

N D Akhavan

List of Publications by Year in descending order

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Version: 2024-02-01

69
papers

5,688
citations

279798

23
h-index

144013

57
g-index

69
all docs

69
docs citations

69
times ranked

2208
citing authors

#	ARTICLE	IF	CITATIONS
1	Nanowire transistors without junctions. <i>Nature Nanotechnology</i> , 2010, 5, 225-229.	31.5	1,993
2	Junctionless multigate field-effect transistor. <i>Applied Physics Letters</i> , 2009, 94, .	3.3	768
3	Performance estimation of junctionless multigate transistors. <i>Solid-State Electronics</i> , 2010, 54, 97-103.	1.4	487
4	High-Temperature Performance of Silicon Junctionless MOSFETs. <i>IEEE Transactions on Electron Devices</i> , 2010, 57, 620-625.	3.0	359
5	Junctionless Nanowire Transistor (JNT): Properties and design guidelines. <i>Solid-State Electronics</i> , 2011, 65-66, 33-37.	1.4	322
6	Reduced electric field in junctionless transistors. <i>Applied Physics Letters</i> , 2010, 96, 073510.	3.3	269
7	Junctionless Multiple-Gate Transistors for Analog Applications. <i>IEEE Transactions on Electron Devices</i> , 2011, 58, 2511-2519.	3.0	234
8	Low subthreshold slope in junctionless multigate transistors. <i>Applied Physics Letters</i> , 2010, 96, .	3.3	195
9	Junctionless Transistors: Physics and Properties. <i>Engineering Materials</i> , 2011, , 187-200.	0.6	114
10	Mercury(II) selective sensors based on AlGaIn/GaN transistors. <i>Analytica Chimica Acta</i> , 2016, 943, 1-7.	5.4	71
11	Junctionless 6T SRAM cell. <i>Electronics Letters</i> , 2010, 46, 1491.	1.0	48
12	Improvement of carrier ballisticity in junctionless nanowire transistors. <i>Applied Physics Letters</i> , 2011, 98, .	3.3	43
13	Engineering the Bandgap of Unipolar HgCdTe-Based nBn Infrared Photodetectors. <i>Journal of Electronic Materials</i> , 2015, 44, 158-166.	2.2	42
14	Mobility improvement in nanowire junctionless transistors by uniaxial strain. <i>Applied Physics Letters</i> , 2010, 97, .	3.3	38
15	Random telegraph-signal noise in junctionless transistors. <i>Applied Physics Letters</i> , 2011, 98, .	3.3	38
16	Junctionless Nanowire Transistor: Complementary Metal-Oxide-Semiconductor Without Junctions. <i>Science of Advanced Materials</i> , 2011, 3, 477-482.	0.7	36
17	A method of removing the valence band discontinuity in HgCdTe-based nBn detectors. <i>Applied Physics Letters</i> , 2014, 105, 121110.	3.3	33
18	Sensitivity of trigate MOSFETs to random dopant induced threshold voltage fluctuations. <i>Solid-State Electronics</i> , 2008, 52, 1872-1876.	1.4	32

#	ARTICLE	IF	CITATIONS
19	Investigation of high-performance sub-50nm junctionless nanowire transistors. <i>Microelectronics Reliability</i> , 2011, 51, 1166-1171.	1.7	32
20	A new F(ast)-CMS NEGF algorithm for efficient 3D simulations of switching characteristics enhancement in constricted tunnel barrier silicon nanowire MuGFETs. <i>Journal of Computational Electronics</i> , 2009, 8, 287-306.	2.5	31
21	Ultra-scaled Z-RAM cell. , 2008, , .		30
22	Design of Band Engineered HgCdTe nBn Detectors for MWIR and LWIR Applications. <i>IEEE Transactions on Electron Devices</i> , 2015, 62, 722-728.	3.0	30
23	A Simulation Comparison between Junctionless and Inversion-Mode MuGFETs. <i>ECS Transactions</i> , 2011, 35, 63-72.	0.5	29
24	Phonon limited transport in graphene nanoribbon field effect transistors using full three dimensional quantum mechanical simulation. <i>Journal of Applied Physics</i> , 2012, 112, 094505.	2.5	25
25	Properties of Accumulation-Mode Multi-Gate Field-Effect Transistors. <i>Japanese Journal of Applied Physics</i> , 2009, 48, 034502.	1.5	23
26	Quantum Confinement Effects in Capacitance Behavior of Multigate Silicon Nanowire MOSFETs. <i>IEEE Nanotechnology Magazine</i> , 2011, 10, 300-309.	2.0	20
27	Superlattice Barrier HgCdTe nBn Infrared Photodetectors: Validation of the Effective Mass Approximation. <i>IEEE Transactions on Electron Devices</i> , 2016, 63, 4811-4818.	3.0	20
28	Optimization of Superlattice Barrier HgCdTe nBn Infrared Photodetectors Based on an NEGF Approach. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 591-598.	3.0	20
29	Effect of intravalley acoustic phonon scattering on quantum transport in multigate silicon nanowire metal-oxide-semiconductor field-effect transistors. <i>Journal of Applied Physics</i> , 2010, 108, 034510.	2.5	19
30	Performance Modeling of Bandgap Engineered HgCdTe-Based nBn Infrared Detectors. <i>IEEE Transactions on Electron Devices</i> , 2014, 61, 3691-3698.	3.0	19
31	Theoretical Study of Midwave Infrared HgCdTe nBn Detectors Operating at Elevated Temperatures. <i>Journal of Electronic Materials</i> , 2015, 44, 3044-3055.	2.2	19
32	LDD and Back-Gate Engineering for Fully Depleted Planar SOI Transistors with Thin Buried Oxide. <i>IEEE Transactions on Electron Devices</i> , 2010, 57, 1319-1326.	3.0	17
33	Delta Doping in HgCdTe-Based Unipolar Barrier Photodetectors. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 4340-4345.	3.0	17
34	Comparison of contact resistance between accumulation-mode and inversion-mode multigate FETs. <i>Solid-State Electronics</i> , 2008, 52, 1815-1820.	1.4	16
35	Drain Breakdown Voltage in MuGFETs: Influence of Physical Parameters. <i>IEEE Transactions on Electron Devices</i> , 2008, 55, 3503-3506.	3.0	16
36	Emission and absorption of optical phonons in Multigate Silicon Nanowire MOSFETs. <i>Journal of Computational Electronics</i> , 2012, 11, 249-265.	2.5	16

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37	Simulation of Quantum Current Oscillations in Trigate SOI MOSFETs. IEEE Transactions on Electron Devices, 2010, 57, 1102-1109.	3.0	15
38	Influence of discrete dopant on quantum transport in silicon nanowire transistors. Solid-State Electronics, 2012, 70, 92-100.	1.4	15
39	Performance investigation of short-channel junctionless multigate transistors. , 2011, , .		11
40	Random dopant fluctuations and statistical variability in n-channel junctionless FETs. Nanotechnology, 2018, 29, 025203.	2.6	11
41	Analog Operation and Harmonic Distortion Temperature Dependence of nMOS Junctionless Transistors. ECS Transactions, 2010, 31, 13-20.	0.5	9
42	Nanowire to Single-Electron Transistor Transition in Trigate SOI MOSFETs. IEEE Transactions on Electron Devices, 2011, 58, 26-32.	3.0	9
43	Influence of Elastic and Inelastic Electron-Phonon Interaction on Quantum Transport in Multigate Silicon Nanowire MOSFETs. IEEE Transactions on Electron Devices, 2011, 58, 1029-1037.	3.0	9
44	Comparative Study of Random Telegraph Noise in Junctionless and Inversion-Mode MuGFETs. ECS Transactions, 2011, 35, 73-78.	0.5	9
45	Heavy and light hole transport in nominally undoped GaSb substrates. Applied Physics Letters, 2015, 106, .	3.3	9
46	NBTI and hot-carrier effects in accumulation-mode Pi-gate pMOSFETs. Microelectronics Reliability, 2009, 49, 1044-1047.	1.7	8
47	Field-effect mobility extraction in nanowire field-effect transistors by combination of transfer characteristics and random telegraph noise measurements. Applied Physics Letters, 2011, 99, .	3.3	8
48	Intrinsic broadening of the mobility spectrum of bulk n-type GaAs. New Journal of Physics, 2014, 16, 113033.	2.9	7
49	Recent Developments in Mercury Cadmium Telluride IR Detector Technology. ECS Transactions, 2015, 69, 61-75.	0.5	7
50	Characterization of a junctionless diode. Applied Physics Letters, 2011, 99, 013502.	3.3	6
51	Influence of carrier confinement on the subthreshold swing of multigate silicon-on-insulator transistors. Applied Physics Letters, 2008, 92, 133511.	3.3	5
52	Comparison of different surface orientation in narrow fin MuGFETs. Microelectronic Engineering, 2009, 86, 2381-2384.	2.4	5
53	Influence of gate misalignment on the electrical characteristics of MuGFETs. Solid-State Electronics, 2010, 54, 226-230.	1.4	5
54	Discrete Dopant Impurity Scattering in p-Channel Silicon Nanowire Transistors: A k.p Approach. IEEE Transactions on Electron Devices, 2014, 61, 386-393.	3.0	4

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55	Analytical model for the high-temperature behaviour of the subthreshold slope in MuGFETs. <i>Microelectronic Engineering</i> , 2009, 86, 2067-2071.	2.4	3
56	Hole Transport in Arsenic-Doped $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$ with $x \approx 0.5$. <i>Journal of Electronic Materials</i> , 2016, 45, 4686-4691.	2.2	3
57	The Roles of the Electric Field and the Density of Carriers in the Improved Output Conductance of Junctionless Nanowire Transistors. <i>ECS Transactions</i> , 2011, 35, 283-288.	0.5	2
58	Thin film three-dimensional topological insulator metal-oxide-semiconductor field-effect-transistors: A candidate for sub-10nm devices. <i>Journal of Applied Physics</i> , 2014, 116, 084508.	2.5	2
59	Accumulation-mode and inversion-mode triple-gate MOSFETs. , 2008, , .		2
60	Self consistent carrier transport in band engineered HgCdTe nBn detector. , 2016, , .		1
61	Towards a magnetoresistance characterization methodology for 1D nanostructured transistors. , 2018, , .		1
62	Interdiffusion Effects on Bandstructure in HgTe-CdTe Superlattices for VLWIR Imaging Applications. <i>Journal of Electronic Materials</i> , 2019, 48, 6159-6168.	2.2	1
63	Two-dimensional quantum simulation of scaling effects in ultrathin body MOSFET structure: NEGF approach. , 2007, , .		0
64	Charge controlling in nanoscale shielded channel DG-MOSFET: A quantum simulation. , 2007, , .		0
65	Feasibility study of electron transfer quantum well infrared photodetectors for spectral tuning in the long-wave infrared band. <i>Journal of Applied Physics</i> , 2013, 114, 194501.	2.5	0
66	Band-to-band tunnelling (BTBT) in HgCdTe-based nBn detectors for LWIR applications. , 2014, , .		0
67	Intrinsic broadening of the mobility spectrum of bulk n-type GaAs. , 2014, , .		0
68	Atomistic modelling of p-channel junctionless silicon nanowire transistor: k.p approach. , 2014, , .		0
69	Correction to "Delta Doping in HgCdTe-Based Unipolar Barrier Photodetectors" [Oct 18 4340-4345]. <i>IEEE Transactions on Electron Devices</i> , 2019, 66, 833-833.	3.0	0