Mihail Nedjalkov

List of Publications by Year
in descending order

62 papers	792 citations	567281 15 h-index	580821 25 g-index
66 all docs	66 docs citations	66 times ranked	334 citing authors

#	Article	IF	Citations
1	A review of quantum transport in field-effect transistors. Semiconductor Science and Technology, 2022, 37, 043001.	2.0	11
2	Stationary Quantum Particle Attributes. Modeling and Simulation in Science, Engineering and Technology, 2021, , 153-173.	0.6	0
3	A computational approach for investigating Coulomb interaction using Wignerâ€“Poisson coupling. Journal of Computational Electronics, 2021, 20, 775-784.	2.5	7
4	Electromagnetic Coherent Electron Control. , 2021, , .		0
5	A deterministic Wigner approach for superposed states. Journal of Computational Electronics, 2021, 20, 2104.	2.5	2
6	Complex Systems in Phase Space. Entropy, 2020, 22, 1103.	2.2	4
7	Investigating Quantum Coherence by Negative Excursions of the Wigner Quasi-Distribution. Applied Sciences (Switzerland), 2019, 9, 1344.	2.5	6
8	Mobility of Circular and Elliptical Si Nanowire Transistors Using a Multi-Subband 1D Formalism. IEEE Electron Device Letters, 2019, 40, 1571-1574.	3.9	15
9	Simulation of the Impact of Ionized Impurity Scattering on the Total Mobility in Si Nanowire Transistors. Materials, 2019, 12, 124.	2.9	21
10	Electron Interference in a Doubleâ€Dopant Potential Structure. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1800111.	2.4	13
11	Stochastic analysis of surface roughness models in quantum wires. Computer Physics Communications, 2018, 228, 30-37.	7.5	7
12	Electron evolution around a repulsive dopant in a quantum wire: coherence effects. Nanoscale, 2018, 10, 23037-23049.	5.6	9
13	Analysis of lenseâ€governed Wigner signed particle quantum dynamics. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1700102.	2.4	10
14	One-dimensional multi-subband Monte Carlo simulation of charge transport in Si nanowire transistors. , 2016, , .		5
15	Introduction to the special issue on Wigner functions. Journal of Computational Electronics, 2015, 14, 857-858.	2.5	1
16	Impact of Self-Heating on the Statistical Variability in Bulk and SOI FinFETs. IEEE Transactions on Electron Devices, 2015, 62, 2106-2112.	3.0	31
17	The Wigner equation in the presence of electromagnetic potentials. Journal of Computational Electronics, 2015, 14, 888-893.	2.5	6
18	Boundary conditions and the Wigner equation solution. Journal of Computational Electronics, 2015, 14, 859-863.	2.5	11

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19	An introduction to applied quantum mechanics in the Wigner Monte Carlo formalism. Physics Reports, 2015, 577, 1-34.	25.6	47
20	Domain decomposition strategies for the two-dimensional Wigner Monte Carlo Method. Journal of Computational Electronics, 2015, 14, 922-929.	2.5	8
21	Distributed-memory parallelization of the Wigner Monte Carlo method using spatial domain decomposition. Journal of Computational Electronics, 2015, 14, 151-162.	2.5	18
22	A comparison of approaches for the solution of the Wigner equation. Mathematics and Computers in Simulation, 2015, 107, 108-119.	4.4	4
23	Deterministic Solution of the Discrete Wigner Equation. Lecture Notes in Computer Science, 2015, , 149-156.	1.3	3
24	The Influence of Electrostatic Lenses on Wave Packet Dynamics. Lecture Notes in Computer Science, 2015, , 277-284.	1.3	1
25	A benchmark study of the Wigner Monte Carlo method. Monte Carlo Methods and Applications, 2014, 20, 43-51.	0.8	29
26	Electron dynamics in nanoscale transistors by means of Wigner and Boltzmann approaches. Physica A: Statistical Mechanics and Its Applications, 2014, 398, 194-198.	2.6	11
27	Modeling Carrier Mobility in Nano-MOSFETs in the Presence of Discrete Trapped Charges: Accuracy and Issues. IEEE Transactions on Electron Devices, 2014, 61, 1292-1298.	3.0	4
28	The Role of Annihilation in a Wigner Monte Carlo Approach. Lecture Notes in Computer Science, 2014, , 186-193.	1.3	6
29	Decoherence effects in the Wigner function formalism. Journal of Computational Electronics, 2013, 12, 388-396.	2.5	10
30	Physical scales in the Wignerâ€“Boltzmann equation. Annals of Physics, 2013, 328, 220-237.	2.8	25
31	Decoherence and time reversibility: The role of randomness at interfaces. Journal of Applied Physics, 2013, 114, 174902.	2.5	5
32	Wigner quasi-particle attributesâ€"An asymptotic perspective. Applied Physics Letters, 2013, 102, .	3.3	38
33	Phonon-Induced Decoherence in Electron Evolution. Lecture Notes in Computer Science, 2012, , 472-479.	1.3	2
34	Device modeling in the Wigner picture. Journal of Computational Electronics, 2010, 9, 218-223.	2.5	6
35	Electronâ€“phonon interaction in nanowires: A Monte Carlo study of the effect of the field. Mathematics and Computers in Simulation, 2010, 81, 515-521.	4.4	1
36	The Impact of Collisional Broadening on Noise in Silicon at Equilibrium. , 2009, , .		0

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37	The forced evolution of implementations. , 2009, , .		0
38	Semi-discrete 2D Wigner-particle approach. Journal of Computational Electronics, 2008, 7, 222-225.	2.5	16
39	Modeling Thermal Effects in Nanodevices. IEEE Transactions on Electron Devices, 2008, 55, 1306-1316.	3.0	107
40	Ultrafast Wigner transport in quantum wires. Journal of Computational Electronics, 2007, 6, 235-238.	2.5	7
41	A Self-Consistent Event Biasing Scheme for Statistical Enhancement. Journal of Computational Electronics, 2004, 3, 305-309.	2.5	10
42	Semiclassical Approximation of Electron-Phonon Scattering Beyond Fermi's Golden Rule. SIAM Journal on Applied Mathematics, 2004, 64, 1933-1953.	1.8	13
43	A quasi-particle model of the electronâ€"Wigner potential interaction. Semiconductor Science and Technology, 2004, 19, S226-S228.	2.0	3
44	Stochastic interpretation of the Wigner transport in nanostructures. Microelectronics Journal, 2003, 34, 443-445.	2.0	5
45	Monte Carlo algorithms for stationary device simulations. Mathematics and Computers in Simulation, 2003, 62, 453-461.	4.4	4
46	An event bias technique for Monte Carlo device simulation. Mathematics and Computers in Simulation, 2003, 62, 367-375.	4.4	2
47	The stationary Monte Carlo method for device simulation. I. Theory. Journal of Applied Physics, 2003, 93, 3553-3563.	2.5	22
48	Monte Carlo method for modeling of small signal response including the Pauli exclusion principle. Journal of Applied Physics, 2003, 94, 5791-5799.	2.5	14
49	The stationary Monte Carlo method for device simulation. II. Event biasing and variance estimation. Journal of Applied Physics, 2003, 93, 3564-3571.	2.5	8
50	PARTICLE MODELS FOR DEVICE SIMULATION. International Journal of High Speed Electronics and Systems, 2003, 13, 727-769.	0.7	5
51	Transient model for terminal current noise. Applied Physics Letters, 2002, 80, 607-609.	3.3	1
52	Femtosecond relaxation of hot electrons by phonon emission in presence of electric field. Physica B: Condensed Matter, 2002, 314, 301-304.	2.7	20
53	A Wigner equation with quantum electronâ€"phonon interaction. Microelectronic Engineering, 2002, 63, 199-203.	2.4	11
54	The Monte Carlo method for semi-classical charge transport in semiconductor devices. Mathematics and Computers in Simulation, 2001, 55, 93-102.	4.4	3

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55	Variance of the ensemble Monte Carlo algorithm for semiconductor transport modeling. Mathematics and Computers in Simulation, 2001, 55, 191-198.	4.4	2
56	Theory of the Monte Carlo method for semiconductor device simulation. IEEE Transactions on Electron Devices, 2000, 47, 1898-1908.	3.0	48
57	Using the wigner function for quantum transport in device simulation. Mathematical and Computer Modelling, 1997, 25, 33-53.	2.0	16
58	A Monte Carlo solution of the Wigner transport equation. Semiconductor Science and Technology, 1994, 9, 934-936.	2.0	38
59	Application of the iteration approach to the ensemble Monte Carlo technique. Solid-State Electronics, 1990, 33, 407-410.	1.4	16
60	Iteration approach for solving the Boltzmann equation with the Monte Carlo method. Solid-State Electronics, 1989, 32, 893-896.	1.4	28
61	Monte-Carlo methods for determination of transport properties of semiconductors. Solid-State Electronics, 1988, 31, 1065-1069.	1.4	5
62	Modifications in the oneâ€particle Monte Carlo method for solving the Boltzmann equation with changed variables. Journal of Applied Physics, 1988, 64, 3532-3537.	2.5	2