

# Gerhard Klimeck

## List of Publications by Year in descending order

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464  
papers

15,490  
citations

23500

58  
h-index

24915

109  
g-index

473  
all docs

473  
docs citations

473  
times ranked

9679  
citing authors

#	ARTICLE	IF	CITATIONS
1	Doping Profile Engineered Triple Heterojunction TFETs With 12-nm Body Thickness. IEEE Transactions on Electron Devices, 2021, 68, 3104-3111.	1.6	9
2	Impact of Body Thickness and Scattering on III-V Triple Heterojunction TFET Modeled With Atomistic Mode-Space Approximation. IEEE Transactions on Electron Devices, 2020, 67, 3478-3485.	1.6	13
3	Microwave-induced capacitance resonances and anomalous magnetoresistance in double quantum wells. Journal of Applied Physics, 2019, 125, .	1.1	1
4	MoS <sub>2</sub> for Enhanced Electrical Performance of Ultrathin Copper Films. ACS Applied Materials & Interfaces, 2019, 11, 28345-28351.	4.0	24
5	Room-Temperature Graphene-Nanoribbon Tunneling Field-Effect Transistors. Npj 2D Materials and Applications, 2019, 3, .	3.9	26
6	Band-tail Formation and Band-gap Narrowing Driven by Polar Optical Phonons and Charged Impurities in Atomically Resolved III-V Semiconductors and Nanodevices. Physical Review Applied, 2019, 12, .	1.5	19
7	WSe <sub>2</sub> Homojunction Devices: Electrostatically Configurable as Diodes, MOSFETs, and Tunnel FETs for Reconfigurable Computing. Small, 2019, 15, e1902770.	5.2	23
8	nanoHUB.org "always" New Paradigms in Global Scientific Knowledge Transfer, Publishing, and Assessment. , 2019, , .		0
9	Superior Performance of 5-nm Gate Length GaN Nanowire nFET for Digital Logic Applications. IEEE Electron Device Letters, 2019, 40, 874-877.	2.2	13
10	Non-orthogonal tight-binding models: Problems and possible remedies for realistic nano-scale devices. Journal of Applied Physics, 2019, 125, .	1.1	7
11	Thermal boundary resistance predictions with non-equilibrium Green's function and molecular dynamics simulations. Applied Physics Letters, 2019, 115, .	1.5	11
12	Complementary Black Phosphorus Tunneling Field-Effect Transistors. ACS Nano, 2019, 13, 377-385.	7.3	103
13	Alloy Engineered Nitride Tunneling Field-Effect Transistor: A Solution for the Challenge of Heterojunction TFETs. IEEE Transactions on Electron Devices, 2019, 66, 736-742.	1.6	16
14	Grain-Boundary Resistance in Copper Interconnects: From an Atomistic Model to a Neural Network. Physical Review Applied, 2018, 9, .	1.5	23
15	Dramatic Impact of Dimensionality on the Electrostatics of P-N Junctions and Its Sensing and Switching Applications. IEEE Nanotechnology Magazine, 2018, 17, 293-298.	1.1	32
16	Optimization of edge state velocity in the integer quantum Hall regime. Physical Review B, 2018, 97, .	1.1	10
17	Robust mode space approach for atomistic modeling of realistically large nanowire transistors. Journal of Applied Physics, 2018, 123, .	1.1	11
18	Quantitative Multi-Scale, Multi-Physics Quantum Transport Modeling of GaN-Based Light Emitting Diodes. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700662.	0.8	18

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19	Two-electron states of a group-V donor in silicon from atomistic full configuration interactions. Physical Review B, 2018, 97, .	1.1	18
20	Sensitivity Challenge of Steep Transistors. IEEE Transactions on Electron Devices, 2018, 65, 1633-1639.	1.6	19
21	Surface and Grain-boundary Effects in Copper interconnects Thin Films Modeling with an Atomistic Basis. , 2018, , .		0
22	NemoViz: a visual interactive system for atomistic simulations design. Visualization in Engineering, 2018, 6, .	8.8	1
23	Electron-only explicit screening quantum transport model for semiconductor nanodevices. , 2018, , .		0
24	Design Guidelines and Limitations of Multilayer Two-dimensional Vertical Tunneling FETs for UltraLow Power Logic Applications. , 2018, , .		0
25	Theoretical study of strain-dependent optical absorption in a doped self-assembled InAs/InGaAs/GaAs/AlGaAs quantum dot. Beilstein Journal of Nanotechnology, 2018, 9, 1075-1084.	1.5	2
26	Switching Mechanism and the Scalability of Vertical-TFETs. IEEE Transactions on Electron Devices, 2018, 65, 3065-3068.	1.6	29
27	Explicit screening full band quantum transport model for semiconductor nanodevices. Journal of Applied Physics, 2018, 123, 244501.	1.1	6
28	Atomistic modeling trap-assisted tunneling in hole tunnel field effect transistors. Journal of Applied Physics, 2018, 123, 174504.	1.1	6
29	Channel Thickness Optimization for Ultrathin and 2-D Chemically Doped TFETs. IEEE Transactions on Electron Devices, 2018, 65, 4614-4621.	1.6	13
30	Atomistic Tight-Binding Study of Contact Resistivity in Si/SiGe PMOS Schottky Contacts. IEEE Nanotechnology Magazine, 2018, 17, 968-973.	1.1	5
31	Interface-induced spin-orbit interaction in silicon quantum dots and prospects for scalability. Physical Review B, 2018, 97, .	1.1	42
32	Insights from simple models for surface states in nanostructures. European Journal of Physics, 2017, 38, 025501.	0.3	0
33	NEMO5: realistic and efficient NEGF simulations of GaN light-emitting diodes. Proceedings of SPIE, 2017, , .	0.8	2
34	Combination of Equilibrium and Nonequilibrium Carrier Statistics Into an Atomistic Quantum Transport Model for Tunneling Heterojunctions. IEEE Transactions on Electron Devices, 2017, 64, 2512-2518.	1.6	14
35	III-N heterostructure devices for low-power logic. , 2017, , .		3
36	A Multiscale Modeling of Triple-Heterojunction Tunneling FETs. IEEE Transactions on Electron Devices, 2017, 64, 2728-2735.	1.6	14

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37	A high-current InP-channel triple heterojunction tunnel transistor design. , 2017, , .		4
38	Transport in vertically stacked hetero-structures from 2D materials. Journal of Physics: Conference Series, 2017, 864, 012053.	0.3	7
39	Low-temperature thermal transport and thermopower of monolayer transition metal dichalcogenide semiconductors. Journal of Physics Condensed Matter, 2017, 29, 405701.	0.7	5
40	Silicon quantum processor with robust long-distance qubit couplings. Nature Communications, 2017, 8, 450.	5.8	123
41	Thickness Engineered Tunnel Field-Effect Transistors Based on Phosphorene. IEEE Electron Device Letters, 2017, 38, 130-133.	2.2	56
42	Scalable GaSb/InAs Tunnel FETs With Nonuniform Body Thickness. IEEE Transactions on Electron Devices, 2017, 64, 96-101.	1.6	20
43	Particle-Based Device Simulation Methods. , 2017, , 241-334.		0
44	Quantum Corrections to Semiclassical Approaches. , 2017, , 367-444.		0
45	Quantum Transport in Semiconductor Systems. , 2017, , 445-492.		0
46	Creating impact in the digital space: digital practice dependency in communities of digital scientific innovations. Scientometrics, 2017, 110, 417-442.	1.6	11
47	Sb- and Al-free ultra-high-current tunnel FET designs. , 2017, , .		1
48	Control of interlayer physics in 2H transition metal dichalcogenides. Journal of Applied Physics, 2017, 122, .	1.1	21
49	Assessment of Si/SiGe PMOS Schottky contacts through atomistic tight binding simulations: Can we achieve the $10^9 \text{ } \hat{\text{C}}\text{-cm}^2$ target?. , 2017, , .		1
50	Numerical Integral Eigensolver for a Ring Region on the Complex Plane. Lecture Notes in Computational Science and Engineering, 2017, , 19-30.	0.1	0
51	Introduction to Computational Electronics. , 2017, , 1-22.		1
52	General Retarded Contact Self-energies in and beyond the Non-equilibrium Green's Functions Method. Journal of Physics: Conference Series, 2016, 696, 012019.	0.3	3
53	Optimum High-k Oxide for the Best Performance of Ultra-Scaled Double-Gate MOSFETs. IEEE Nanotechnology Magazine, 2016, 15, 904-910.	1.1	55
54	BÄttiker probes for dissipative phonon quantum transport in semiconductor nanostructures. Applied Physics Letters, 2016, 108, .	1.5	22

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55	Novel III-N heterostructure devices for low-power logic and more. , 2016, , .		4
56	High-current InP-based triple heterojunction tunnel transistors. , 2016, , .		5
57	Performance degradation of superlattice MOSFETs due to scattering in the contacts. Journal of Applied Physics, 2016, 120, 224501.	1.1	5
58	A tunnel FET design for high-current, 120 mV operation. , 2016, , .		7
59	Quantum simulation of the Hubbard model with dopant atoms in silicon. Nature Communications, 2016, 7, 11342.	5.8	81
60	From Fowlerâ€™Nordheim to Nonequilibrium Greenâ€™s Function Modeling of Tunneling. IEEE Transactions on Electron Devices, 2016, 63, 2871-2878.	1.6	28
61	Categorizing Users of Cloud Services. Service Science, 2016, 8, 59-70.	0.9	6
62	Configurable Electrostatically Doped High Performance Bilayer Graphene Tunnel FET. IEEE Journal of the Electron Devices Society, 2016, 4, 124-128.	1.2	40
63	Quantum Transport Simulation of III-V TFETs with Reduced-Order $\vec{k} \cdot \vec{p}$ Method. , 2016, , 151-180.		4
64	Transport of spin qubits with donor chains under realistic experimental conditions. Physical Review B, 2016, 94, .	1.1	19
65	Exploring channel doping designs for high-performance tunneling FETs. , 2016, , .		2
66	Multiscale transport simulation of nanoelectronic devices with NEMO5. , 2016, , .		0
67	Transferable tight-binding model for strained group IV and III-V materials and heterostructures. Physical Review B, 2016, 94, .	1.1	51
68	Extremely high simulated ballistic currents in triple-heterojunction tunnel transistors. , 2016, , .		7
69	P-Type Tunnel FETs With Triple Heterojunctions. IEEE Journal of the Electron Devices Society, 2016, 4, 410-415.	1.2	14
70	Grain boundary resistance in nanoscale copper interconnections. , 2016, , .		4
71	NEMO5: Predicting MoS <sub>2</sub> heterojunctions. , 2016, , .		1
72	Characterizing Si:P quantum dot qubits with spin resonance techniques. Scientific Reports, 2016, 6, 31830.	1.6	17

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73	Multi-scale, multi-physics NEGF quantum transport for nitride LEDs. , 2016, , .		4
74	Saving Moore's Law Down To 1-nm Channels With Anisotropic Effective Mass. Scientific Reports, 2016, 6, 31501.	1.6	64
75	Highly tunable exchange in donor qubits in silicon. Npj Quantum Information, 2016, 2, .	2.8	45
76	Universal Behavior of Atomistic Strain in Self-Assembled Quantum Dots. IEEE Journal of Quantum Electronics, 2016, 52, 1-8.	1.0	13
77	Incoherent transport in NEMO5: realistic and efficient scattering on phonons. Journal of Computational Electronics, 2016, 15, 1123-1129.	1.3	19
78	Design Rules for High Performance Tunnel Transistors From 2-D Materials. IEEE Journal of the Electron Devices Society, 2016, 4, 260-265.	1.2	21
79	Can Homojunction Tunnel FETs Scale Below 10 nm?. IEEE Electron Device Letters, 2016, 37, 115-118.	2.2	30
80	Surface Passivation in Empirical Tight Binding. IEEE Transactions on Electron Devices, 2016, 63, 954-958.	1.6	8
81	High-Current Tunneling FETs With (110) Orientation and a Channel Heterojunction. IEEE Electron Device Letters, 2016, 37, 345-348.	2.2	22
82	Design and Simulation of GaSb/InAs 2D Transmission-Enhanced Tunneling FETs. IEEE Electron Device Letters, 2016, 37, 107-110.	2.2	20
83	Unfolding and effective bandstructure calculations as discrete real- and reciprocal-space operations. Physica B: Condensed Matter, 2016, 491, 22-30.	1.3	5
84	Numerical guidelines for setting up a k.p simulator with applications to quantum dot heterostructures and topological insulators. Journal of Computational Electronics, 2016, 15, 115-128.	1.3	14
85	Few-layer Phosphorene: An Ideal 2D Material For Tunnel Transistors. Scientific Reports, 2016, 6, 28515.	1.6	90
86	Strain and electric field control of hyperfine interactions for donor spin qubits in silicon. Physical Review B, 2015, 91, .	1.1	17
87	Tight-binding analysis of Si and GaAs ultrathin bodies with subatomic wave-function resolution. Physical Review B, 2015, 92, .	1.1	54
88	Design and discovery of materials guided by theory and computation. Npj Computational Materials, 2015, 1, .	3.5	33
89	Nanohub as a Platform for Implementing ICME Simulations in Research and Education. , 2015, , 269-276.		0
90	A predictive analytic model for high-performance tunneling field-effect transistors approaching non-equilibrium Green's function simulations. Journal of Applied Physics, 2015, 118, .	1.1	26

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91	In-surface confinement of topological insulator nanowire surface states. Applied Physics Letters, 2015, 107, 121605.	1.5	14
92	Atomistic quantum transport approach to time-resolved device simulations. , 2015, , .		3
93	2D tunnel transistors for ultra-low power applications: Promises and challenges. , 2015, , .		2
94	Interactive Analytic Systems for Understanding the Scholarly Impact of Large-Scale E-science Cyberenvironments. , 2015, , .		0
95	Quantum dot lab: an online platform for quantum dot simulations. , 2015, , .		0
96	Electrically Tunable Bandgaps in Bilayer MoS <sub>2</sub> . Nano Letters, 2015, 15, 8000-8007.	4.5	161
97	Finite difference schemes for $k \cdot p$ models: A comparative study. , 2015, , .		0
98	Mode space tight binding model for ultra-fast simulations of III-V nanowire MOSFETs and heterojunction TFETs. , 2015, , .		5
99	Tunneling: The major issue in ultra-scaled MOSFETs. , 2015, , .		4
100	Transistors for VLSI, for wireless: A view forwards through fog. , 2015, , .		2
101	Design Guidelines for Sub-12 nm Nanowire MOSFETs. IEEE Nanotechnology Magazine, 2015, 14, 210-213.	1.1	35
102	The influence of proximity induced ferromagnetism, superconductivity and Fermi-velocity on evolution of Berry phase in Bi <sub>2</sub> Se <sub>3</sub> topological insulator. Semiconductor Science and Technology, 2015, 30, 045004.	1.0	7
103	The evaluation of non-topological components in Berry phase and momentum relaxation time in a gapped 3D topological insulator. Journal of Physics Condensed Matter, 2015, 27, 335505.	0.7	1
104	Scaling Theory of Electrically Doped 2D Transistors. IEEE Electron Device Letters, 2015, 36, 726-728.	2.2	36
105	nanoHUB.org: A Gateway to Undergraduate Simulation-Based Research in Materials Science and Related Fields. Materials Research Society Symposia Proceedings, 2015, 1762, 7.	0.1	0
106	Tunnel Field-Effect Transistors in 2-D Transition Metal Dichalcogenide Materials. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2015, 1, 12-18.	1.1	161
107	Tunneling and Short Channel Effects in Ultrascaled InGaAs Double Gate MOSFETs. IEEE Transactions on Electron Devices, 2015, 62, 525-531.	1.6	12
108	Electrically controlling single-spin qubits in a continuous microwave field. Science Advances, 2015, 1, e1500022.	4.7	125

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109	Engineering the optical transitions of self-assembled quantum dots. , 2015, , .		0
110	Electrically doped WTe <sub>2</sub> tunnel transistors. , 2015, , .		1
111	Polarization-Engineered III-Nitride Heterojunction Tunnel Field-Effect Transistors. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2015, 1, 28-34.	1.1	73
112	Electrically doped 2D material tunnel transistor. , 2015, , .		9
113	Proximity induced ferromagnetism, superconductivity, and finite-size effects on the surface states of topological insulator nanostructures. Journal of Applied Physics, 2015, 117, 044304.	1.1	5
114	Optimal Ge/SiGe nanofin geometries for hole mobility enhancement: Technology limit from atomic simulations. Journal of Applied Physics, 2015, 117, .	1.1	1
115	Quantum Transport in AlGaSb/InAs TFETs With Gate Field In-Line With Tunneling Direction. IEEE Transactions on Electron Devices, 2015, 62, 2445-2449.	1.6	11
116	Achieving a higher performance in bilayer graphene FET - strain engineering. , 2015, , .		9
117	Dielectric Engineered Tunnel Field-Effect Transistor. IEEE Electron Device Letters, 2015, 36, 1097-1100.	2.2	77
118	Interface-induced heavy-hole/light-hole splitting of acceptors in silicon. Applied Physics Letters, 2015, 106, .	1.5	15
119	Donor hyperfine Stark shift and the role of central-cell corrections in tight-binding theory. Journal of Physics Condensed Matter, 2015, 27, 154207.	0.7	16
120	A Tight-Binding Study of Single-Atom Transistors. Small, 2015, 11, 374-381.	5.2	14
121	nanoHUB as a Platform for Implementing ICME Simulations in Research and Education. , 2015, , 269-276.		2
122	Multimillion Atom Simulation of Electronic and Optical Properties of Nanoscale Devices Using NEMO 3-D. , 2015, , 1-69.		0
123	Spin-Lattice Relaxation Times of Single Donors and Donor Clusters in Silicon. Physical Review Letters, 2014, 113, 246406.	2.9	27
124	More Moore landscape for system readiness - ITRS2.0 requirements. , 2014, , .		3
125	Non-equilibrium Green's functions method: Non-trivial and disordered leads. Applied Physics Letters, 2014, 105, 213502.	1.5	8
126	Limits to Metallic Conduction in Atomic-Scale Quasi-One-Dimensional Silicon Wires. Physical Review Letters, 2014, 113, 246802.	2.9	23



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127	Silicon at the fundamental scaling limit-atomic-scale donor-based quantum electronics. , 2014, , .		0
128	Performance degradation due to thicker physical layer of high k oxide in ultra-scaled MOSFETs and mitigation through electrostatics design. , 2014, , .		4
129	Statistical modeling of ultra-scaled donor-based silicon phosphorus devices. , 2014, , .		0
130	Atomistic simulation of steep subthreshold slope Bi-layer MoS <sub>2</sub> transistors. , 2014, , .		1
131	An environment-dependent semi-empirical tight binding model suitable for electron transport in bulk metals, metal alloys, metallic interfaces, and metallic nanostructures. I. Model and validation. Journal of Applied Physics, 2014, 115, 123703.	1.1	12
132	Anisotropic strain in SmSe and SmTe: Implications for electronic transport. Physical Review B, 2014, 90, .	1.1	10
133	Design, fabrication, and analysis of p-channel arsenide/antimonide hetero-junction tunnel transistors. Journal of Applied Physics, 2014, 115, .	1.1	18
134	Transistor roadmap projection using predictive full-band atomistic modeling. Applied Physics Letters, 2014, 105, 083508.	1.5	13
135	An environment-dependent semi-empirical tight binding model suitable for electron transport in bulk metals, metal alloys, metallic interfaces, and metallic nanostructures. II. Applicationâ€”Effect of quantum confinement and homogeneous strain on Cu conductance. Journal of Applied Physics, 2014, 115, 123704.	1.1	8
136	Coherent Control of a Single $\text{Si}$ Nuclear Spin Qubit. Physical Review Letters, 2014, 113, 246801.	2.9	47
137	Quantum transport in NEMO5: Algorithm improvements and high performance implementation. , 2014, , .		5
138	Spatially resolving valley quantum interference of a donor in silicon. Nature Materials, 2014, 13, 605-610.	13.3	90
139	Brillouin zone unfolding method for effective phonon spectra. Physical Review B, 2014, 90, .	1.1	19
140	Design and Simulation of Two-Dimensional Superlattice Steep Transistors. IEEE Electron Device Letters, 2014, 35, 1212-1214.	2.2	5
141	Effect of Diameter Variation on Electrical Characteristics of Schottky Barrier Indium Arsenide Nanowire Field-Effect Transistors. ACS Nano, 2014, 8, 6281-6287.	7.3	28
142	Computational study of heterojunction graphene nanoribbon tunneling transistors with p-d orbital tight-binding method. Applied Physics Letters, 2014, 104, 243113.	1.5	5
143	Spin blockade and exchange in Coulomb-confined silicon double quantum dots. Nature Nanotechnology, 2014, 9, 430-435.	15.6	117
144	Designing a large scale quantum computer with atomistic simulations. , 2014, , .		2

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145	Optimization of the anharmonic strain model to capture realistic strain distributions in quantum dots. , 2014, , .		3
146	Tunnel transistors. , 2014, , 117-143.		1
147	nanoHUB.org: Experiences and Challenges in Software Sustainability for a Large Scientific Community. Journal of Open Research Software, 2014, 2, .	2.7	4
148	Tool-Based Curricula and Visual Learning. Electronics, 2014, 17, .	0.2	0
149	Silicon quantum electronics. Reviews of Modern Physics, 2013, 85, 961-1019.	16.4	892
150	Optical TCAD on the Net: A tight-binding study of inter-band light transitions in self-assembled InAs/GaAs quantum dot photodetectors. Mathematical and Computer Modelling, 2013, 58, 288-299.	2.0	4
151	Engineering Nanowire n-MOSFETs at $8\text{-}10\text{ nm}$ . IEEE Transactions on Electron Devices, 2013, 60, 2171-2177.	1.6	46
152	Giant quasiparticle bandgap modulation in graphene nanoribbons supported on weakly interacting surfaces. Applied Physics Letters, 2013, 103, .	1.5	28
153	Learning and research in the cloud. Nature Nanotechnology, 2013, 8, 786-789.	15.6	25
154	Design principles for HgTe based topological insulator devices. Journal of Applied Physics, 2013, 114, .	1.1	27
155	Efficient and realistic device modeling from atomic detail to the nanoscale. Journal of Computational Electronics, 2013, 12, 592-600.	1.3	85
156	A tight-binding study of channel modulation in atomic-scale Si:P nanowires. , 2013, , .		0
157	Atomistic modeling of metallic nanowires in silicon. Nanoscale, 2013, 5, 8666.	2.8	28
158	Noninvasive Spatial Metrology of Single-Atom Devices. Nano Letters, 2013, 13, 1903-1909.	4.5	29
159	Utilizing the Unique Properties of Nanowire MOSFETs for RF Applications. Nano Letters, 2013, 13, 1549-1554.	4.5	10
160	Empirical tight binding parameters for GaAs and MgO with explicit basis through DFT mapping. Journal of Computational Electronics, 2013, 12, 56-60.	1.3	24
161	Low rank approximation method for efficient Green's function calculation of dissipative quantum transport. Journal of Applied Physics, 2013, 113, 213707.	1.1	11
162	Electron transport in nano-scaled piezoelectronic devices. Applied Physics Letters, 2013, 102, 193501.	1.5	10

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163	Spin-valley lifetimes in a silicon quantum dot with tunable valley splitting. Nature Communications, 2013, 4, 2069.	5.8	231
164	Quantum corrected drift-diffusion simulation for prediction of CMOS scaling. , 2013, , .		0
165	Probing scattering mechanisms with symmetric quantum cascade lasers. Optics Express, 2013, 21, 7209.	1.7	35
166	Scaling effect on specific contact resistivity in nano-scale metal-semiconductor contacts. , 2013, , .		4
167	nanoHUB-U: A science gateway ventures into structured online education. , 2013, , .		1
168	Simulation Study of Thin-Body Ballistic n-MOSFETs Involving Transport in Mixed $\Gamma$ -L Valleys. IEEE Electron Device Letters, 2013, 34, 1196-1198.	2.2	23
169	Investigation of ripple-limited low-field mobility in large-scale graphene nanoribbons. Applied Physics Letters, 2013, 102, .	1.5	4
170	nanoHUB.org: cloud-based services for nanoscale modeling, simulation, and education. Nanotechnology Reviews, 2013, 2, 107-117.	2.6	43
171	Atomistic simulation on gate-recessed InAs/GaSb TFETs and performance benchmark. , 2013, , .		4
172	Atomistic simulation of phonon and alloy limited hole mobility in Si <sub>1-x</sub> Ge <sub>x</sub> nanowires. Physica Status Solidi - Rapid Research Letters, 2013, 7, 903-906.	1.2	4
173	Theory and Simulations of Controlled Electronic States Bound to a Single Dopant in Silicon. , 2013, , .		0
174	Indirectly pumped 37 THz InGaAs/InAlAs quantum-cascade lasers grown by metal-organic vapor-phase epitaxy. Optics Express, 2012, 20, 20647.	1.7	24
175	Does the low hole transport mass in $\sim 110\%$ and $\sim 111\%$ Si nanowires lead to mobility enhancements at high field and stress: A self-consistent tight-binding study. Journal of Applied Physics, 2012, 111, .	1.9	10
176	Design of three-well indirect pumping terahertz quantum cascade lasers for high optical gain based on nonequilibrium Green's function analysis. Applied Physics Letters, 2012, 100, .	1.5	12
177	Full band atomistic modeling of homo-junction InGaAs band-to-band tunneling diodes including band gap narrowing. Applied Physics Letters, 2012, 100, 063504.	1.5	23
178	Multiband tight-binding model for strained and bilayer graphene from DFT calculations. , 2012, , .		6
179	Feasibility, accuracy, and performance of contact block reduction method for multi-band simulations of ballistic quantum transport. Journal of Applied Physics, 2012, 111, 063705.	1.1	9
180	Observation of 1D Behavior in Si Nanowires: Toward High-Performance TFETs. Nano Letters, 2012, 12, 5571-5575.	4.5	9

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181	Design of high-current L-valley GaAs=AlAs<inf>0.56</inf>Sb<inf>0.44</inf>/InP (111) ultra-thin-body nMOSFETs. , 2012, , .		1
182	Full-band study of ultra-thin Si:P nanowires. , 2012, , .		0
183	Archimedes, the free Monte Carlo simulator: A GNU package for submicron semiconductor devices on nanoHUB. , 2012, , .		3
184	Spectroscopy of a deterministic single-donor device in silicon. Proceedings of SPIE, 2012, , .	0.8	3
185	Ohm's Law Survives to the Atomic Scale. Science, 2012, 335, 64-67.	6.0	291
186	Effects of interface disorder on valley splitting in SiGe/Si/SiGe quantum wells. Applied Physics Letters, 2012, 100, .	1.5	18
187	A single-atom transistor. Nature Nanotechnology, 2012, 7, 242-246.	15.6	730
188	The polarization response in InAs quantum dots: theoretical correlation between composition and electronic properties. Nanotechnology, 2012, 23, 165202.	1.3	20
189	An efficient algorithm to calculate intrinsic thermoelectric parameters based on Landauer approach. Journal of Computational Electronics, 2012, 11, 56-66.	1.3	6
190	Calculation of phonon spectrum and thermal properties in suspended $\text{In}_x\text{Ga}_{1-x}\text{As}$ nanowires. Journal of Computational Electronics, 2012, 11, 22-28.	1.3	5
191	A two-dimensional domain decomposition technique for the simulation of quantum-scale devices. Journal of Computational Physics, 2012, 231, 1293-1313.	1.9	7
192	Performance Comparisons of $\text{In}^{\text{V}}$ and Strained-Si in Planar FETs and Nonplanar FinFETs at Ultrashort Gate Length (12 nm). IEEE Transactions on Electron Devices, 2012, 59, 2107-2114.	1.6	71
193	Material Selection for Minimizing Direct Tunneling in Nanowire Transistors. IEEE Transactions on Electron Devices, 2012, 59, 2064-2069.	1.6	41
194	Contact modeling and analysis of InAs HEMT transistors. , 2011, , .		3
195	Social Networks of Researchers and Educators on nanoHUB.org. , 2011, , .		6
196	Effects of interface roughness scattering on RF performance of nanowire transistors. , 2011, , .		0
197	Ballistic hole injection velocity analysis in Ge UTB pMOSFETs: Dependence on body thickness, orientation and strain. , 2011, , .		1
198	Interface Trap Density Metrology of State-of-the-Art Undoped Si n-FinFETs. IEEE Electron Device Letters, 2011, 32, 440-442.	2.2	10

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199	Enhancement of thermoelectric efficiency by uniaxial tensile stress in n-type GaAs nanowires. , 2011, , .		1
200	Enhanced valence force field model for the lattice properties of gallium arsenide. Physical Review B, 2011, 84, .	1.1	25
201	Experimental and theoretical study of polarization-dependent optical transitions in InAs quantum dots at telecommunication-wavelengths (1300-1500 nm). Journal of Applied Physics, 2011, 109, .	1.1	29
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