Dragica Vasileska

List of Publications by Year
in descending order

141 papers	2,240 citations	257101 24 h-index	288905 40 g-index
142 all docs	142 docs citations	142 times ranked	1386 citing authors

#	Article	IF	Citations
1	Cryogenic Characterization and Analysis of Nanoscale SOI FETs Using a Virtual Source Model. IEEE Transactions on Electron Devices, 2022, 69, 1306-1312.	1.6	11
2	Evaluating the Ballistic Transport in nFinFETs: A Carrier Centric Perspective. IEEE Nanotechnology Magazine, 2022, 21, 311-319.	1.1	2
3	Monte Carlo Solution of High Electric Field Hole Transport Processes in Avalanche Amorphous Selenium. ACS Omega, 2021, 6, 4574-4581.	1.6	5
4	Role of Hydrogen in the Electronic Properties of a-Si:H/c-Si Heterostructures. Journal of Physical Chemistry C, 2021, 125, 13050-13058.	1.5	2
5	Spatial profiles of photon chemical potential in near-field thermophotovoltaic cells. Journal of Applied Physics, 2021, 129, .	1.1	13
6	Understanding Transport in Hole Contacts of Silicon Heterojunction Solar Cells by Simulating TLM Structures. IEEE Journal of Photovoltaics, 2020, 10, 363-371.	1.5	13
7	GaN Vertical-Channel Junction Field-Effect Transistors With Regrown p-GaN by MOCVD. IEEE Transactions on Electron Devices, 2020, 67, 3972-3977.	1.6	25
8	Static and Transient Simulation of 4H-SiC VDMOS Using Full-Band Monte Carlo Simulation That Includes Real-Space Treatment of the Coulomb Interactions. IEEE Transactions on Electron Devices, 2020, 67, 3705-3710.	1.6	2
9	Statistical analysis of the impact of charge traps in p-type MOSFETs via particle-based Monte Carlo device simulations. Journal of Computational Electronics, 2020, 19, 648-657.	1.3	9
10	3-D Monte Carlo device simulator for variability modeling of p-MOSFETs. Journal of Computational Electronics, 2020, 19, 668-676.	1.3	7
11	Electron transport analysis of 4H-SiC with full-band Monte Carlo simulation including real-space Coulomb interactions. Journal of Applied Physics, 2020, 127, 155702.	1.1	3
12	Kinetic Monte Carlo simulation of transport in amorphous silicon passivation layers in silicon heterojunction solar cells. Journal of Computational Electronics, 2019, 18, 1152-1161.	1.3	6
13	Phonon-limited mobility modeling of gallium nitride nanowires. Journal of Applied Physics, 2019, 125, .	1.1	3
14	PVRD-FASP: A Unified Solver for Modeling Carrier and Defect Transport in Photovoltaic Devices. IEEE Journal of Photovoltaics, 2019, 9, 1602-1613.	1.5	8
15	Metastability and reliability of CdTe solar cells. Journal Physics D: Applied Physics, 2018, 51, 153002.	1.3	16
16	Hole transport in selenium semiconductors using density functional theory and bulk Monte Carlo. Journal of Applied Physics, 2018, 124, .	1.1	12
17	The impact of surface-roughness scattering on the low-field electron mobility in nano-scale Si MOSFETs. Journal of Applied Physics, 2017, 122, .	1.1	7
18	Numerical Simulation of Copper Migration in Single Crystal CdTe. IEEE Journal of Photovoltaics, 2016, 6, 1286-1291.	1.5	17

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19	1/f noise simulation in MOSFETs under cyclo-stationary conditions using SPICE simulator. Journal of Computational Electronics, 2015, 14, 15-20.	1.3	2
20	Current degradation due to electromechanical coupling in GaN HEMT's. Microelectronics Journal, 2013, 44, 592-597.	1.1	0
21	The importance of thermal conductivity modeling for simulations of self-heating effects in FD SOI devices. Journal of Computational Electronics, 2013, 12, 601-610.	1.3	6
22	Modeling thermal effects in nano-devices. Microelectronic Engineering, 2013, 109, 163-167.	1.1	7
23	Physical scales in the Wignerâ€“Boltzmann equation. Annals of Physics, 2013, 328, 220-237.	1.0	25
24	Wigner quasi-particle attributesâ€"An asymptotic perspective. Applied Physics Letters, 2013, 102, .	1.5	38
25	Current Degradation in GaN HEMTs: Is Self-Heating Responsible. ECS Transactions, 2012, 49, 103-109.	0.3	1
26	Current progress in modeling self-heating effects in FD SOI devices and nanowire transistors. Journal of Computational Electronics, 2012, 11, 238-248.	1.3	17
27	Compact modeling and simulation of Random Telegraph Noise under non-stationary conditions in the presence of random dopants. Microelectronics Reliability, 2012, 52, 2955-2961.	0.9	11
28	Study of self-heating effects in SOI and conventional MOSFETs with electro-thermal particle-based device simulator. Journal of Computational Electronics, 2012, 11, 106-117.	1.3	11
29	Is self-heating responsible for the current collapse in GaN HEMTs?. Journal of Computational Electronics, 2012, 11, 129-136.	1.3	14
30	Static Analysis of Random Telegraph Noise in a 45-nm Channel Length Conventional MOSFET Device: Threshold Voltage and ON-Current Fluctuations. IEEE Nanotechnology Magazine, 2011, 10, 1394-1400.	1.1	3
31	Empirical pseudopotential band structure parameters of 4H-SiC using a genetic algorithm fitting routine. Superlattices and Microstructures, 2011, 49, 109-115.	1.4	8
32	Accurate Model for the Threshold Voltage Fluctuation Estimation in 45-nm Channel Length MOSFET Devices in the Presence of Random Traps and Random Dopants. IEEE Electron Device Letters, 2011, 32, 1044-1046.	2.2	9
33	1/f Noise: threshold voltage and ON-current fluctuations inÂ45Ânm device technology due to charged random traps. Journal of Computational Electronics, 2010, 9, 128-134.	1.3	10
34	The role of the source and drain contacts on self-heating effect inÂnanowire transistors. Journal of Computational Electronics, 2010, 9, 180-186.	1.3	7
35	Electrothermal Monte Carlo Simulation of GaN HEMTs Including Electronâ€“Electron Interactions. IEEE Transactions on Electron Devices, 2010, 57, 562-570.	1.6	21
36	Electrothermal Studies of FD SOI Devices That Utilize a New Theoretical Model for the Temperature and Thickness Dependence of the Thermal Conductivity. IEEE Transactions on Electron Devices, 2010, 57, 726-728.	1.6	30

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37	Electronâ€“phonon interaction in nanowires: A Monte Carlo study of the effect of the field. Mathematics and Computers in Simulation, 2010, 81, 515-521.	2.4	1
38	Impact of RDF and RTS on the performance of SRAM cells. Journal of Computational Electronics, 2010, 9, 122-127.	1.3	8
39	Diffusive Transport in Quasi-2D and Quasi-1D Electron Systems. Journal of Computational and Theoretical Nanoscience, 2009, 6, 1725-1753.	0.4	24
40	Self-Heating Effects in Nanoscale FD SOI Devices: The Role of the Substrate, Boundary Conditions at Various Interfaces, and the Dielectric Material Type for the BOX. IEEE Transactions on Electron Devices, 2009, 56, 3064-3071.	1.6	47
41	Computational nanoelectronics research and education atÂnanoHUB.org. Journal of Computational Electronics, 2009, 8, 124-131.	1.3	3
42	Importance of the Gate-Dependent Polarization Charge on the Operation of GaN HEMTs. IEEE Transactions on Electron Devices, 2009, 56, 998-1006.	1.6	26
43	Can silicon FinFETs satisfy ITRS projections for high performance 10Ânm devices?. Journal of Computational Electronics, 2008, 7, 284-287.	1.3	0
44	Cross-sectional dependence of electron mobility and lattice thermal conductivity in silicon nanowires. Journal of Computational Electronics, 2008, 7, 319-323.	1.3	9
45	Semi-discrete 2D Wigner-particle approach. Journal of Computational Electronics, 2008, 7, 222-225.	1.3	16
46	Fully 3D self-consistent quantum transport simulation ofÂDouble-gate and Tri-gate 10 nm FinFETs. Journal of Computational Electronics, 2008, 7, 346-349.	1.3	3
47	Modeling heating effects in nanoscale devices: theÂpresentÂandÂtheÂfuture. Journal of Computational Electronics, 2008, 7, 66-93.	1.3	34
48	Approaching Optimal Characteristics of 10-nm High-Performance Devices: A Quantum Transport Simulation Study of Si FinFET. IEEE Transactions on Electron Devices, 2008, 55, 743-753.	1.6	26
49	Modeling Thermal Effects in Nanodevices. IEEE Transactions on Electron Devices, 2008, 55, 1306-1316.	1.6	107
50	Simulation of the Impact of Process Variation on the Optimized 10-nm FinFET. IEEE Transactions on Electron Devices, 2008, 55, 2134-2141.	1.6	21
51	Is SOD Technology the Solution to Heating Problems in SOI Devices?. IEEE Electron Device Letters, 2008, 29, 621-624.	2.2	34
52	Semiconductor Device Modeling. Journal of Computational and Theoretical Nanoscience, 2008, 5, 999-1030.	0.4	18
53	Modeling Coulomb Effects in Nanoscale Devices. Journal of Computational and Theoretical Nanoscience, 2008, 5, 1793-1827.	0.4	17
54	Electronic and Thermal Properties of Silicon Nanowires. ECS Transactions, 2007, 6, 159-164.	0.3	0

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55	Assessment of the CBR Quantum Transport Simulator on Experimentally Fabricated Nano-FinFET. ECS Transactions, 2007, 6, 197-203.	0.3	0
56	Electron Mobility in Silicon Nanowires. IEEE Nanotechnology Magazine, 2007, 6, 113-117.	1.1	76
57	Impact of electronic density of states on electroluminescence refrigeration. Solid-State Electronics, 2007, 51, 1387-1390.	0.8	11
58	Quantum Transport Simulation of Experimentally Fabricated Nano-FinFET. IEEE Transactions on Electron Devices, 2007, 54, 784-796.	1.6	55
59	3D Monte-Carlo device simulations using an effective quantum potential including electron-electron interactions. Journal of Computational Electronics, 2007, 6, 15-18.	1.3	9
60	Self-consistent treatment of quantum transport in 10 nm FinFET using Contact Block Reduction (CBR) method. Journal of Computational Electronics, 2007, 6, 77-80.	1.3	5
61	Ultrafast Wigner transport in quantum wires. Journal of Computational Electronics, 2007, 6, 235-238.	1.3	7
62	Spontaneous spin polarization in GaAs/AlGaAs split-gate heterostructures. Microelectronics Journal, 2005, 36, 460-462.	1.1	0
63	Hole transport in p-channel Si MOSFETs. Microelectronics Journal, 2005, 36, 323-326.	1.1	1
64	Subthreshold Electron Mobility in SOI MOSFETs and MESFETs. IEEE Transactions on Electron Devices, 2005, 52, 1622-1626.	1.6	8
65	Narrow-Width SOI Devices: The Role of Quantumâ€“Mechanical Size Quantization Effect and Unintentional Doping on the Device Operation. IEEE Transactions on Electron Devices, 2005, 52, 227-236.	1.6	56
66	Band-Structure and Quantum Effects on Hole Transport in p-MOSFETs. Journal of Computational Electronics, 2005, 4, 27-30.	1.3	5
67	Quantum Potential Approach to Modeling Nanoscale MOSFETs. Journal of Computational Electronics, 2005, 4, 57-61.	1.3	4
68	Theoretical Evidence of Spontaneous Spin Polarization in GaAs/AlGaAs Split-Gate Heterostructures. Journal of Computational Electronics, 2005, 4, 125-128.	1.3	0
69	Spin polarization in GaAs/Al0.24Ga0.76As heterostructures. Molecular Simulation, 2005, 31, 797-800.	0.9	5
70	Parameter-Free Effective Potential Method for Use in Particle-Based Device Simulations. IEEE Nanotechnology Magazine, 2005, 4, 465-471.	1.1	23
71	Modelling of narrow-width SOI devices. Semiconductor Science and Technology, 2004, 19, S131-S133.	1.0	7
72	Electron Density Calculation Using the Contact Block Reduction Method. Journal of Computational Electronics, 2004, 3, 45-50.	1.3	2

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73	Subthreshold Mobility Extraction for SOI-MESFETs. Journal of Computational Electronics, 2004, 3, 243-246.	1.3	0
74	A Self-Consistent Event Biasing Scheme for Statistical Enhancement. Journal of Computational Electronics, 2004, 3, 305-309.	1.3	10
75	Modeling of FinFET: 3D MC Simulation Using FMM and Unintentional Doping Effects on Device Operation. Journal of Computational Electronics, 2004, 3, 337-340.	1.3	14
76	A First Principles Alloy Scattering Approach for Monte Carlo Hole Mobility Calculations. Journal of Computational Electronics, 2004, 3, 351-354.	1.3	1
77	Contact block reduction method and its application to a 10 nm MOSFET device. Semiconductor Science and Technology, 2004, 19, S118-S121.	1.0	10
78	An Effective Potential Approach to Modeling 25 nm MOSFET Devices. Journal of Computational Electronics, 2003, 2, 113-117.	1.3	13
79	Self-Consistent Subband Structure and Mobility of Two Dimensional Holes in Strained SiGe MOSFETs. Journal of Computational Electronics, 2003, 2, 443-448.	1.3	4
80	Effective potential approach to modeling of 25 nm MOSFET devices. Superlattices and Microstructures, 2003, 34, 311-317.	1.4	7
81	Quantum mechanical tunneling phenomena in metalâ€“semiconductor junctions. Superlattices and Microstructures, 2003, 34, 335-339.	1.4	2
82	Quantum confinements in highly asymmetric sub-micrometer device structures. Superlattices and Microstructures, 2003, 34, 347-354.	1.4	2
83	Electronâ€“phonon interaction studies in an In0.52Al0.48As/In0.53Ga0.47As/In0.52Al0.48As quantum well structure. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 19, 215-220.	1.3	7
84	Threshold voltage shifts in narrow-width SOI devices due to quantum mechanical size-quantization effects. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 19, 48-52.	1.3	2
85	Green's function approach for transport calculation in a In0.53Ga0.47As/In0.52Al0.48As modulation-doped heterostructure. Physica Status Solidi (B): Basic Research, 2003, 239, 103-109.	0.7	3
86	Greenâ€™s function approach for transport calculation in a In0.53Ga0.47As/In0.52Al0.48As modulation-doped heterostructure. Journal of Applied Physics, 2003, 93, 3359-3363.	1.1	5
87	EFFECTIVE POTENTIALS AND QUANTUM FLUID MODELS: A THERMODYNAMIC APPROACH. International Journal of High Speed Electronics and Systems, 2003, 13, 771-801.	0.3	22
88	Three-dimensional simulations of ultrasmall metalâ€“oxideâ€“semiconductor field-effect transistors: The role of the discrete impurities on the device terminal characteristics. Journal of Applied Physics, 2002, 91, 3737-3740.	1.1	27
89	Adiabatic switching in coupled quantum dot systems facilitated by the coexistence of â€œmolecularâ€•and â€œatomicâ€•states. Applied Physics Letters, 2002, 80, 4440-4442.	1.5	1
90	Study of a 50 nm nMOSFET by ensemble Monte Carlo simulation including a new approach to surface roughness and impurity scattering in the Si inversion layer. IEEE Transactions on Electron Devices, 2002, 49, 125-132.	1.6	21

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91	Impact of strong quantum confinement on the performance of a highly asymmetric device structure: Monte Carlo particle-based simulation of a focused-ion-beam MOSFET. IEEE Transactions on Electron Devices, 2002, 49, 1019-1026.	1.6	26
92	The Role of Quantization Effects on the Operation of 50 nm MOSFET and 250 nm FIBMOS Devices. Physica Status Solidi (B): Basic Research, 2002, 233, 127-133.	0.7	0
93	Monte Carlo particle-based simulation of FIBMOS: impact of strong quantum confinement on device performance. Physica B: Condensed Matter, 2002, 314, 386-390.	1.3	3
94	Computational electronics. Materials Science and Engineering Reports, 2002, 38, 181-236.	14.8	21
95	Role of quantization effects in the operation of ultrasmall MOSFETs and SOI device structures. Microelectronic Engineering, 2002, 63, 233-240.	1.1	3
96	Low-Field Mobility and Quantum Effects in Asymmetric Silicon-Based Field-Effect Devices. Journal of Computational Electronics, 2002, 1, 273-277.	1.3	1
97	Title is missing!. Journal of Computational Electronics, 2002, 1, 179-183.	1.3	7
98	Title is missing!. Journal of Computational Electronics, 2002, 1, 359-363.	1.3	1
99	Title is missing!. Journal of Computational Electronics, 2002, 1, 453-465.	1.3	10
100	Optimization of FIBMOS Through 2D Silvaco ATLAS and 2D Monte Carlo Particle-based Device Simulations. VLSI Design, 2001, 13, 251-256.	0.5	2
101	Ultra-small MOSFETs: The Importance of the Full Coulomb Interaction on Device Characteristics. VLSI Design, 2001, 13, 75-78.	0.5	3
102	The Effective Potential and Its Use in Simulation. Physica Status Solidi (B): Basic Research, 2001, 226, 1-8.	0.7	8
103	Monte Carlo particle-based simulations of deep-submicron n-MOSFETs with real-space treatment of electronâ€“electron and electronâ€“impurity interactions. Superlattices and Microstructures, 2000, 27, 147-157.	1.4	21
104	Transport in split-gate silicon quantum dots. Superlattices and Microstructures, 2000, 27, 373-376.	1.4	5
105	3D modeling of silicon quantum dots. Superlattices and Microstructures, 2000, 27, 377-382.	1.4	4
106	3D modeling of discrete impurity effects in silicon quantum dots: energy level spacing and scarring effects. Superlattices and Microstructures, 2000, 28, 461-467.	1.4	0
107	Selecting wave function states in open quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 7, 740-744.	1.3	2
108	Nonuniform energy level broadening in open quantum dots: the influence of the closed dot eigenstates on transport. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 7, 745-749.	1.3	10

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109	Magneto-transport in corrugated quantum wires. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 7, 750-755.	1.3	8
110	On the performance limits for Si MOSFETs: a theoretical study. IEEE Transactions on Electron Devices, 2000, 47, 232-240.	1.6	197
111	Ultrasmall MOSFETs: the importance of the full Coulomb interaction on device characteristics. IEEE Transactions on Electron Devices, 2000, 47, 1831-1837.	1.6	54
112	Single-electron quantum dots in silicon MOS structures. Applied Physics A: Materials Science and Processing, 2000, 71, 415-421.	1.1	9
113	3D Simulations of Ultra-small MOSFETs with Real-space Treatment of the Electron â€“ Electron and Electron-ion Interactions. VLSI Design, 2000, 10, 437-452.	0.5	33
114	Acoustic phonon scattering in silicon quantum dots. Nanotechnology, 1999, 10, 142-146.	1.3	8
115	Doping dependence of the mobility enhancement in surface-channel strained-Si layers. Nanotechnology, 1999, 10, 147-152.	1.3	8
116	Zero field magnetoresistance peaks in open quantum dots: weak localization or a fundamental property?. Journal of Physics Condensed Matter, 1999, 11, 4657-4664.	0.7	6
117	The influence of space quantization effects on the threshold voltage, inversion layer and total gate capacitances in scaled Si-MOSFETs. Nanotechnology, 1999, 10, 192-197.	1.3	11
118	Lead-Orientation-Dependent Wave Function Scarring in Open Quantum Dots. Physical Review Letters, 1999, 82, 4691-4694.	2.9	131
119	Weak localization in ballistic quantum dots. Physical Review B, 1999, 60, 2680-2690.	1.1	27
120	Weakly open quantum dots: Magnetotransport spectroscopy and zero-field resistance peaks. Microelectronic Engineering, 1999, 47, 89-93.	1.1	0
121	Backscattering of electrons in a periodically corrugated quantum wire modeled with a self-consistent potential. Microelectronic Engineering, 1999, 47, 151-153.	1.1	1
122	Focused multi-peaks in gated ballistic wires. Microelectronic Engineering, 1999, 47, 155-157.	1.1	1
123	A novel approach for introducing the electron-electron and electron-impurity interactions in particle-based simulations. IEEE Electron Device Letters, 1999, 20, 463-465.	2.2	102
124	Quantum transport in ballistic quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 1998, 3, 137-144.	1.3	8
125	Low-temperature magnetotransport in ballistic quantum dots and wires. Semiconductor Science and Technology, 1998, 13, A15-A17.	1.0	3
126	Compatibility of cobalt and chromium depletion gates with RPECVD upper gate oxide for silicon-based nanostructures. Semiconductor Science and Technology, 1998, 13, A71-A74.	1.0	2

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127	3D simulation of GaAs/AlGaAs quantum dot point contact structures. Semiconductor Science and Technology, 1998, 13, A37-A40.	1.0	10
128	Convergence Properties of the Bi-CGSTAB Method for the Solution of the 3D Poisson and 3D Electron Current Continuity Equations for Scaled Si MOSFETs. VLSI Design, 1998, 8, 301-305.	0.5	9
129	Quantum Transport Simulation of the DOS function, Self-Consistent Fields and Mobility in MOS Inversion Layers. VLSI Design, 1998, 6, 21-25.	0.5	4
130	2D Monte Carlo Simulation of Hole and Electron Transport in Strained Si. VLSI Design, 1998, 6, 167-171.	0.5	2
131	Carrier Transport in Nanodevices. Japanese Journal of Applied Physics, 1997, 36, 1841-1845.	0.8	10
132	Scaled silicon MOSFET's: universal mobility behavior. IEEE Transactions on Electron Devices, 1997, 44, 577-583.	1.6	37
133	Scaled silicon MOSFETs: degradation of the total gate capacitance. IEEE Transactions on Electron Devices, 1997, 44, 584-587.	1.6	86
134	Stability of regular orbits in ballistic quantum dots. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 236, 120-124.	0.9	11
135	Transport in the surface channel of strained Si on a relaxed Si1â^'xGex substrate. Solid-State Electronics, 1997, 41, 879-885.	0.8	22
136	Modeling of Submicron Si1â€"xGex-Based MOSFETs by Self-Consistent Monte Carlo Simulation. Physica Status Solidi (B): Basic Research, 1997, 204, 531-533.	0.7	6
137	Numerical modeling of silicon quantum dots. Superlattices and Microstructures, 1996, 20, 343-347.	1.4	9
138	Quantum transport calculations for silicon inversion layers in MOS structures. Physica B: Condensed Matter, 1996, 227, 333-335.	1.3	5
139	Collision-duration time for optical-phonon emission in semiconductors. Physical Review B, 1996, 53, 3846-3855.	1.1	27
140	Modeling of Î²-SiC MESFETs using hydrodynamic equations. Solid-State Electronics, 1993, 36, 1289-1294.	0.8	15
141	An ensemble Monte Carlo study of high-field transport in Î²-SiC. Physica B: Condensed Matter, 1993, 185, 466-470.	1.3	41