Massimo Fischetti

List of Publications by Year
in descending order

221 papers	12,716 citations	31949 53 h-index	26591 107 g-index
225 all docs	225 docs citations	225 times ranked	6087 citing authors

#	Article	IF	Citations
1	Band structure, deformation potentials, and carrier mobility in strained Si, Ge, and SiGe alloys. Journal of Applied Physics, 1996, 80, 2234-2252.	1.1	1,333
2	Monte carlo analysis of electron transport in small semiconductor devices including band-structure and space-charge effects. Physical Review B, 1988, 38, 9721-9745.	1.1	854
3	Effective electron mobility in Si inversion layers in metalâ€"oxideâ€"semiconductor systems with a high-Îº insulator: The role of remote phonon scattering. Journal of Applied Physics, 2001, 90, 4587-4608.	1.1	682
4	Monte Carlo simulation of transport in technologically significant semiconductors of the diamond and zinc-blende structures. I. Homogeneous transport. IEEE Transactions on Electron Devices, 1991, 38, 634-649.	1.6	541
5	Six-band kâ‹…p calculation of the hole mobility in silicon inversion layers: Dependence on surface orientation, strain, and silicon thickness. Journal of Applied Physics, 2003, 94, 1079-1095.	1.1	453
6	Monte Carlo study of electron transport in silicon inversion layers. Physical Review B, 1993, 48, 2244-2274.	1.1	450
7	Silicon CMOS devices beyond scaling. IBM Journal of Research and Development, 2006, 50, 339-361.	3.2	352
8	Charge trapping related threshold voltage instabilities in high permittivity gate dielectric stacks. Journal of Applied Physics, 2003, 93, 9298-9303.	1.1	294
9	Modeling of electron mobility in gated silicon nanowires at room temperature: Surface roughness scattering, dielectric screening, and band nonparabolicity. Journal of Applied Physics, 2007, 102, .	1.1	287
10	Quantum effects in the early universe. I. Influence of trace anomalies on homogeneous, isotropic, classical geometries. Physical Review D, 1979, 20, 1757-1771.	1.6	256
11	Theory of high-field electron transport in silicon dioxide. Physical Review B, 1985, 31, 8124-8142.	1.1	253
12	On the enhanced electron mobility in strained-silicon inversion layers. Journal of Applied Physics, 2002, 92, 7320-7324.	1.1	215
13	Understanding hotâ€electron transport in silicon devices: Is there a shortcut?. Journal of Applied Physics, 1995, 78, 1058-1087.	1.1	211
14	Long-range Coulomb interactions in small Si devices. Part I: Performance and reliability. Journal of Applied Physics, 2001, 89, 1205-1231.	1.1	194
15	Long-range Coulomb interactions in small Si devices. Part II. Effective electron mobility in thin-oxide structures. Journal of Applied Physics, 2001, 89, 1232-1250.	1.1	177
16	Generation of positive charge in silicon dioxide during avalanche and tunnel electron injection. Journal of Applied Physics, 1985, 57, 2860-2879.	1.1	162
17	Impact ionization in silicon. Applied Physics Letters, 1993, 62, 3339-3341.	1.5	155
18	Monte Carlo simulation of transport in technologically significant semiconductors of the diamond and zinc-blende structures. II. Submicrometer MOSFET's. IEEE Transactions on Electron Devices, 1991, 38, 650-660.	1.6	153

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19	Hybrid-orientation technology (HOT): opportunities and challenges. IEEE Transactions on Electron Devices, 2006, 53, 965-978.	1.6	150
20	Modeling of Surface-Roughness Scattering in Ultrathin-Body SOI MOSFETs. IEEE Transactions on Electron Devices, 2007, 54, 2191-2203.	1.6	143
21	Monte Carlo simulation of double-gate silicon-on-insulator inversion layers: The role of volume inversion. Journal of Applied Physics, 2001, 89, 5478-5487.	1.1	142
22	Model for the generation of positive charge at the Si-SiO2interface based on hot-hole injection from the anode. Physical Review B, 1985, 31, 2099-2113.	1.1	131
23	Monte Carlo analysis of semiconductor devices: The DAMOCLES program. IBM Journal of Research and Development, 1990, 34, 466-494.	3.2	130
24	Master-equation approach to the study of electronic transport in small semiconductor devices. Physical Review B, 1999, 59, 4901-4917.	1.1	123
25	Direct measurement of the energy distribution of hot electrons in silicon dioxide. Journal of Applied Physics, 1985, 58, 1302-1313.	1.1	120
26	The effect of gate metal and SiO2thickness on the generation of donor states at the Siâ€SiO2interface. Journal of Applied Physics, 1985, 57, 418-425.	1.1	114
27	Theory of electron transport in small semiconductor devices using the Pauli master equation. Journal of Applied Physics, 1998, 83, 270-291.	1.1	114
28	Monte-Carlo simulation of submicrometer Si n-MOSFETs at 77 and 300 K. IEEE Electron Device Letters, 1988, 9, 467-469.	2.2	113
29	Monte Carlo Solution to the Problem of High-Field Electron Heating in SiO2. Physical Review Letters, 1984, 53, 1755-1758.	2.9	112
30	Theoretical Study of Some Physical Aspects of Electronic Transport in nMOSFETs at the 10-nm Gate-Length. IEEE Transactions on Electron Devices, 2007, 54, 2116-2136.	1.6	104
31	Mobility enhancement and temperature dependence in top-gated single-layer MoS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2013, 88, .	1.1	100
32	Impact of field-induced quantum confinement in tunneling field-effect devices. Applied Physics Letters, 2011, 98, .	1.5	99
33	Ballistic electron transport in thin silicon dioxide films. Physical Review B, 1987, 35, 4404-4415.	1.1	98
34	Analysis of quantum ballistic electron transport in ultrasmall silicon devices including space-charge and geometric effects. Journal of Applied Physics, 2004, 95, 5545-5582.	1.1	98
35	Effect of the electron-plasmon interaction on the electron mobility in silicon. Physical Review B, 1991, 44, 5527-5534.	1.1	96
36	Electronic band structure calculations for biaxially strained Si, Ge, and IIIâ€“V semiconductors. Journal of Applied Physics, 2010, 108, .	1.1	96

#	Article	IF	Citations
37	Figure of merit for and identification of sub-60â€‰mV/decade devices. Applied Physics Letters, 2013, 102, .	1.5	95
38	Electron interference effects in quantum wells: Observation of bound and resonant states. Physical Review Letters, 1987, 58, 816-819.	2.9	93
39	SiO2â€induced substrate current and its relation to positive charge in fieldâ€effect transistors. Journal of Applied Physics, 1986, 59, 824-832.	1.1	89
40	Simulation of Silicon Nanowire Transistors Using Boltzmann Transport Equation Under Relaxation Time Approximation. IEEE Transactions on Electron Devices, 2008, 55, 727-736.	1.6	87
41	Coulombic and neutral trapping centers in silicon dioxide. Physical Review B, 1991, 43, 1471-1486.	1.1	81
42	Imperfect two-dimensional topological insulator field-effect transistors. Nature Communications, 2017, 8, 14184.	5.8	79
43	Mermin-Wagner theorem, flexural modes, and degraded carrier mobility in two-dimensional crystals with broken horizontal mirror symmetry. Physical Review B, 2016, 93, .	1.1	78
44	Theoretical studies of electronic transport in monolayer and bilayer phosphorene: A critical overview. Physical Review B, 2018, 98, .	1.1	78
45	Simulation of Electron Transport in High-Mobility MOSFETs: Density of States Bottleneck and Source Starvation. , 2007, , .		76
46	Slow and fast states induced by hot electrons at Siâ€SiO2interface. Journal of Applied Physics, 1982, 53, 3136-3144.	1.1	72
47	Investigation of the SiO2â€induced substrate current in silicon fieldâ€effect transistors. Journal of Applied Physics, 1985, 57, 443-452.	1.1	72
48	Theory of interfacial plasmon-phonon scattering in supported graphene. Physical Review B, 2012, 86, .	1.1	70
49	A comparison of numerical solutions of the Boltzmann transport equation for high-energy electron transport silicon. IEEE Transactions on Electron Devices, 1994, 41, 1646-1654.	1.6	66
50	Ballistic hot-electron transistors. IBM Journal of Research and Development, 1990, 34, 530-549.	3.2	65
51	Scaling MOSFETs to 10Ânm: Coulomb effects, source starvation, and virtual source model. Journal of Computational Electronics, 2009, 8, 60-77.	1.3	65
52	Full-band simulation of indirect phonon assisted tunneling in a silicon tunnel diode with delta-doped contacts. Applied Physics Letters, 2001, 78, 814-816.	1.5	60
53	Pseudopotential-based studies of electron transport in graphene and graphene nanoribbons. Journal of Physics Condensed Matter, 2013, 25, 473202.	0.7	58
54	Quantum Monte Carlo Simulation of High-Field Electron Transport: An Application to Silicon Dioxide. Physical Review Letters, 1985, 55, 2475-2478.	2.9	56

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55	Theoretical Study of Carrier Transport in Silicon Nanowire Transistors Based on the Multisubband Boltzmann Transport Equation. IEEE Transactions on Electron Devices, 2008, 55, 2886-2897.	1.6	51
56	Advanced Physics of Electron Transport in Semiconductors and Nanostructures. Graduate Texts in Physics, 2016, , .	0.1	49
57	Hot-carrier charge trapping and trap generation in HfO2 and Al2O3 field-effect transistors. Journal of Applied Physics, 2003, 94, 1728-1737.	1.1	48
58	Generalized phonon-assisted Zener tunneling in indirect semiconductors with non-uniform electric fields: A rigorous approach. Journal of Applied Physics, 2011, 109, 124503.	1.1	48
59	Direct Observation of the Threshold for Electron Heating in Silicon Dioxide. Physical Review Letters, 1986, 56, 1284-1286.	2.9	46
60	Ballistic FET modeling using QDAME: quantum device analysis by modal evaluation. IEEE Nanotechnology Magazine, 2002, 1, 255-259.	1.1	46
61	Remote Coulomb scattering in metalâ€“oxideâ€“semiconductor field effect transistors: Screening by electrons in the gate. Applied Physics Letters, 2003, 83, 4848-4850.	1.5	46
62	Positive charge effects on the flatband voltage shift during avalanche injection on Alâ€SiO2â€Si capacitors. Journal of Applied Physics, 1982, 53, 3129-3135.	1.1	45
63	The importance of the anode field in controlling the generation rate of the donor states at the Siâ€“SiO2 interface. Journal of Applied Physics, 1984, 56, 575-577.	1.1	44
64	The physics of hot-electron degradation of Si MOSFET's: Can we understand it?. Applied Surface Science, 1989, 39, 578-596.	3.1	43
65	Hotâ€electronâ€induced defects at the Siâ€SiO2interface at high fields at 295 and 77 K. Journal of Applied Physics, 1985, 57, 2854-2859.	1.1	42
66	Microscopic dielectric permittivities of graphene nanoribbons and graphene. Physical Review B, 2016, 94, .	1.1	42
67	Electron heating studies in silicon dioxide: Low fields and thick films. Journal of Applied Physics, 1986, 60, 1719-1726.	1.1	41
68	Direct observation of ballistic electrons in silicon dioxide. Physical Review Letters, 1986, 57, 3213-3216.	2.9	41
69	Vacuum emission of hot electrons from silicon dioxide at low temperatures. Journal of Applied Physics, 1988, 64, 4683-4691.	1.1	41
70	Light emission during direct and Fowler-Nordheim tunneling in ultra thin MOS tunnel junctions. Microelectronic Engineering, 1997, 36, 103-106.	1.1	39
71	<i>Ab initio</i>study of the electronic properties and thermodynamic stability of supported and functionalized two-dimensional Sn films. Physical Review B, 2015, 91, .	1.1	39
72	Polarization analysis of hot-carrier light emission in silicon. Semiconductor Science and Technology, 1994, 9, 674-676.	1.0	36

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73	Theoretical analysis of high-field transport in graphene on a substrate. Journal of Applied Physics, 2014, 116, .	1.1	36
74	Theory and Calculation of the Deformation Potential Electron-Phonon Scattering Rates in Semiconductors. , 1991, , 123-160.		35
75	Theoretical Study of the Gate Leakage Current in Sub-10-nm Field-Effect Transistors. IEEE Transactions on Electron Devices, 2013, 60, 3862-3869.	1.6	35
76	Fundamental limitations of hot-carrier solar cells. Physical Review B, 2012, 86, .	1.1	33
77	Performance degradation of small silicon devices caused by long-range Coulomb interactions. Applied Physics Letters, 2000, 76, 2277-2279.	1.5	31
78	Full-band-structure theory of high-field transport and impact ionization of electrons and holes in Ge, Si, and GaAs. Journal of Technology Computer Aided Design TCAD, 1996, , 1-50.	0.0	30
79	Physical modeling of strain-dependent hole mobility in Ge p-channel inversion layers. Journal of Applied Physics, 2009, 106, .	1.1	30
80	Calculation of the electron mobility in III-V inversion layers with high-Îº dielectrics. Journal of Applied Physics, 2010, 108, 103705.	1.1	29
81	The use of simulation in semiconductor technology development. Solid-State Electronics, 1990, 33, 591-623.	0.8	28
82	Structural, electronic, and transport properties of silicane nanoribbons. Physical Review B, 2012, 86, .	1.1	28
83	Charged impurity scattering in top-gated graphene nanostructures. Physical Review B, 2012, 86, .	1.1	28
84	Theory of remote phonon scattering in top-gated single-layer graphene. Physical Review B, 2013, 88, .	1.1	28
85	Monte-Carlo study of electronic transport in non-<i>Ïƒ</i>h-symmetric two-dimensional materials: Silicene and germanene. Journal of Applied Physics, 2018, 124, .	1.1	28
86	Soft-x-rayâ€“induced core-level photoemission as a probe of hot-electron dynamics inSiO2. Physical Review Letters, 1990, 65, 1937-1940.	2.9	26
87	Scaling MOSFETs to the Limit: A Physicists's Perspective. Journal of Computational Electronics, 2003, 2, 73-79.	1.3	26
88	Modeling the capacitance-voltage response of In0.53Ga0.47As metal-oxide-semiconductor structures: Charge quantization and nonparabolic corrections. Applied Physics Letters, 2010, 96, 213514.	1.5	25
89	Limitations of abÂinitio methods to predict the electronic-transport properties of two-dimensional semiconductors: the computational example of 2H-phase transition metal dichalcogenides. Journal of Computational Electronics, 2021, 20, 49-59.	1.3	25
90	Hole mobility improvement in silicon-on-insulator and bulk silicon transistors using local strain. , 1997, , .		24

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91	An empirical pseudopotential approach to surface and line-edge roughness scattering in nanostructures: Application to Si thin films and nanowires and to graphene nanoribbons. Journal of Applied Physics, 2011, 110, .	1.1	24
92	Hot electrons in silicon dioxide: Ballistic to steady-state transport. Applied Surface Science, 1987, 30, 278-297.	3.1	23
93	Deformation potentials for band-to-band tunneling in silicon and germanium from first principles. Applied Physics Letters, 2015, 106, 013505.	1.5	23
94	Theoretical Study of Ballistic Transport in Silicon Nanowire and Graphene Nanoribbon Field-Effect Transistors Using Empirical Pseudopotentials. IEEE Transactions on Electron Devices, 2017, 64, 2758-2764.	1.6	23
95	Scalable atomistic simulations of quantum electron transport using empirical pseudopotentials. Computer Physics Communications, 2019, 244, 156-169.	3.0	23
96	Electron Transport Properties of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:msub><mml:mi>Al</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi>Ga</mml:mi><mml:mr mathvariant="normal">N</mml:mi></mml:mrow></mml:mrow><mml:mo>/</mml:mo><mml:mrow><mml:mi>Ga</mml:mi><mml:mi mathvariant="normal">N</mml:mi></mml:mrow></mml:math> Transistors Based on F. Physical Review Applied, 2019, 11, .	1.5	23
97	Direct and heterodyne detection of microwaves in a metallic single wall carbon nanotube. Applied Physics Letters, 2006, 89, 083502.	1.5	22
98	Two-dimensional quantum mechanical modeling of band-to-band tunneling in indirect semiconductors. , 2011, , .		21
99	Pseudopotential-based electron quantum transport: Theoretical formulation and application to nanometer-scale silicon nanowire transistors. Journal of Applied Physics, 2016, 119, 035701.	1.1	21
100	Numerical Aspects and Implementation of theDamoclesMonte Carlo Device Simulation Program. , 1991, , 1-26.		21
101	Interfacial graphene growth in the Ni/SiO₂ system using pulsed laser deposition. Applied Physics Letters, 2013, 103, 134102.	1.5	20
102	Signatures of dynamic screening in interfacial thermal transport of graphene. Physical Review B, 2013, 87, .	1.1	20
103	Hot electrons in SiO2: ballistic to steady-state transport. Solid-State Electronics, 1988, 31, 629-636.	0.8	19
104	Monte Carlo simulations of p- and n-channel dual-gate Si MOSFET's at the limits of scaling. IEEE Transactions on Electron Devices, 1993, 40, 2103.	1.6	19
105	Temperature dependence of the current in SiO2in the high field tunneling regime. Journal of Applied Physics, 1984, 55, 4322-4329.	1.1	18
106	Monte Carlo simulation of hot-carrier transport in real semiconductor devices. Solid-State Electronics, 1989, 32, 1723-1729.	0.8	18
107	Numerical modeling of advanced semiconductor devices. IBM Journal of Research and Development, 1992, 36, 208-232.	3.2	17
108	Electrical characterization of Al2O3 n-channel MOSFETs with aluminum gates. IEEE Electron Device Letters, 2001, 22, 490-492.	2.2	17

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109	Theory of hole mobility in strained Ge and III-V p-channel inversion layers with high-Îº insulators. Journal of Applied Physics, 2010, 108, 123713.	1.1	17
110	Calculation of room temperature conductivity and mobility in tin-based topological insulator nanoribbons. Journal of Applied Physics, 2014, 116, .	1.1	17
111	Monte Carlo and hydrodynamic simulation of a one dimensional n⁺ Â– n Â– n⁺ silicon diode. VLSI Design, 1998, 6, 247-250.	0.5	16
112	Empirical pseudopotential calculations of the band structure and ballistic conductance of strained [001], [110], and [111] silicon nanowires. Journal of Applied Physics, 2011, 110, .	1.1	16
113	Monte Carlo Study of Electronic Transport in Monolayer InSe. Materials, 2019, 12, 4210.	1.3	16
114	Understanding the Average Electronâ€“Hole Pair-Creation Energy in Silicon and Germanium Based on Full-Band Monte Carlo Simulations. IEEE Transactions on Nuclear Science, 2019, 66, 444-451.	1.2	16
115	Thirty Years of Monte Carlo Simulations of Electronic Transport in Semiconductors: Their Relevance to Science and Mainstream VLSI Technology. Journal of Computational Electronics, 2004, 3, 287-293.	1.3	15
116	Dual stress liner enhancement in hybrid orientation technology. , 0, , .		15
117	Top oxide thickness dependence of remote phonon and charged impurity scattering in top-gated graphene. Applied Physics Letters, 2013, 102, 183506.	1.5	15
118	â€œHot electrons in Si lose energy mostly to optical phononsâ€: Truth or myth?. Applied Physics Letters, 2019, 114, 222104.	1.5	15
119	Master-Equation Study of Quantum Transport in Realistic Semiconductor Devices Including Electron-Phonon and Surface-Roughness Scattering. Physical Review Applied, 2020, 13, .	1.5	15
120	Investigation of CMOS devices with embedded sige source/drain on hybrid orientation substrates. , 0, , .		14
121	Differential conductance fluctuations in silicon nanowire transistors caused by quasiballistic transport and scattering induced intersubband transitions. Applied Physics Letters, 2008, 92, 082103.	1.5	14
122	Thickness and temperature dependence of the leakage current in hafnium-based Si SOI MOSFETs. Microelectronics Reliability, 2012, 52, 2907-2913.	0.9	14
123	Electronic Transport Properties of Silicane Determined from First Principles. Materials, 2019, 12, 2935.	1.3	14
124	Field induced quantum confinement in Indirect Semiconductors: Quantum mechanical and modified semiclassical model. , 2011, , .		12
125	Si-based tunnel field-effect transistors for low-power nano-electronics. , 2011, , .		12
126	Semiclassical and Quantum Electronic Transport in Nanometer-Scale Structures: Empirical Pseudopotential Band Structure, Monte Carlo Simulations and Pauli Master Equation. , 2011, , 183-247.		12

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127	Transport models for advanced device simulation-truth or consequences?. , 0, , .		11
128	Electron mobility in silicon and germanium inversion layers: The role of remote phonon scattering. Journal of Computational Electronics, 2007, 6, 81-84.	1.3	11
129	3-D Full-Band Monte Carlo Simulation of Hot-Electron Energy Distributions in Gate-All-Around Si Nanowire MOSFETs. IEEE Transactions on Electron Devices, 2021, 68, 2556-2563.	1.6	11
130	Ballistic Electron Transport in Hot Electron Transistors. Springer Series in Electrophysics, 1990, , 271-320.	0.2	10
131	Monte Carlo study of velocity overshoot in switching a 0.1-micron CMOS inverter. , 0, , .		10
132	Comment on â€œInfluence of the doping element on the electron mobility in n siliconâ€•[J. Appl. Phys. 83, 3096 (1998)]. Journal of Applied Physics, 1999, 85, 7984-7985.	1.1	10
133	Why hot carrier emission based timing probes will work for 50 nm, 1V CMOS technologies. Microelectronics Reliability, 2001, 41, 1465-1470.	0.9	10
134	Self-consistent calculation for valence subband structure and hole mobility in p-channel inversion layers. Journal of Computational Electronics, 2008, 7, 176-180.	1.3	10
135	Electron avalanche injection on 10â€nm dielectric films. Journal of Applied Physics, 1987, 61, 1910-1915.	1.1	9
136	Coulombic and neutral electron trapping centers in SiO2. Applied Surface Science, 1989, 39, 420-428.	3.1	9
137	Inter-ribbon tunneling in graphene: An atomistic Bardeen approach. Journal of Applied Physics, 2016, 119, 214306.	1.1	9
138	Monte Carlo analysis of phosphorene nanotransistors. Journal of Computational Electronics, 2021, 20, 60-69.	1.3	9
139	Theoretical study of scattering in graphene ribbons in the presence of structural and atomistic edge roughness. Physical Review Materials, 2019, 3, .	0.9	9
140	Hot-carrier charge trapping and reliability in high-k dielectrics. , 0, , .		8
141	Technology development & design for 22 nm InGaAs/InP-channel MOSFETs. , 2008, , .		8
142	Scaling MOSFETs to 10 nm: Coulomb Effects, Source Starvation, and Virtual Source. , 2009, , .		8
143	Depression of the normal-superfluid transition temperature in gated bilayer graphene. Journal of Applied Physics, 2014, 115, 163711.	1.1	8
144	Remote Phonon Scattering in Si and Ge with SiO2and HfO2Insulators: Does the Electron Mobility Determine Short Channel Performance?. Japanese Journal of Applied Physics, 2007, 46, 3265-3272.	0.8	7

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145	Intrinsic broadening of the mobility spectrum of bulk n-type GaAs. New Journal of Physics, 2014, 16, 113033.	1.2	7
146	Theoretical simulation of negative differential transconductance in lateral quantum well nMOS devices. Journal of Applied Physics, 2017, 121, 044501.	1.1	7
147	Quantum transport simulation of graphene-nanoribbon field-effect transistors with defects. Journal of Computational Electronics, 2021, 20, 21-37.	1.3	7
148	Study of performance and leakage currents in nanometer-scale bulk, SOI and double-gate MOSFETs. Journal of Computational Electronics, 2008, 7, 24-27.	1.3	6
149	Anatomy of Carrier Backscattering in Silicon Nanowire Transistors. , 2009, , .		6
150	The DAMOCLES Monte Carlo Device Simulation Program. , 1991, , 87-92.		6
151	Band-Structure and Quantum Effects on Hole Transport in p-MOSFETs. Journal of Computational Electronics, 2005, 4, 27-30.	1.3	5
152	(Invited) Scaling FETs to 10 nm: Coulomb Effects, Source Starvation, and Virtual Source. ECS Transactions, 2010, 28, 15-26.	0.3	5
153	Energies of the <i>X-</i> and <i>L</i>-valleys in In0.53Ga0.47As from electronic structure calculations. Journal of Applied Physics, 2016, 119, .	1.1	5
154	Theoretical study of electron transport in silicene and germanene using full-band Monte Carlo simulations. , 2016, , .		5
155	Real-time <i>ab initio</i> simulation of inelastic electron scattering using the exact, density functional, and alternative approaches. Physical Chemistry Chemical Physics, 2020, 22, 8616-8624.	1.3	5
156	Physical characterization of deep bulk levels by the MOS conductance technique. Solid-State Electronics, 1982, 25, 5-14.	0.8	4
157	<title>Monte Carlo calculations of laser-induced free-electron heating in SiO<formula><inf><roman>2</roman></inf></formula></title>. , 1991, , .		4
158	Calculation of Hole Mobility in Ge and III-V p-Channels. , 2009, , .		4
159	Realizing a topological-insulator field-effect transistor using iodostannanane. , 2014, , .		4
160	Channel Length Scaling Limit for LDMOS Field-Effect Transistors: Semi-classical and Quantum Analysis. , 2020, , .		4
161	Hot Electrons in SiO2: Ballistic and Steady-State Transport. , 1988, , 375-389.		4
162	Does Circulation in Individual Current States Survive in the Total Current Density?. Journal of Computational Electronics, 2003, 2, 105-108.	1.3	3

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163	Empirical Pseudopotential Calculation of Band Structure and Deformation Potentials of Biaxially Strained Semiconductors. , 2009, , .		3
164	Calculation of electron-phonon interaction strength from first principles in graphene and silicon. , 2014, , .		3
165	Determining bound states in a semiconductor device with contacts using a nonlinear eigenvalue solver. Journal of Computational Electronics, 2014, 13, 753-762.	1.3	3
166	Overview of Quantum-Transport Formalisms. Graduate Texts in Physics, 2016, , 361-380.	0.1	3
167	Effects of the Dielectric Environment on Electronic Transport in Monolayer MoS2: Screening and Remote Phonon Scattering. , 2020, , .		3
168	Comments on "Oxide-field dependence of electron injection from silicon into silicon dioxide" [with reply]. IEEE Transactions on Electron Devices, 1994, 41, 1680-1683.	1.6	2
169	Modeling p-channel SiGe MOSFETs by taking into account the band-structure and the size quantization effects self-consistently. Journal of Computational Electronics, 2007, 5, 435-438.	1.3	2
170	Post-Si-CMOS Devices - Scaling FETs to (Beyond?) 10 nm: From Semiclassical to Quantum Models. , 2012, , .		2
171	Full-band ballistic quantum transport in nanostructures using empirical pseudopotentials. , 2014, , .		2
172	Modeling of inter-ribbon tunneling in graphene. , 2015, , .		2
173	Scattering with Ionized Impurities. Graduate Texts in Physics, 2016, , 315-325.	0.1	2
174	* Electronic Structure of Low-Dimensionality Systems. Graduate Texts in Physics, 2016, , 111-162.	0.1	2
175	Superconductivity induced by flexural modes in non- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>Ïƒ</mml:mi><mml:mi mathvariant="normal">h</mml:mi></mml:msub></mml:math> -symmetric Dirac-like two-dimensional materials: A theoretical study for silicene and germanene. Physical Review B, 2018, 97, .	1.1	2
176	Monte Carlo Simulation of High-Energy Electron Transport in Silicon: Is There a Short-Cut to Happiness?. , 1996, , 475-480.		2
177	SEMICONDUCTOR DEVICE PHYSICS AND THE MODELING OF SMALL SEMICONDUCTOR DEVICES. , 1997, , 114-144.		1
178	Comment on â€œUnified compact theory of tunneling gate current in metalâ€“oxideâ€“semiconductor structures: Quantum and image force barrier loweringâ€•[J. Appl. Phys.92, 3724 (2002)]. Journal of Applied Physics, 2003, 93, 3123-3124.	1.1	1
179	Hole transport in p-channel Si MOSFETs. Microelectronics Journal, 2005, 36, 323-326.	1.1	1
180	Self-consistent full band two-dimensional Monte Carlo two-dimensional Poisson device solver for modeling SiGe p-channel devices. Journal of Vacuum Science & Technology B, 2006, 24, 1997.	1.3	1

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181	Backscattering coefficient in MOSFETs from an extended one-flux theory. , 2009, , .		1
182	Dissipative Quantum Transport using the Pauli Master Equation. , 2009, , .		1
183	Electronic and transport properties of armchair and zigzag sp³-hybridized silicane nanoribbons. , 2012, , .		1
184	One-flux theory of saturated drain current in nanoscale transistors. Solid-State Electronics, 2012, 78, 115-120.	0.8	1
185	(Invited) Pseudopotential-Based Study of Electron Transport in Low-Dimensionality Nanostructures. ECS Transactions, 2013, 58, 229-234.	0.3	1
186	Physics of electronic transport in low-dimensionality materials for future FETs. , 2014, , .		1
187	Progress on quantum transport simulation using empirical pseudopotentials. , 2015, , .		1
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