N D Akhavan

List of Publications by Year
in descending order

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	Interdiffusion Effects on Bandstructure in HgTe-CdTe Superlattices for VLWIR Imaging Applications. Journal of Electronic Materials, 2019, 48, 6159-6168.	2.2	1
2	Correction to â€œDelta Doping in HgCdTe-Based Unipolar Barrier Photodetectorsâ€•[Oct 18 4340-4345]. IEEE Transactions on Electron Devices, 2019, 66, 833-833.	3.0	0
3	Optimization of Superlattice Barrier HgCdTe nBn Infrared Photodetectors Based on an NEGF Approach. IEEE Transactions on Electron Devices, 2018, 65, 591-598.	3.0	20
4	Random dopant fluctuations and statistical variability in n-channel junctionless FETs. Nanotechnology, 2018, 29, 025203.	2.6	11
5	Delta Doping in HgCdTe-Based Unipolar Barrier Photodetectors. IEEE Transactions on Electron Devices, 2018, 65, 4340-4345.	3.0	17
6	Towards a magnetoresistance characterization methodology for 1D nanostructured transistors. , 2018, , .		1
7	Self consistent carrier transport in band engineered HgCdTe nBn detector. , 2016, , .		1
8	Mercury(II) selective sensors based on AlGaN/GaN transistors. Analytica Chimica Acta, 2016, 943, 1-7.	5.4	71
9	Superlattice Barrier HgCdTe nBn Infrared Photodetectors: Validation of the Effective Mass Approximation. IEEE Transactions on Electron Devices, 2016, 63, 4811-4818.	3.0	20
10	Hole Transport in Arsenic-Doped Hg1â^'x Cd x Te with x â‰¥ 0.5. Journal of Electronic Materials, 2016, 45, 4686-4691.	2.2	3
11	Design of Band Engineered HgCdTe nBn Detectors for MWIR and LWIR Applications. IEEE Transactions on Electron Devices, 2015, 62, 722-728.	3.0	30
12	Engineering the Bandgap of Unipolar HgCdTe-Based nBn Infrared Photodetectors. Journal of Electronic Materials, 2015, 44, 158-166.	2.2	42
13	Theoretical Study of Midwave Infrared HgCdTe nBn Detectors Operating at Elevated Temperatures. Journal of Electronic Materials, 2015, 44, 3044-3055.	2.2	19
14	Heavy and light hole transport in nominally undoped GaSb substrates. Applied Physics Letters, 2015, 106, .	3.3	9
15	Recent Developments in Mercury Cadmium Telluride IR Detector Technology. ECS Transactions, 2015, 69, 61-75.	0.5	7
16	Band-to-band tunnelling (BTBT) in HgCdTe-based nBn detectors for LWIR applications. , 2014, , .		0
17	Intrinsic broadening of the mobility spectrum of bulk n-type GaAs. , 2014, , .		0
18	Intrinsic broadening of the mobility spectrum of bulk n-type GaAs. New Journal of Physics, 2014, 16, 113033.	2.9	7

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19	Performance Modeling of Bandgap Engineered HgCdTe-Based nBn Infrared Detectors. IEEE Transactions on Electron Devices, 2014, 61, 3691-3698.	3.0	19
20	A method of removing the valence band discontinuity in HgCdTe-based nBn detectors. Applied Physics Letters, 2014, 105, 121110.	3.3	33
21	Atomistic modelling of p-channel junctionless silicon nanowire transistor: k.p approach. , 2014, , .		0
22	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
23	Thin film three-dimensional topological insulator metal-oxide-semiconductor field-effect-transistors: A candidate for sub-10â€‰nm devices. Journal of Applied Physics, 2014, 116, 084508.	2.5	2
24	Feasibility study of electron transfer quantum well infrared photodetectors for spectral tuning in the long-wave infrared band. Journal of Applied Physics, 2013, 114, 194501.	2.5	0
25	Emission and absorption of optical phonons in Multigate Silicon Nanowire MOSFETs. Journal of Computational Electronics, 2012, 11, 249-265.	2.5	16
26	Phonon limited transport in graphene nanoribbon field effect transistors using full three dimensional quantum mechanical simulation. Journal of Applied Physics, 2012, 112, 094505.	2.5	25
27	Influence of discrete dopant on quantum transport in silicon nanowire transistors. Solid-State Electronics, 2012, 70, 92-100.	1.4	15
28	Quantum Confinement Effects in Capacitance Behavior of Multigate Silicon Nanowire MOSFETs. IEEE Nanotechnology Magazine, 2011, 10, 300-309.	2.0	20
29	Improvement of carrier ballisticity in junctionless nanowire transistors. Applied Physics Letters, 2011, 98, .	3.3	43
30	Performance investigation of short-channel junctionless multigate transistors. , 2011, , .		11
31	Characterization of a junctionless diode. Applied Physics Letters, 2011, 99, 013502.	3.3	6
32	Junctionless Nanowire Transistor (JNT): Properties and design guidelines. Solid-State Electronics, 2011, 65-66, 33-37.	1.4	322
33	Nanowire to Single-Electron Transistor Transition in Trigate SOI MOSFETs. IEEE Transactions on Electron Devices, 2011, 58, 26-32.	3.0	9
34	Influence of Elastic and Inelastic Electronâ€“Phonon Interaction on Quantum Transport in Multigate Silicon Nanowire MOSFETs. IEEE Transactions on Electron Devices, 2011, 58, 1029-1037.	3.0	9
35	Junctionless Multiple-Gate Transistors for Analog Applications. IEEE Transactions on Electron Devices, 2011, 58, 2511-2519.	3.0	234
36	Investigation of high-performance sub-50nm junctionless nanowire transistors. Microelectronics Reliability, 2011, 51, 1166-1171.	1.7	32

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37	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
38	Random telegraph-signal noise in junctionless transistors. Applied Physics Letters, 2011, 98, .	3.3	38
39	A Simulation Comparison between Junctionless and Inversion-Mode MuGFETs. ECS Transactions, 2011, 35, 63-72.	0.5	29
40	Comparative Study of Random Telegraph Noise in Junctionless and Inversion-Mode MuGFETs. ECS Transactions, 2011, 35, 73-78.	0.5	9
41	The Roles of the Electric Field and the Density of Carriers in the Improved Output Conductance of Junctionless Nanowire Transistors. ECS Transactions, 2011, 35, 283-288.	0.5	2
42	Junctionless Transistors: Physics and Properties. Engineering Materials, 2011, , 187-200.	0.6	114
43	Junctionless Nanowire Transistor: Complementary Metal-Oxide-Semiconductor Without Junctions. Science of Advanced Materials, 2011, 3, 477-482.	0.7	36
44	LDD and Back-Gate Engineering for Fully Depleted Planar SOI Transistors with Thin Buried Oxide. IEEE Transactions on Electron Devices, 2010, 57, 1319-1326.	3.0	17
45	Influence of gate misalignment on the electrical characteristics of MuGFETS. Solid-State Electronics, 2010, 54, 226-230.	1.4	5
46	Performance estimation of junctionless multigate transistors. Solid-State Electronics, 2010, 54, 97-103.	1.4	487
47	Nanowire transistors without junctions. Nature Nanotechnology, 2010, 5, 225-229.	31.5	1,993
48	Analog Operation and Harmonic Distortion Temperature Dependence of nMOS Junctionless Transistors. ECS Transactions, 2010, 31, 13-20.	0.5	9
49	Effect of intravalley acoustic phonon scattering on quantum transport in multigate silicon nanowire metal-oxide-semiconductor field-effect transistors. Journal of Applied Physics, 2010, 108, 034510.	2.5	19
50	Junctionless 6T SRAM cell. Electronics Letters, 2010, 46, 1491.	1.0	48
51	Reduced electric field in junctionless transistors. Applied Physics Letters, 2010, 96, 073510.	3.3	269
52	Mobility improvement in nanowire junctionless transistors by uniaxial strain. Applied Physics Letters, 2010, 97, .	3.3	38
53	Low subthreshold slope in junctionless multigate transistors. Applied Physics Letters, 2010, 96, .	3.3	195
54	High-Temperature Performance of Silicon Junctionless MOSFETs. IEEE Transactions on Electron Devices, 2010, 57, 620-625.	3.0	359

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55	Simulation of Quantum Current Oscillations in Trigate SOI MOSFETs. IEEE Transactions on Electron Devices, 2010, 57, 1102-1109.	3.0	15
56	Properties of Accumulation-Mode Multi-Gate Field-Effect Transistors. Japanese Journal of Applied Physics, 2009, 48, 034502.	1.5	23
57	A new F(ast)-CMS NEGF algorithm for efficient 3D simulations ofÂswitching characteristics enhancement in constricted tunnel barrier silicon nanowire MuGFETs. Journal of Computational Electronics, 2009, 8, 287-306.	2.5	31
58	Comparison of different surface orientation in narrow fin MuGFETs. Microelectronic Engineering, 2009, 86, 2381-2384.	2.4	5
59	NBTI and hot-carrier effects in accumulation-mode Pi-gate pMOSFETs. Microelectronics Reliability, 2009, 49, 1044-1047.	1.7	8
60	Analytical model for the high-temperature behaviour of the subthreshold slope in MuGFETs. Microelectronic Engineering, 2009, 86, 2067-2071.	2.4	3
61	Junctionless multigate field-effect transistor. Applied Physics Letters, 2009, 94, .	3.3	768
62	Comparison of contact resistance between accumulation-mode and inversion-mode multigate FETs. Solid-State Electronics, 2008, 52, 1815-1820.	1.4	16
63	Sensitivity of trigate MOSFETs to random dopant induced threshold voltage fluctuations. Solid-State Electronics, 2008, 52, 1872-1876.	1.4	32
64	Drain Breakdown Voltage in MuGFETs: Influence of Physical Parameters. IEEE Transactions on Electron Devices, 2008, 55, 3503-3506.	3.0	16
65	Ultra-scaled Z-RAM cell. , 2008, , .		30
66	Influence of carrier confinement on the subthreshold swing of multigate silicon-on-insulator transistors. Applied Physics Letters, 2008, 92, 133511.	3.3	5
67	Accumulation-mode and inversion-mode triple-gate MOSFETs. , 2008, , .		2
68	Two-dimensional quantum simulation of scaling effects in ultrathin body MOSFET structure: NEGF approach. , 2007, , .		0
69	Charge controlling in nanoscale shielded channel DG-MOSFET: A quantum simulation. , 2007, , .		0