz detection with gated planar asymmetric nanochannels. Applied Physics Letters, 2018, 113, .	1.5	13
61	On the spectral strength of the noise source entering the transfer impedance method. Applied Physics Letters, 1997, 71, 3093-3095.	1.5	12
62	Noise and transit time in ungated FET structures. IEEE Transactions on Electron Devices, 1997, 44, 2128-2135.	1.6	12
63	Towards the Monte Carlo simulation of resonant tunnelling diodes using time-dependent wavepackets and Bohm trajectories. Semiconductor Science and Technology, 1999, 14, 532-542.	1.0	12
64	Exploring Digital Logic Design Using Ballistic Deflection Transistors Through Monte Carlo Simulations. IEEE Nanotechnology Magazine, 2011, 10, 1337-1346.	1.1	12
65	On the effect of Î´-doping in self-switching diodes. Applied Physics Letters, 2014, 105, .	1.5	12
66	GaN nanodiode arrays with improved design for zero-bias sub-THz detection. Semiconductor Science and Technology, 2018, 33, 095016.	1.0	12
67	Spatial extent of the correlation between local diffusion noise sources in GaAs. Journal of Applied Physics, 1995, 77, 1564-1568.	1.1	11
68	Influence of spatial correlations on the analysis of diffusion noise in submicron semiconductor structures. Applied Physics Letters, 1995, 67, 685-687.	1.5	11
69	Noise suppression due to long-range Coulomb interaction: crossover between diffusive and ballistic transport regimes. Semiconductor Science and Technology, 1997, 12, 1053-1056.	1.0	11
70	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
71	Study of surface charges in ballistic deflection transistors. Nanotechnology, 2015, 26, 485202.	1.3	11
72	Transfer impedance calculations of electronic noise in two-terminal semiconductor structures. Journal of Applied Physics, 1998, 83, 2052-2066.	1.1	10

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73	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
74	Dynamic Monte Carlo study of isolated-gate InAs/AlSb HEMTs. Semiconductor Science and Technology, 2011, 26, 025004.	1.0	10
75	Analysis of Surface Charge Effects and Edge Fringing Capacitance in Planar GaAs and GaN Schottky Barrier Diodes. IEEE Transactions on Electron Devices, 2020, 67, 3530-3535.	1.6	10
76	Joint effect of Fermi and Coulomb correlations on shot-noise suppression in ballistic conductors. Physica B: Condensed Matter, 1999, 272, 285-287.	1.3	9
77	Numerical and experimental study of a 0.25 Âµm fully-depleted silicon-on-insulator MOSFET: static and dynamic radio-frequency behaviour. Semiconductor Science and Technology, 2002, 17, 1149-1156.	1.0	9
78	Kink effect and noise performance in isolated-gate InAs/AlSb high electron mobility transistors. Semiconductor Science and Technology, 2012, 27, 065018.	1.0	9
79	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
80	Cryogenic Performance of Low-Noise InP HEMTs: A Monte Carlo Study. IEEE Transactions on Electron Devices, 2013, 60, 1625-1631.	1.6	9
81	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
82	Monte Carlo modelling of noise in advanced IIIâ€“V HEMTs. Journal of Computational Electronics, 2015, 14, 72-86.	1.3	9
83	Anomalous DC and RF behavior of virgin AlGaN/AlN/GaN HEMTs. Semiconductor Science and Technology, 2017, 32, 035011.	1.0	9
84	Design and realization of sub 100 nm gate length HEMTs. , 0, , .		8
85	Numerical modeling of TeraHertz electronic devices. Journal of Computational Electronics, 2006, 5, 71-77.	1.3	8
86	Monte Carlo investigation of terahertz plasma oscillations in gated ultrathin channel of n-InGaAs. Applied Physics Letters, 2009, 95, 152102.	1.5	8
87	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
88	Monte Carlo Simulation of Noise in Electronic Devices: Limitations and Perspectives. AIP Conference Proceedings, 2003, , .	0.3	7
89	Transition from ballistic to ohmic transport in T-branch junctions at room temperature in GaInAsP/AlInAs heterostructures. , 0, , .		7
90	Ballistic GaInAs/AlInAs devices technology and characterization at room temperature. , 0, , .		7

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91	Monte Carlo Comparison Between InP-Based Double-Gate and Standard HEMTs. , 2006, , .		7
92	Enhanced Terahertz detection in selfâ€switching diodes. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2010, 23, 301-314.	1.2	7
93	Non-linear thermal resistance model for the simulation of high power GaN-based devices. Semiconductor Science and Technology, 2021, 36, 055002.	1.0	7
94	Spatiotemporal correlation of conduction current fluctuations within a hydrodynamic-Langevin scheme. Applied Physics Letters, 1999, 74, 723-725.	1.5	6
95	A Generalized Drift-Diffusion Model for Rectifying Schottky Contact Simulation. IEEE Transactions on Electron Devices, 2010, 57, 1539-1547.	1.6	6
96	Terahertz current oscillations assisted by optical phonon emission in GaN n+nn+ diodes: Monte Carlo simulations. Journal of Applied Physics, 2010, 107, 053707.	1.1	6
97	Analysis of noise spectra in GaAs and GaN Schottky barrier diodes. Semiconductor Science and Technology, 2011, 26, 055023.	1.0	6
98	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
99	Influence of trappingÂdetrapping processes on shot noise in nondegenerate quasi-ballistic transport. Semiconductor Science and Technology, 2002, 17, 440-445.	1.0	5
100	Ballistic nanodevices for high frequency applications. International Journal of Nanotechnology, 2008, 5, 796.	0.1	5
101	Plasmonic noise in nanometric semiconductor layers. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P02030.	0.9	5
102	A Monte Carlo investigation of plasmonic noise in nanometric n-In_{0.53}Ga_{0.47}As channels. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P01040.	0.9	5
103	Effect of tunnel injection through the Schottky gate on the static and noise behavior of GaInAs/AlInAs high electron mobility transistor. Journal of Applied Physics, 2014, 116, 234502.	1.1	5
104	Optimization of Ballistic Deflection Transistors by Monte Carlo Simulations. Journal of Physics: Conference Series, 2015, 647, 012066.	0.3	5
105	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
106	Ion shot noise in Hodgkinâ€“Huxley neurons. Journal of Computational Electronics, 2018, 17, 1790-1796.	1.3	5
107	Design and Fabrication of Planar Gunn Nanodiodes Based on Doped GaN. , 2019, , .		5
108	GaN-based SSD structure for THz applications. , 2019, , .		5

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109	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
110	Submillimeter-Wave Oscillations in Recessed InGaAs/InAlAs Heterostructures: Origin and Tunability. Acta Physica Polonica A, 2011, 119, 111-113.	0.2	5
111	Review of electron transport properties in bulk InGaAs and InAs at room temperature. Lithuanian Journal of Physics, 2016, 55, .	0.1	5
112	Temperature and Gate-Length Dependence of Subthreshold RF Detection in GaN HEMTs. Sensors, 2022, 22, 1515.	2.1	5
113	Influence of Al mole fraction on the noise performance of GaAs/Al/sub x/Ga/sub 1-x/As HEMT's. IEEE Transactions on Electron Devices, 1998, 45, 2081-2083.	1.6	4
114	Shot-noise suppression in nondegenerate semiconductors: the role of an energy-dependent scattering time. Physica B: Condensed Matter, 1999, 272, 282-284.	1.3	4
115	Terahertz oscillations in ultra-thinn-In_{0.53}Ga_{0.47}As ungated channels. Journal of Physics Condensed Matter, 2008, 20, 384210.	0.7	4
116	Monte Carlo analysis of thermal effects in GaN HEMTs. , 2009, , .		4
117	Monte Carlo simulation of ballistic transport in high-mobility channels. Journal of Physics: Conference Series, 2009, 193, 012035.	0.3	4
118	Time-domain Monte Carlo simulations of resonant-circuit operation of GaN Gunn diodes. , 2013, , .		4
119	Ballistic deflection transistor: Geometry dependence and boolean operations. , 2013, , .		4
120	Time-dependent shot noise in multi-level quantum dot-based single-electron devices. Semiconductor Science and Technology, 2015, 30, 055002.	1.0	4
121	Stochastic model for action potential simulation including ion shot noise. Journal of Computational Electronics, 2017, 16, 419-430.	1.3	4
122	Langevin Forces and Generalized Transfer Fields for Noise Modelling in Deep Submicron Devices. VLSI Design, 2001, 13, 85-90.	0.5	3
123	Double-gate HEMTs on transferred substrate. , 0, , .		3
124	Ultra Fast Gunn Effect at THz Frequencies in HEMTs. , 0, , .		3
125	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
126	Sub-THz frequency analysis in nano-scale devices at room temperature. , 2010, , .		3

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127	Monte Carlo analysis of thermal effects in self-switching diodes. , 2013, , .		3
128	Exploration of digital latch design using ballistic deflection transistors â€" Modeling and simulation. , 2015, , .		3
129	Monte Carlo modeling of ultra-fast operating Ballistic Deflection Transistor. , 2016, , .		3
130	Geometry and bias dependence of trapping effects in planar GaN nanodiodes. , 2017, , .		3
131	Microwave detection up to 43.5 GHz by GaN nanodiodes: Experimental and analytical responsivity. , 2017, , .		3
132	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
133	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
134	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
135	Bohm trajectories for the modeling of tunneling devices. Microelectronic Engineering, 1997, 36, 125-128.	1.1	2
136	GonzÃ¡lezet al.Reply:. Physical Review Letters, 1999, 83, 1268-1268.	2.9	2
137	Monte Carlo Investigation of Shot-noise Suppression in Nondegenerate Ballistic and Diffusive Transport Regimes. Australian Journal of Physics, 2000, 53, 3.	0.6	2
138	FRONTIERS IN ELECTRONIC NOISE: FROM SUBMICRON TO NANO STRUCTURES. International Journal of High Speed Electronics and Systems, 2000, 10, 111-117.	0.3	2
139	Monte Carlo simulation of electronic characteristics in short channel Î´-doped AlInAs/GaInAs HEMTs. Microelectronics Reliability, 2001, 41, 73-77.	0.9	2
140	INFLUENCE OF DENSITY, OCCUPANCY AND LOCATION OF ELECTRON TRAPS ON SHOT NOISE IN NONDEGENERATE QUASIBALLISTIC TRANSPORT. Fluctuation and Noise Letters, 2002, 02, L243-L251.	1.0	2
141	High-frequency noise in FDSOI MOSFETs: a Monte Carlo investigation. , 2003, , .		2
142	Operation of a novel nanoscale unipolar rectifying diode. , 0, , .		2
143	TeraHertz Emission and Noise Spectra in HEMTs. AIP Conference Proceedings, 2005, , .	0.3	2
144	Fabrication and fundamentals of operation of an InAlAs/InGaAs velocity modulation transistor. Applied Physics Letters, 2009, 94, 103504.	1.5	2

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145	Frequency response of T-shaped Three Branch Junctions as Mixers and Detectors. , 2009, , .		2
146	On the geometrical tunabililty of THz Gunn-like oscillations in InGaAs/InAlAs slot diodes. Journal of Physics: Conference Series, 2009, 193, 012090.	0.3	2
147	DC and RF cryogenic behaviour of InAs/AlSb HEMTs. , 2010, , .		2
148	Monte Carlo study of the noise performance of isolated-gate InAs HEMTs. , 2011, , .		2
149	Transconductance characteristics and plasma oscillations in nanometric InGaAs field effect transistors. Solid-State Electronics, 2011, 56, 116-119.	0.8	2
150	Evidence of surface charge effects in T-branch nanojunctions using microsecond-pulse testing. Nanotechnology, 2011, 22, 445203.	1.3	2
151	Monte Carlo study of the noise performance of isolated-gate InAs/AlSb HEMTs. Semiconductor Science and Technology, 2012, 27, 015008.	1.0	2
152	Room temperature THz detection and emission with semiconductor nanodevices. , 2013, , .		2
153	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
154	Shot-noise suppression effects in InGaAs planar diodes at room temperature. Journal of Physics: Conference Series, 2015, 647, 012061.	0.3	2
155	Modeling and Study of Two-BDT-Nanostructure based Sequential Logic Circuits. , 2016, , .		2
156	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
157	Monte Carlo analysis of IIIâ€“V PIN diodes for tunnel-FETs and Impact Ionization-MOSFETs. , 2017, , .		2
158	Noise and charge discreteness as ultimate limit for the THz operation of ultra-small electronic devices. Scientific Reports, 2020, 10, 15990.	1.6	2
159	Analysis of trap states in AlGaN/GaN self-switching diodes via impedance measurements. Microelectronics Reliability, 2020, 114, 113806.	0.9	2
160	Temperature Behavior of Gunn Oscillations in Planar InGaAs Diodes. IEEE Electron Device Letters, 2021, 42, 1136-1139.	2.2	2
161	Quantum Monte Carlo Simulation of Tunneling Devices Using Bohm Trajectories. Physica Status Solidi (B): Basic Research, 1997, 204, 404-407.	0.7	1
162	Hydrodynamic Modeling of Spatial Cross-Correlation of Conduction Current Fluctuations. Materials Science Forum, 1998, 297-298, 147-150.	0.3	1

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163	Thermal conductivity of nonequilibrium carriers. Physica B: Condensed Matter, 1999, 272, 247-249.	1.3	1
164	Generalized transfer-fields and Langevin forces for hot-carrier fluctuations in semiconductor submicron devices. Physica B: Condensed Matter, 1999, 272, 260-262.	1.3	1
165	Effect of dimensionality on shot-noise suppression in nondegenerate diffusive conductors. Microelectronics Reliability, 2000, 40, 1951-1954.	0.9	1
166	Role of energy correlations on Coulomb suppression of shot noise in ballistic conductors contacted to degenerate reservoirs. Physical Review B, 2003, 68, .	1.1	1
167	Influence of the kink effect on the dynamic performance of short-channel InAlAs/InGaAs high electron mobility transistors. Semiconductor Science and Technology, 2005, 20, 956-960.	1.0	1
168	Kink effect in InAlAs/InGaAs short-channel HEMTs: influence on the dynamic and noise performance. , 0, , .		1
169	Monte Carlo Investigation of THz Oscillations in InAlAs/InGaAs Heterostructures by Means of Current and Voltage Noise Spectra. AIP Conference Proceedings, 2007, , .	0.3	1
170	Noise analysis of plasma wave oscillations in InGaAs channels. AIP Conference Proceedings, 2007, , .	0.3	1
171	Monte Carlo simulation of AlGaN/GaN heterostructures. , 2007, , .		1
172	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
173	Monte Carlo simulation of plasma oscillations in ultra-thin layers. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 249-252.	0.8	1
174	Excitation of millimeter-wave oscillations in InAlAs/InGaAs heterostructures. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 146-149.	0.8	1
175	High Frequency Noise in GaN HEMTs. , 2009, , .		1
176	Monte Carlo Simulation of Sb-based Heterostructures. , 2009, , .		1
177	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
178	Plasmonic noise in Si and InGaAs semiconductor nanolayers. Journal of Physics: Conference Series, 2009, 193, 012091.	0.3	1
179	Plasma-resonant THz detection with HEMTs. , 2010, , .		1
180	THz generation based on Gunn oscillations in GaN planar asymmetric nanodiodes. , 2010, , .		1

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181	Noise and Terahertz rectification in semiconductor diodes and transistors. , 2011, , .		1
182	Noise in terahertz detectors based on semiconductor nanochannels. , 2013, , .		1
183	Ultrahigh responsivity of optically active, semiconducting asymmetric nano-channel diodes. Journal of Physics: Conference Series, 2015, 647, 012013.	0.3	1
184	Improvement of interfacial and electrical properties of Al₂O₃/ n-Ga_{0.47}In_{0.53}As for III-V impact ionization MOSFETs. Journal of Physics: Conference Series, 2015, 647, 012062.	0.3	1
185	Monte Carlo model for the analysis and development of III-V Tunnel-FETs and Impact Ionization-MOSFETs. Journal of Physics: Conference Series, 2015, 647, 012056.	0.3	1
186	Modeling edge capacitances in ultra-scaled GaAs Schottky barrier diodes for THz applications. , 2016, , .		1
187	A high performance Full Adder based on Ballistic Deflection Transistor technology. , 2017, , .		1
188	Stochastic model for ion shot noise in Hodgkin and Huxley neurons. , 2017, , .		1
189	Impact ionization and band-to-band tunneling in InxGa1-xAs PIN ungated devices: A Monte Carlo analysis. Journal of Applied Physics, 2018, 123, 034501.	1.1	1
190	Planar Asymmetric Semiconductor Nanodiodes for THz Detection. , 2018, , .		1
191	Special Issue on Terahertz Devices. Semiconductor Science and Technology, 2020, 35, 040201.	1.0	1
192	Influence of Laser Modulation Frequency on the Performance of Terahertz Photoconductive Switches on Semi-Insulating GaAs Exhibiting Negative Differential Conductance. IEEE Transactions on Terahertz Science and Technology, 2021, 11, 591-597.	2.0	1
193	Dielectric Passivation and Edge Effects in Planar GaN Schottky Barrier Diodes. IEEE Transactions on Electron Devices, 2021, 68, 4296-4301.	1.6	1
194	Transport and Noise in Ultrafast Unipolar Nanodiodes and Nanotransistors. , 2006, , 109-113.		1
195	Monte Carlo Simulation of Room Temperature Ballistic Nanodevices. , 0, , .		1
196	Monte Carlo Analysis of Impact Ionization in Isolated-Gate InAs/AlSb High Electron Mobility Transistors. Acta Physica Polonica A, 2011, 119, 222-224.	0.2	1
197	Noise Suppression in Mesoscopic Structures Due to Long-Range Coulomb Interaction. Physica Status Solidi (B): Basic Research, 1997, 204, 450-452.	0.7	0
198	The puzzle of 1/3 shot-noise suppression in diffusive conductors: Universality or Numerical Coincidence?. AIP Conference Proceedings, 2000, , .	0.3	0

#	Article	IF	Citations
199	Can the dual property of noise representation be recovered within generalized field methods?. AIP Conference Proceedings, 2000, , .	0.3	0
200	RF Noise in a Short-Channel n-MOSFET: A Monte Carlo Study. Materials Science Forum, 2002, 384-385, 155-158.	0.3	0
201	Optimization of Heterojunction Devices for High-Frequency and Low-Noise Operation. Materials Science Forum, 2002, 384-385, 11-18.	0.3	0
202	Improvement of the high frequency performance of HEMTs by bufferless technology. , 0, , .		0
203	Room temperature nonlinear transport in InGaAs/AlInAs based ballistic nanodevices. , 0, , .		0
204	Monte Carlo analysis of kink effect in short-channel InAlAs/InGaSs HEMTs. , 0, , .		0
205	Kink-effect-related noise in InAlAs/InGaAs short-channel HEMTs. , 2003, , .		0
206	III-V HEMTs: low-noise devices for high-frequency applications. , 2003, , .		0
207	Quantum transport under high-frequency conditions: application to bound state resonant tunnelling transistors. Semiconductor Science and Technology, 2004, 19, L69-L73.	1.0	0
208	Nonlocal effects and transfer fields for electronic noise in small devices. , 2004, , .		0
209	TeraHertz emission from nanometric HEMTs analyzed by noise spectra. AIP Conference Proceedings, 2005, , .	0.3	0
210	Investigation of longitudinal velocity fluctuations in MOSFETs by means of ensemble Monte Carlo simulation. AIP Conference Proceedings, 2005, , .	0.3	0
211	InP based ballistic nanodevices. , 0, , .		0
212	A simple approach for the fabrication of ultrafast unipolar diodes. , 0, , .		0
213	Microscopic Analysis of Noise in Self-Switching Diodes. AIP Conference Proceedings, 2007, , .	0.3	0
214	Kinetic and Partial-Differential Equation Modeling of Noise in Schottky Barrier Diodes: a Comparison. AIP Conference Proceedings, 2007, , .	0.3	0
215	Noise Behavior of InP-Based Double-Gate and Standard HEMTs: a Comparison. AIP Conference Proceedings, 2007, , .	0.3	0
216	InAlAs/InGaAs heteroestructures for THz generation. , 2007, , .		0

#	Article	IF	Citations
217	Monte Carlo Comparison Between InAlAs/InGaAS Double-Gate and Standard HEMTs. , 2007, , .		0
218	Surface Charge Effects in Ballistic T-Branch Nanojunctions. , 2007, , .		0
219	Monte Carlo comparison of the noise performance of InAlAs/InGaAs Double-Gate and Standard HEMTs. , 2008, , .		0
220	Monte Carlo Study of an InAlAs/InGaAs Velocity Modulation Transistor. , 2009, , .		0
221	Noise Enhanced THz Rectification Tuned by Geometry in Planar Asymmetric Nanodiodes. , 2009, , .		0
222	Monte Carlo analysis of noise spectra in InAs channels from diffusive to ballistic regime. , 2009, , .		0
223	Tunab e Tera ertz Resonance in Planar Asymmetric Nanodiodes. , 2009, , .		0
224	Current oscillations excited by optical phonon emission in GaNn⁺nn⁺diodes: Monte Carlo simulations. Journal of Physics: Conference Series, 2009, 193, 012023.	0.3	0
225	Monte Carlo Study of the Dynamic Performance of a 100-nm-Gate InAlAs/InGaAs Velocity Modulation Transistor. IEEE Transactions on Electron Devices, 2010, 57, 2572-2578.	1.6	0
226	Monte Carlo study of ballistic effects in high speed InAs-based quantum hot electron transistor. , 2010, , .		0
227	Isolated-gate InAs/AlSb HEMTs: A Monte Carlo study. , 2010, , .		0
228	Toward THz Gunn oscillations in planar GaN nanodiodes. , 2011, , .		0
229	Monte Carlo study of impact ionization and hole transport in InAs HEMTs with isolated gate. , 2011, , .		0
230	Comparison of noise characteristics of GaAs and GaN Schottky diodes for millimeter and submillimeter applications. , 2011, , .		0
231	Monte Carlo study of the dynamic performance of isolated-gate InAs/AlSb HEMTs. , 2011, , .		0
232	Analysis of nonharmonic oscillations in Schottky diodes. Journal of Applied Physics, 2012, 112, 053703.	1.1	0
233	Monte Carlo studies of the intrinsic time-domain response of nanoscale three-branch junctions. Journal of Applied Physics, 2012, 111, 084511.	1.1	0
234	Accurate predictions of terahertz noise in ultra-small devices: A limiting factor for their practical application?. , 2013, , .		0

#	Article	IF	Citations
235	200 GHz communication system using unipolar InAs THz rectifiers. , 2013, , .		0
236	GaN-based Implanted self switching diodes for THz imaging. , 2014, , .		0
237	Time-domain Monte Carlo simulation of GaN planar Gunn nanodiodes in resonant circuits. , 2014, , .		0
238	Frequency-dependent shot noise in single-electron devices. , 2014, , .		0
239	0.69 THz room temperature heterodyne detection using GaN nanodiodes. Journal of Physics: Conference Series, 2015, 647, 012006.	0.3	0
240	Temperature and Surface Traps Influence on the THz Emission from InGaAs Diodes. Journal of Physics: Conference Series, 2015, 647, 012039.	0.3	0
241	Experimental verification of low-frequency noise effects at the onset of oscillations in planar Gunn diodes. , 2015, , .		0
242	Experimental analysis of shot-noise suppression in InGaAs/InAlAs recessed planar diodes at room temperature. , 2015, , .		0
243	Time-dependent physics of double-tunnel junctions. , 2015, , .		0
244	Evaluation of the thermal resistance in GaN-diodes by means of electro-thermal Monte Carlo simulations. , 2015, , .		0
245	Anomalous low-frequency noise increase at the onset of oscillations in Gunn diodes. , 2015, , .		0
246	Ballistic deflection transistor very high frequency modeling. , 2016, , .		0
247	Characterization and modeling of traps and RF frequency dispersion in AlGaN/AlN/GaN HEMTs. , 2016, , .		0
248	Monte Carlo calculation of In<inf>0.53</inf>Ga<inf>0.47</inf>As and InAs noise parameters. , 2017, , .		0
249	Noise and Charge Discreteness as Ultimate Limit for the THz Operation of Ultra-Small Electronic Devices. , 2018, , .		0
250	Fabrication Process of Non-Linear Planar Diodes Based on GaN. , 2018, , .		0
251	Interplay between channel and shot noise at the onset of spiking activity in neural membranes. Journal of Computational Electronics, 2020, 19, 792-799.	1.3	0
252	Bias-dependence of surface charge at low temperature in GaN Self-Switching Diodes. , 2021, , .		0

#	Article	IF	Citations
253	Technological Parameters and Edge Fringing Capacitance in GaN Schottky Barrier Diodes: Monte Carlo Simulations. , 2021, , .		0
254	Monte Carlo Analysis of the Dynamic Behavior Î¿f InAlAs/InGaAs Velocity Modulation Transistors: A Geometrical Optimization. Acta Physica Polonica A, 2011, 119, 193-195.	0.2	0