

Jes s E Vel zquez-P rez

List of Publications by Year in descending order

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83
all docs

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docs citations

83
times ranked

297
citing authors

#	ARTICLE	IF	CITATIONS
1	Transport of nonequilibrium carriers in bipolar semiconductors. Journal of Applied Physics, 2007, 101, 023705.	1.1	46
2	Asymmetric dual-grating gates graphene FET for detection of terahertz radiations. APL Photonics, 2020, 5, 066102.	3.0	36
3	Enhancement of resolution of low molecular weight RNA profiles by staircase electrophoresis. Electrophoresis, 1997, 18, 1909-1911.	1.3	35
4	Heating and cooling in semiconductor structures by an electric current. Applied Physics Letters, 2006, 89, 092118.	1.5	31
5	Transport boundary condition for semiconductor structures. Solid-State Electronics, 2008, 52, 1703-1709.	0.8	28
6	Simulation of electron transport in silicon: impact-ionization processes. Semiconductor Science and Technology, 1993, 8, 1291-1297.	1.0	23
7	Monte Carlo analysis of a Schottky diode with an automatic space-variable charge algorithm. Semiconductor Science and Technology, 1996, 11, 380-387.	1.0	22
8	Transport boundary conditions for solar cells. Solar Energy Materials and Solar Cells, 2009, 93, 6-10.	3.0	20
9	Analysis of current fluctuations in silicon pn+ and p+n homojunctions. Journal of Applied Physics, 1996, 79, 6975-6981.	1.1	18
10	Enhanced terahertz detection of multigate graphene nanostructures. Nanophotonics, 2022, 11, 519-529.	2.9	17
11	Strained silicon modulation field-effect transistor as a new sensor of terahertz radiation. Semiconductor Science and Technology, 2011, 26, 105006.	1.0	16
12	Terahertz imaging using strained-Si MODFETs as sensors. Solid-State Electronics, 2013, 83, 113-117.	0.8	16
13	Microscopic analysis of the influence of strain and band-gap offsets on noise characteristics in Si _{1-x} Gex/Si heterojunctions. Journal of Applied Physics, 1998, 84, 5012-5020.	1.1	15
14	Monte Carlo analysis of the transient spectral density of velocity fluctuations in semiconductors. Applied Physics Letters, 1992, 60, 613-615.	1.5	14
15	Monte Carlo study of sub-0.1 μ m Si _{0.97} C _{0.03} /Si MODFET: electron transport and device performance. IEEE Transactions on Electron Devices, 2000, 47, 1247-1250.	1.6	14
16	Analysis of the transient spectral density of velocity fluctuations in GaAs and InP. Journal of Applied Physics, 1992, 72, 2322-2330.	1.1	12
17	The role of non-equilibrium charge carriers in thermoelectric cooling. Journal of Applied Physics, 2013, 114, 033704.	1.1	12
18	Sub-THz Imaging Using Non-Resonant HEMT Detectors. Sensors, 2018, 18, 543.	2.1	12

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19	Sensitivity of single- and double-gate MOS architectures to residual discrete dopant distribution in the channel. <i>Journal of Computational Electronics</i> , 2006, 5, 119-123.	1.3	10
20	Transport and recombination in solar cells: New perspectives. <i>Solar Energy Materials and Solar Cells</i> , 2007, 91, 1408-1411.	3.0	10
21	Thermal noise in nanometric DG-MOSFET. <i>Journal of Computational Electronics</i> , 2007, 5, 479-482.	1.3	10
22	Responsivity enhancement of a strained silicon field-effect transistor detector at 0.3 THz using the terajet effect. <i>Optics Letters</i> , 2021, 46, 3061.	1.7	10
23	Sub-Micron Gate Length Field Effect Transistors as Broad Band Detectors of Terahertz Radiation. <i>International Journal of High Speed Electronics and Systems</i> , 2016, 25, 1640020.	0.3	9
24	Microscopic analysis of the influence of Ge profiles on the current-noise operation mode of n-Si/p-Si _{1-x} Ge heterostructures. <i>Semiconductor Science and Technology</i> , 2000, 15, 277-285.	1.0	8
25	Terahertz time domain spectroscopy for chemical identification. , 2013, , .		8
26	Mechanisms of the thermal electromotive force, heating and cooling in semiconductor structures. <i>International Journal of Thermal Sciences</i> , 2015, 92, 44-49.	2.6	8
27	Continuous Wave Terahertz Sensing Using GaN HEMTs. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2018, 215, 1700607.	0.8	8
28	Temperature Dependence of Submicrometer Strained-Si Surface Channel n-Type MOSFETs in DT Mode. <i>IEEE Electron Device Letters</i> , 2004, 25, 334-336.	2.2	7
29	Improvement of a Terahertz Detector Performance Using the Terajet Effect in a Mesoscale Dielectric Cube: Proof of Concept. <i>Physica Status Solidi - Rapid Research Letters</i> , 2020, 14, 1900700.	1.2	7
30	One-dimensional Monte Carlo analysis of electron transport in submicrometre silicon structures. <i>Semiconductor Science and Technology</i> , 1994, 9, 1316-1323.	1.0	6
31	Charge-Carrier Transport in Thin Film Solar Cells: New Formulation. <i>International Journal of Photoenergy</i> , 2011, 2011, 1-5.	1.4	5
32	Special Important Aspects of the Thomson Effect. <i>Journal of Electronic Materials</i> , 2018, 47, 3189-3192.	1.0	5
33	Study of current fluctuations in deep-submicron Si/SiGe n-channel MOSFET: impact of relevant technological parameters on the thermal noise performance. <i>Semiconductor Science and Technology</i> , 2004, 19, S191-S194.	1.0	4
34	3D Monte Carlo Analysis of Discrete Dopant Effects on Electron noise in Si Devices. <i>Journal of Computational Electronics</i> , 2004, 3, 311-315.	1.3	4
35	Terahertz spectroscopy of a multilayers flake of graphene. <i>Journal of Physics: Conference Series</i> , 2015, 647, 012040.	0.3	4
36	Optimised n-channel Si/SiGe HFETs design for VTH shift immunity. <i>Solid-State Electronics</i> , 2002, 46, 2241-2245.	0.8	3

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37	Effect of the Front and Back Illumination on Sub-Terahertz Detection Using n-Channel Strained-Silicon MODFETs. Applied Sciences (Switzerland), 2020, 10, 5959.	1.3	3
38	Study of Current-Mode Noise of Si _{1-x} Ge _x /Si Strained Heterojunctions. Physica Status Solidi (B): Basic Research, 1997, 204, 462-465.	0.7	2
39	Microscopic analysis of voltage noise operation mode in SiGe/Si bipolar heterojunctions: Influence of the SiGe strained layer. Journal of Applied Physics, 2000, 88, 1511-1514.	1.1	2
40	Dynamic threshold mode operation of p-channel Si and strained-SiGe MOSFETs between 10 K and 300 K. Semiconductor Science and Technology, 2004, 19, L95-L98.	1.0	2
41	Comparison of the multi-gate functionality of screen-grid field effect transistors with finFETs. Semiconductor Science and Technology, 2008, 23, 095006.	1.0	2
42	Noise in strained Si MOSFETs for low-power applications. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P01045.	0.9	2
43	Optimization of THz response of strained-Si MODFETs. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 1401-1404.	0.8	2
44	Enhancement of sub-terahertz detection by drain-to-source biasing on strained silicon MODFET devices. Journal of Physics: Conference Series, 2015, 647, 012007.	0.3	2
45	TCAD study of sub-THz photovoltaic response of strained-Si MODFET. Journal of Physics: Conference Series, 2015, 647, 012041.	0.3	2
46	Terahertz detection and imaging using an uncooled off-the-shelf GaN High Electron Mobility field-effect Transistor. , 2017, , .		2
47	Sub-THz Response of Strained-Silicon MODFETs. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700475.	0.8	2
48	Analysis of voltage noise in forward-biased silicon bipolar homojunctions: Low- and high-injection regimes. Applied Physics Letters, 1997, 71, 3382-3384.	1.5	1
49	3D Monte Carlo Study of Thermal Noise in DG-MOSFET. AIP Conference Proceedings, 2005, , .	0.3	1
50	3D Modelling Of The Novel Nanoscale Screen-Grid FET. Materials Research Society Symposia Proceedings, 2006, 913, 8.	0.1	1
51	Study of MOS-gated strained-Si Buried Channel Field Effect Transistors. IETE Journal of Research, 2007, 53, 253-262.	1.8	1
52	High-speed gel microelectrophoresis, a new and easy approach for detection of PCR-amplified microbial DNA from environmental and clinical samples in microgels using conventional equipment. Letters in Applied Microbiology, 2007, 44, 654-659.	1.0	1
53	Optimizing the Screen-Grid Field Effect Transistor for high drive current and low Miller capacitance. Materials Research Society Symposia Proceedings, 2009, 1174, 139.	0.1	1
54	Effect of the gate scaling on the analogue performance of s-Si CMOS devices. Semiconductor Science and Technology, 2011, 26, 095030.	1.0	1

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55	Recombination process in solar cells: Impact on the carrier transport. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 2083-2087.	0.8	1
56	Terahertz Imaging Using Strained-Si MODFETs as Sensors. , 2012, , .		1
57	Thermo-Electric Power Generators Using Gated Silicon Nanowires. , 2017, , .		1
58	Experimental and theoretical studies of Sub-THz detection using strained-Si FETs. Journal of Physics: Conference Series, 2017, 906, 012003.	0.3	1
59	Room-Temperature Terahertz Detection and Imaging by Using Strained-Silicon MODFETs. , 0, , .		1
60	Numerical Study of the Coupling of Sub-Terahertz Radiation to n-Channel Strained-Silicon MODFETs. Sensors, 2021, 21, 688.	2.1	1
61	Experimental Study of Depletion Mode Si/SiGe MOSFETs for Low-temperature Operation. , 2002, , .		0
62	Impact of the scaling on the noise performance of deep-submicron Si/SiGe n-channel FETs. , 2004, 5470, 573.		0
63	Noise in nanometric s-Si MOSFET for low-power applications. AIP Conference Proceedings, 2005, , .	0.3	0
64	Space Charge and Transport of Nonequilibrium Carriers in Bipolar Semiconductors. , 2006, , .		0
65	Kinetic approach to the heating of electrons and phonons in semiconductors. , 2006, , .		0
66	Transport of Non-Equilibrium Charge Carriers in Bipolar Semiconductor Materials. , 0, , .		0
67	Single Device Logic using 3D Gating of Screen Grid Field Effect Transistors. Semiconductor Conference, 2009 CAS 2009 International, 2007, , .	0.0	0
68	Unipolar rectifying silicon nanowiresâ€™TCAD study. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 2481-2484.	1.3	0
69	New boundary conditions for the study of charge transport in solid-state devices. , 2008, , .		0
70	ANALOG AND DIGITAL PERFORMANCE OF THE SCREEN-GRID FIELD EFFECT TRANSISTOR (SGRFET). International Journal of High Speed Electronics and Systems, 2008, 18, 783-792.	0.3	0
71	Screen-Grid Field Effect Transistor for sensing Bio-Molecules. Materials Research Society Symposia Proceedings, 2009, 1191, 106.	0.1	0
72	Analysis of RF noise performance of Si/SiGe pseudomorphic MOSFETs. , 2009, , .		0

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73	ANALOG AND DIGITAL PERFORMANCE OF THE SCREEN-GRID FIELD EFFECT TRANSISTOR (SGrFET). Selected Topics in Electronics and Systems, 2009, , 25-34.	0.2	0
74	Tuneable CMOS and Current Mirror Circuit with Double-gate Screen Grid Field Effect Transistors. Materials Research Society Symposia Proceedings, 2010, 1252, 9.	0.1	0
75	Current-Voltage Characteristic of a p-n junction: Problems and solutions. , 2010, , .		0
76	Terahertz photomixing in strained silicon MODFET. , 2010, , .		0
77	Terahertz detection using Si-SiGe MODFETs. , 2013, , .		0
78	Asymmetric dual grating gate bilayer graphene FET for detection of terahertz radiation. , 2017, , .		0
79	Imaging resolution enhancement using terajet effect at 0.3 THz. , 2021, , .		0
80	Electromagnetic Simulation of the Sub-THz Radiation Coupling to n-channel strained-silicon MODFETs. , 2021, , .		0
81	Detection of terahertz radiation using submicron field effect transistors and their use for inspection applications. , 2017, , .		0