

# Massimiliano Di Ventra

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2115266/publications.pdf>

Version: 2024-02-01

252  
papers

18,874  
citations

22153

59  
h-index

12946

131  
g-index

262  
all docs

262  
docs citations

262  
times ranked

13678  
citing authors

#	ARTICLE	IF	CITATIONS
1	The potential and challenges of nanopore sequencing. Nature Biotechnology, 2008, 26, 1146-1153.	17.5	2,201
2	Experimental demonstration of associative memory with memristive neural networks. Neural Networks, 2010, 23, 881-886.	5.9	924
3	Circuit Elements With Memory: Memristors, Memcapacitors, and Meminductors. Proceedings of the IEEE, 2009, 97, 1717-1724.	21.3	871
4	First-Principles Calculation of Transport Properties of a Molecular Device. Physical Review Letters, 2000, 84, 979-982.	7.8	831
5	Memory Metamaterials. Science, 2009, 325, 1518-1521.	12.6	760
6	<i>Colloquium</i> : Heat flow and thermoelectricity in atomic and molecular junctions. Reviews of Modern Physics, 2011, 83, 131-155.	45.6	708
7	Memory effects in complex materials and nanoscale systems. Advances in Physics, 2011, 60, 145-227.	14.4	677
8	Practical Approach to Programmable Analog Circuits With Memristors. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 1857-1864.	5.4	503
9	Electrostatic modification of novel materials. Reviews of Modern Physics, 2006, 78, 1185-1212.	45.6	465
10	<i>Colloquium</i> : Physical approaches to DNA sequencing and detection. Reviews of Modern Physics, 2008, 80, 141-165.	45.6	437
11	Effect of nitric oxide annealing on the interface trap densities near the band edges in the 4H polytype of silicon carbide. Applied Physics Letters, 2000, 76, 1713-1715.	3.3	390
12	Fast DNA Sequencing via Transverse Electronic Transport. Nano Letters, 2006, 6, 779-782.	9.1	381
13	Memristive model of amoeba learning. Physical Review E, 2009, 80, 021926.	2.1	374
14	Electronic Signature of DNA Nucleotides via Transverse Transport. Nano Letters, 2005, 5, 421-424.	9.1	316
15	Measurement of Current-Induced Local Heating in a Single Molecule Junction. Nano Letters, 2006, 6, 1240-1244.	9.1	222
16	The parallel approach. Nature Physics, 2013, 9, 200-202.	16.7	213
17	Local Heating in Nanoscale Conductors. Nano Letters, 2003, 3, 1691-1694.	9.1	202
18	Neuromorphic, Digital, and Quantum Computation With Memory Circuit Elements. Proceedings of the IEEE, 2012, 100, 2071-2080.	21.3	201

#	ARTICLE	IF	CITATIONS
19	The benzene molecule as a molecular resonant-tunneling transistor. Applied Physics Letters, 2000, 76, 3448-3450.	3.3	199
20	Decoding DNA, RNA and peptides with quantum tunnelling. Nature Nanotechnology, 2016, 11, 117-126.	31.5	183
21	Temperature Effects on the Transport Properties of Molecules. Physical Review Letters, 2001, 86, 288-291.	7.8	182
22	Transport in nanoscale conductors from first principles. Physical Review B, 2001, 65, .	3.2	177
23	Observation of ionic Coulomb blockade in Nanopores. Nature Materials, 2016, 15, 850-855.	27.5	175
24	Local ionic and electron heating in single-molecule junctions. Nature Nanotechnology, 2007, 2, 698-703.	31.5	171
25	Thermospin effects in a quantum dot connected to ferromagnetic leads. Physical Review B, 2009, 79, .	3.2	164
26	Dehydration as a Universal Mechanism for Ion Selectivity in Graphene and Other Atomically Thin Pores. Nano Letters, 2017, 17, 4719-4724.	9.1	161
27	Dynamical Corrections to the DFT-LDA Electron Conductance in Nanoscale Systems. Physical Review Letters, 2005, 94, 186810.	7.8	160
28	Thermoelectric Effects in Nanoscale Junctions. Nano Letters, 2009, 9, 97-101.	9.1	153
29	Memristive circuits simulate memcapacitors and meminductors. Electronics Letters, 2010, 46, 517.	1.0	139
30	Solving mazes with memristors: A massively parallel approach. Physical Review E, 2011, 84, 046703.	2.1	127
31	Emulation of floating memcapacitors and meminductors using current conveyors. Electronics Letters, 2011, 47, 243.	1.0	114
32	Influence of the Environment and Probes on Rapid DNA Sequencing via Transverse Electronic Transport. Biophysical Journal, 2007, 93, 2384-2390.	0.5	113
33	Quantum transport in ultracold atoms. Nature Physics, 2015, 11, 998-1004.	16.7	113
34	Transport in nanoscale systems: the microcanonical versus grand-canonical picture. Journal of Physics Condensed Matter, 2004, 16, 8025-8034.	1.8	107
35	Universal Memcomputing Machines. IEEE Transactions on Neural Networks and Learning Systems, 2015, 26, 2702-2715.	11.3	106
36	DNA spintronics. Applied Physics Letters, 2002, 81, 925-927.	3.3	101

#	ARTICLE	IF	CITATIONS
37	Approach to Steady-State Transport in Nanoscale Conductors. Nano Letters, 2005, 5, 2569-2572.	9.1	101
38	Atomic-Scale Mechanisms of Oxygen Precipitation and Thin-Film Oxidation of SiC. Physical Review Letters, 1999, 83, 1624-1627.	7.8	98
39	Hellmann-Feynman theorem and the definition of forces in quantum time-dependent and transport problems. Physical Review B, 2000, 61, 16207-16212.	3.2	97
40	Inelastic Current-Voltage Characteristics of Atomic and Molecular Junctions. Nano Letters, 2004, 4, 1709-1712.	9.1	96
41	Inelastic Effects on the Transport Properties of Alkanethiols. Nano Letters, 2005, 5, 621-624.	9.1	93
42	Topological Jamming of Spontaneously Knotted Polyelectrolyte Chains Driven Through a Nanopore. Physical Review Letters, 2012, 109, 118301.	7.8	93
43	Quantized Ionic Conductance in Nanopores. Physical Review Letters, 2009, 103, 128102.	7.8	92
44	On the physical properties of memristive, memcapacitive and meminductive systems. Nanotechnology, 2013, 24, 255201.	2.6	90
45	Atomic-Scale Dynamics of the Formation and Dissolution of Carbon Clusters in SiO <sub>2</sub> . Physical Review Letters, 2001, 86, 5946-5949.	7.8	86
46	Fowler-Nordheim hole tunneling in p-SiC/SiO <sub>2</sub> structures. Applied Physics Letters, 2000, 77, 2560-2562.	3.3	85
47	Ionic Memcapacitive Effects in Nanopores. Nano Letters, 2010, 10, 2674-2678.	9.1	76
48	Current oscillations in vanadium dioxide: Evidence for electrically triggered percolation avalanches. Physical Review B, 2012, 86, .	3.2	76
49	Effect of Noise on DNA Sequencing via Transverse Electronic Transport. Biophysical Journal, 2009, 97, 1990-1996.	0.5	74
50	Memory materials: a unifying description. Materials Today, 2011, 14, 584-591.	14.2	74
51	Stochastic Time-Dependent Current-Density-Functional Theory. Physical Review Letters, 2007, 98, 226403.	7.8	69
52	Kondo Memory in Driven Strongly Correlated Quantum Dots. Physical Review Letters, 2013, 111, 086601.	7.8	68
53	Polynomial-time solution of prime factorization and NP-complete problems with digital memcomputing machines. Chaos, 2017, 27, 023107.	2.5	67
54	The promise of spintronics for unconventional computing. Journal of Magnetism and Magnetic Materials, 2021, 521, 167506.	2.3	66

#	ARTICLE	IF	CITATIONS
55	Microscopic current dynamics in nanoscale junctions. <i>Physical Review B</i> , 2007, 75, .	3.2	65
56	Putting Memory Into Circuit Elements: Memristors, Memcapacitors, and Meminductors [Point of View]. <i>Proceedings of the IEEE</i> , 2009, 97, 1371-1372.	21.3	64
57	Incompleteness of the Landauer formula for electronic transport. <i>Physical Review B</i> , 2009, 79, .	3.2	63
58	Infrared Imaging of the Nanometer-Thick Accumulation Layer in Organic Field-Effect Transistors. <i>Nano Letters</i> , 2006, 6, 224-228.	9.1	62
59	Local Electron Heating in Nanoscale Conductors. <i>Nano Letters</i> , 2006, 6, 2935-2938.	9.1	61
60	Perspective: Memcomputing: Leveraging memory and physics to compute efficiently. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	60
61	Electronic transport in single molecules. <i>Chemical Physics</i> , 2002, 281, 189-198.	1.9	59
62	Stochastic memory: Memory enhancement due to noise. <i>Physical Review E</i> , 2012, 85, 011116.	2.1	58
63	Memcomputing $\langle i \rangle$ NP-complete problems in polynomial time using polynomial resources and collective states. <i>Science Advances</i> , 2015, 1, e1500031.	10.3	58
64	Switching behavior of semiconducting carbon nanotubes under an external electric field. <i>Applied Physics Letters</i> , 2001, 78, 2521-2523.	3.3	57
65	Effects of anneals in ammonia on the interface trap density near the band edges in 4H-silicon carbide metal-oxide-semiconductor capacitors. <i>Applied Physics Letters</i> , 2000, 77, 3601-3603.	3.3	54
66	Quantized conductance of multiwalled carbon nanotubes. <i>Applied Physics Letters</i> , 1999, 75, 3787-3789.	3.3	53
67	Are Current-Induced Forces Conservative?. <i>Physical Review Letters</i> , 2004, 92, 176803.	7.8	53
68	Self-organization and solution of shortest-path optimization problems with memristive networks. <i>Physical Review E</i> , 2013, 88, 013305.	2.1	51
69	Coupled Electron-Hole Dynamics at theSi/SiO <sub>2</sub> Interface. <i>Physical Review Letters</i> , 1998, 81, 4224-4227.	7.8	50
70	Effect of Electron-Phonon Scattering on Shot Noise in Nanoscale Junctions. <i>Physical Review Letters</i> , 2005, 95, 166802.	7.8	50
71	Chaotic memristor. <i>Applied Physics A: Materials Science and Processing</i> , 2011, 102, 885-889.	2.3	50
72	Hydrogen-related defects in irradiated SiO <sub>2</sub> . <i>IEEE Transactions on Nuclear Science</i> , 2000, 47, 2289-2296.	2.0	48

#	ARTICLE	IF	CITATIONS
73	Ab initio calculations of H/sup +/ energetics in SiO/sub 2/: Implications for transport. IEEE Transactions on Nuclear Science, 1999, 46, 1568-1573.	2.0	47
74	Effects of geometry and doping on the operation of molecular transistors. Applied Physics Letters, 2003, 82, 1938-1940.	3.3	40
75	Superconducting Memristors. Physical Review Applied, 2014, 2, .	3.8	40
76	Josephson Thermal Memory. Physical Review Applied, 2018, 9, .	3.8	40
77	Dehydration and ionic conductance quantization in nanopores. Journal of Physics Condensed Matter, 2010, 22, 454126.	1.8	38
78	Molecular electronics by the numbers. Physica B: Condensed Matter, 2001, 296, 72-77.	2.7	37
79	Shot noise in nanoscale conductors from first principles. Physical Review B, 2003, 67, .	3.2	37
80	Stochastic time-dependent current-density-functional theory: A functional theory of open quantum systems. Physical Review B, 2008, 78, .	3.2	36
81	Comment on "Characterization of the tunneling conductance across DNA bases" Physical Review E, 2007, 76, 013901; author reply 013902.	2.1	35
82	Memory Models of Adaptive Behavior. IEEE Transactions on Neural Networks and Learning Systems, 2013, 24, 1437-1448.	11.3	35
83	Bosonic and fermionic transport phenomena of ultracold atoms in one-dimensional optical lattices. Physical Review A, 2012, 85, .	2.5	34
84	Landauer, Kubo, and microcanonical approaches to quantum transport and noise: A comparison and implications for cold-atom dynamics. Physical Review A, 2014, 90, .	2.5	34
85	Driving knots on DNA with AC/DC electric fields: topological friction and memory effects. Soft Matter, 2014, 10, 6491-6498.	2.7	33
86	Dynamic computing random access memory. Nanotechnology, 2014, 25, 285201.	2.6	33
87	Ionic Coulomb blockade in nanopores. Journal of Physics Condensed Matter, 2013, 25, 065101.	1.8	31
88	On the validity of memristor modeling in the neural network literature. Neural Networks, 2020, 121, 52-56.	5.9	31
89	Memory Circuit Elements: From Systems to Applications. Journal of Computational and Theoretical Nanoscience, 2011, 8, 441-448.	0.4	30
90	Enhanced noise at high bias in atomic-scale Au break junctions. Scientific Reports, 2014, 4, 4221.	3.3	30

#	ARTICLE	IF	CITATIONS
91	Solitonic Josephson-based meminductive systems. <i>Scientific Reports</i> , 2017, 7, 46736.	3.3	30
92	Tight-binding approach to excitons bound to monolayer impurity planes: Strong radiative properties of InAs in GaAs. <i>Physical Review B</i> , 1998, 57, R15072-R15075.	3.2	29
93	Local temperatures of strongly-correlated quantum dots out of equilibrium. <i>Physical Review B</i> , 2015, 91, .	3.2	29
94	Memcapacitive neural networks. <i>Electronics Letters</i> , 2014, 50, 141-143.	1.0	28
95	Quantum shock waves and population inversion in collisions of ultracold atomic clouds. <i>Physical Review A</i> , 2014, 89, .	2.5	28
96	Memristive sensors for pH measure in dry conditions. <i>Surface Science</i> , 2014, 624, 76-79.	1.9	28
97	Generalized Floquet Theory: Application to Dynamical Systems with Memory and Bloch's Theorem for Nonlocal Potentials. <i>Physical Review Letters</i> , 2013, 110, 170602.	7.8	27
98	Dynamically generated flat-band phases in optical kagome lattices. <i>Physical Review A</i> , 2014, 90, .	2.5	27
99	Oxygen stability, diffusion, and precipitation in SiC: Implications for thin-film oxidation. <i>Journal of Electronic Materials</i> , 2000, 29, 353-358.	2.2	26
100	Variational and nonvariational principles in quantum transport calculations. <i>Physical Review B</i> , 2002, 66, .	3.2	26
101	Correlation dynamics and enhanced signals for the identification of serial biomolecules and DNA bases. <i>Nanotechnology</i> , 2014, 25, 125705.	2.6	26
102	On the number of states bound by one-dimensional finite periodic potentials. <i>Journal of Mathematical Physics</i> , 1995, 36, 1753-1764.	1.1	25
103	Molecular electronics by the numbers. <i>IEEE Nanotechnology Magazine</i> , 2002, 1, 86-90.	2.0	25
104	Nonlinear current-induced forces in Si atomic wires. <i>Physical Review B</i> , 2003, 67, .	3.2	25
105	Shot noise in parallel wires. <i>Nanotechnology</i> , 2004, 15, S459-S464.	2.6	25
106	Frequency doubling and memory effects in the spin Hall effect. <i>Physical Review B</i> , 2009, 79, .	3.2	25
107	Memristor-based devices for sensing. , 2014, , .		25
108	Theory of carriers bound to In isoelectronic $\Gamma$ -doping layers in GaAs. <i>Physical Review B</i> , 1997, 55, 13148-13154.	3.2	24

#	ARTICLE	IF	CITATIONS
109	Complex dynamics and scale invariance of one-dimensional memristive networks. <i>Physical Review E</i> , 2013, 87, 022116.	2.1	24
110	Density-Functional Theory of Thermoelectric Phenomena. <i>Physical Review Letters</i> , 2014, 112, 196401.	7.8	24
111	Memcomputing with membrane memcapacitive systems. <i>Nanotechnology</i> , 2015, 26, 225201.	2.6	24
112	Hydrogen passivation and activation of oxygen complexes in silicon. <i>Applied Physics Letters</i> , 2001, 78, 1571-1573.	3.3	23
113	Targeting specific eigenvectors and eigenvalues of a given Hamiltonian using arbitrary selection criteria. <i>Physical Review B</i> , 2002, 66, .	3.2	23
114	Hydrodynamic approach to transport and turbulence in nanoscale conductors. <i>Journal of Physics Condensed Matter</i> , 2006, 18, 11059-11065.	1.8	23
115	The potential and challenges of nanopore sequencing. , 2009, , 261-268.		23
116	Lagrange formalism of memory circuit elements: Classical and quantum formulations. <i>Physical Review B</i> , 2012, 85, .	3.2	23
117	Accelerating deep learning with memcomputing. <i>Neural Networks</i> , 2019, 110, 1-7.	5.9	23
118	Topological Field Theory and Computing with Instantons. <i>Annalen Der Physik</i> , 2017, 529, 1700123.	2.4	23
119	Stochastic quantum molecular dynamics. <i>Physical Review B</i> , 2009, 80, .	3.2	22
120	Memristive properties of single-molecule magnets. <i>Physical Review B</i> , 2012, 86, .	3.2	22
121	Changing the state of a memristive system with white noise. <i>Physical Review E</i> , 2013, 87, 042103.	2.1	22
122	Local temperatures out of equilibrium. <i>Physics Reports</i> , 2019, 830, 1-66.	25.6	22
123	Scanning-tunneling-microscopy images: a fullyab initio approach. <i>Physical Review B</i> , 1999, 59, R5320-R5323.	3.2	21
124	Interaction-induced conducting to non-conducting transition of ultra-cold atoms in one-dimensional optical lattices. <i>New Journal of Physics</i> , 2013, 15, 063026.	2.9	21
125	Experimental demonstration of associative memory with memristive neural networks. <i>Nature Precedings</i> , 2009, , .	0.1	20
126	Analogue-to-digital and digital-to-analogue conversion with memristive devices. <i>Electronics Letters</i> , 2012, 48, 73.	1.0	20



#	ARTICLE	IF	CITATIONS
127	Reading, writing, and squeezing the entangled states of two nanomechanical resonators coupled to a SQUID. <i>Physical Review B</i> , 2013, 87, .	3.2	20
128	Evidence of Exponential Speed-Up in the Solution of Hard Optimization Problems. <i>Complexity</i> , 2018, 2018, 1-13.	1.6	20
129	An Experimental Proof that Resistance-Switching Memory Cells are not Memristors. <i>Advanced Electronic Materials</i> , 2020, 6, 2000010.	5.1	20
130	Current-voltage characteristics of semiconductor/ferromagnet junctions in the spin-blockade regime. <i>Physical Review B</i> , 2008, 77, .	3.2	19
131	Photoactivation of neurons by laser-generated local heating. <i>AIP Advances</i> , 2012, 2, 032154.	1.3	19
132	Fast DNA sequencing by electrical means inches closer. <i>Nanotechnology</i> , 2013, 24, 342501.	2.6	19
133	Controlling transport of ultracold atoms in one-dimensional optical lattices with artificial gauge fields. <i>Physical Review A</i> , 2013, 87, .	2.5	19
134	Tunable quantum temperature oscillations in graphene nanostructures. <i>Physical Review B</i> , 2015, 91, .	3.2	19
135	Hysteretic Superconducting Heat-Flux Quantum Modulator. <i>Physical Review Applied</i> , 2017, 7, .	3.8	19
136	Second and higher harmonics generation with memristive systems. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	18
137	Optical study on ultrathin InAs/InP single quantum wells. <i>Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics</i> , 1995, 17, 1367-1370.	0.4	17
138	Comment on "Contact resistance of carbon nanotubes" [Appl. Phys. Lett. 74, 2122 (1999)]. <i>Applied Physics Letters</i> , 1999, 75, 4028-4029.	3.3	17
139	Teaching Memory Circuit Elements via Experiment-Based Learning. <i>IEEE Circuits and Systems Magazine</i> , 2012, 12, 64-74.	2.3	17
140	Programmable Redox State of the Nickel Ion Chain in DNA. <i>Nano Letters</i> , 2014, 14, 1026-1031.	9.1	17
141	Nonequilibrium Ionic Response of Biased Mechanically Controllable Break Junction (MCBJ) Electrodes. <i>Journal of Physical Chemistry C</i> , 2014, 118, 3758-3765.	3.1	17
142	Sequencing proteins with transverse ionic transport in nanochannels. <i>Scientific Reports</i> , 2016, 6, 25232.	3.3	17
143	Synaptic Plasticity in Memristive Artificial Synapses and Their Robustness Against Noisy Inputs. <i>Frontiers in Neuroscience</i> , 2021, 15, 660894.	2.8	17
144	Scale-free networks as an epiphenomenon of memory. <i>Europhysics Letters</i> , 2015, 109, 28006.	2.0	16

#	ARTICLE	IF	CITATIONS
145	Surface trap mediated electronic transport in biofunctionalized silicon nanowires. <i>Nanotechnology</i> , 2016, 27, 345503.	2.6	16
146	Electron Turbulence at Nanoscale Junctions. <i>Nano Letters</i> , 2007, 7, 1789-1792.	9.1	15
147	Local electron and ionic heating effects on the conductance of nanostructures. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 374102.	1.8	15
148	Thermodynamic meaning of local temperature of nonequilibrium open quantum systems. <i>Physical Review B</i> , 2016, 94, .	3.2	15
149	Conducting-insulating transition in adiabatic memristive networks. <i>Physical Review E</i> , 2017, 95, 012305.	2.1	14
150	Absence of chaos in digital memcomputing machines with solutions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2017, 381, 3255-3257.	2.1	14
151	Stochastic quantum molecular dynamics for finite and extended systems. <i>Chemical Physics</i> , 2011, 391, 27-36.	1.9	13
152	Dynamical crossover between the infinite-volume and empty-lattice limits of ultra-cold fermions in 1D optical lattices. <i>Europhysics Letters</i> , 2012, 99, 40003.	2.0	13
153	Instantons in Self-Organizing Logic Gates. <i>Physical Review Applied</i> , 2018, 9, .	3.8	13
154	Tunable current circulation in triangular quantum-dot metastructures. <i>Europhysics Letters</i> , 2018, 123, 47002.	2.0	13
155	Taming a nonconvex landscape with dynamical long-range order: Memcomputing Ising benchmarks. <i>Physical Review E</i> , 2019, 100, 053311.	2.1	13
156	Custodial Chiral Symmetry in a Su-Schrieffer-Heeger Electrical Circuit with Memory. <i>Physical Review Letters</i> , 2022, 128, 097701.	7.8	13
157	Evidence for a photocurrent Fano resonance in an artificial nanostructure. <i>Physical Review B</i> , 1995, 52, R2265-R2268.	3.2	12
158	Indented barrier resonant tunneling rectifiers. <i>Journal of Applied Physics</i> , 1996, 80, 4174-4176.	2.5	12
159	Chemical and structural contributions to the valence-band offset at GaP/GaAs heterojunctions. <i>Physical Review B</i> , 1996, 54, 5691-5695.	3.2	12
160	Chaotic transport in low-dimensional superlattices. <i>Physical Review B</i> , 2003, 67, .	3.2	12
161	DNA spintronics sees the light. <i>Nature Nanotechnology</i> , 2011, 6, 198-199.	31.5	12
162	Viscous corrections to the resistance of nanojunctions: A dispersion relation approach. <i>Physical Review B</i> , 2011, 83, .	3.2	12

#	ARTICLE	IF	CITATIONS
163	Single-base DNA discrimination via transverse ionic transport. <i>Nanotechnology</i> , 2013, 24, 415101.	2.6	12
164	Phase-induced transport in atomic gases: From superfluid to Mott insulator. <i>Physical Review A</i> , 2014, 90, .	2.5	12
165	Mode-assisted unsupervised learning of restricted Boltzmann machines. <i>Communications Physics</i> , 2020, 3, .	5.3	12
166	Thousand-fold Increase in Plasmonic Light Emission via Combined Electronic and Optical Excitations. <i>Nano Letters</i> , 2021, 21, 2658-2665.	9.1	12
167	Spin blockade at semiconductor/ferromagnet junctions. <i>Physical Review B</i> , 2007, 75, .	3.2	11
168	Novel implementation of memristive systems for data encryption and obfuscation. <i>Journal of Applied Physics</i> , 2014, 115, .	2.5	11
169	Memcomputing Implementation of Ant Colony Optimization. <i>Neural Processing Letters</i> , 2016, 44, 265-277.	3.2	11
170	Electronic viscosity in a quantum well: A test for the local-density approximation. <i>Physical Review B</i> , 2007, 76, .	3.2	10
171	A voltage probe of the spin Hall effect. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 025204.	1.8	10
172	Memristive model of amoeba's learning. <i>Nature Precedings</i> , 0, , .	0.1	10
173	Just Add Memory. <i>Scientific American</i> , 2015, 312, 56-61.	1.0	10
174	A Memristive Pascaline. <i>IEEE Transactions on Circuits and Systems II: Express Briefs</i> , 2016, 63, 558-562.	3.0	10
175	Exploration and characterization of the memcapacitor and memristor properties of Niâ€DNA nanowire devices. <i>NPG Asia Materials</i> , 2017, 9, e430-e430.	7.9	10
176	Absence of periodic orbits in digital memcomputing machines with solutions. <i>Chaos</i> , 2017, 27, 101101.	2.5	10
177	An energy-resolved atomic scanning probe. <i>New Journal of Physics</i> , 2018, 20, 115005.	2.9	10
178	Information compressibility, entropy variation and approach to steady state in open systems. <i>Europhysics Letters</i> , 2009, 85, 40004.	2.0	9
179	Blue luminescence from ultrathin GaAs layers embedded in AlAs. <i>Physical Review B</i> , 1997, 56, R4329-R4332.	3.2	8
180	Can we make the SiCâ€SiO2 interface as good as the Siâ€SiO2 interface?. <i>Applied Physics Letters</i> , 2001, 79, 2402-2404.	3.3	8

#	ARTICLE	IF	CITATIONS
181	First-Principles Simulations of Molecular Electronics. <i>Annals of the New York Academy of Sciences</i> , 2002, 960, 177-183.	3.8	8
182	Turbulence-Induced Magnetic Flux Asymmetry at Nanoscale Junctions. <i>Physical Review Letters</i> , 2007, 99, 226802.	7.8	8
183	Edge binding of sine-Gordon solitons in spin-orbit-coupled Bose-Einstein condensates. <i>Physical Review A</i> , 2015, 91, .	2.5	8
184	Classification of DNA nucleotides with transverse tunneling currents. <i>Nanotechnology</i> , 2017, 28, 015502.	2.6	8
185	Digital memcomputing: From logic to dynamics to topology. <i>Annals of Physics</i> , 2019, 409, 167935.	2.8	8
186	Efficient solution of Boolean satisfiability problems with digital memcomputing. <i>Scientific Reports</i> , 2020, 10, 19741.	3.3	8
187	Current rectification through a single-barrier resonant tunneling quantum structure. <i>Superlattices and Microstructures</i> , 1995, 17, 273.	3.1	7
188	Semiconductor effective charges and dielectric constants in the tight-binding approach. <i>Physical Review B</i> , 1997, 56, R12698-R12701.	3.2	7
189	Koster-Slater model for the interface-state problem. <i>Physical Review B</i> , 2000, 62, R10622-R10625.	3.2	7
190	Saïet-Reply. <i>Physical Review Letters</i> , 2007, 98, .	7.8	7
191	Ion motion and electrochemistry in nanostructures. <i>MRS Bulletin</i> , 2011, 36, 914-920.	3.5	7
192	Quantum-statistics-induced flow patterns in driven ideal Fermi gases. <i>Physical Review A</i> , 2013, 88, .	2.5	7
193	Determining Excitation-Energy Transfer Times and Mechanisms from Stochastic Time-Dependent Density Functional Theory. <i>Journal of Physical Chemistry B</i> , 2013, 117, 14408-14419.	2.6	7
194	Memcomputing: A computing paradigm to store and process information on the same physical platform. , 2014, , .		7
195	Matter-wave propagation in optical lattices: geometrical and flat-band effects. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 075301.	1.5	7
196	Magnetoconductance of Aharonov-Bohm rings with half-bound states. <i>Physical Review B</i> , 1997, 55, 1353-1356.	3.2	6
197	Near-band-edge resonant states of AIAs monolayers embedded in bulk GaAs: The role of symmetries. <i>Physical Review B</i> , 1998, 57, 3733-3736.	3.2	6
198	Surface effects on ionic Coulomb blockade in nanometer-size pores. <i>Nanotechnology</i> , 2018, 29, 025703.	2.6	6

#	ARTICLE	IF	CITATIONS
199	Antiferromagnetic Parametric Resonance Driven by Voltage-Controlled Magnetic Anisotropy. <i>Physical Review Applied</i> , 2022, 17, .	3.8	6
200	Optical properties of ultrathin GaAs layers embedded in $\text{Al}_x\text{Ga}_{1-x}\text{As}$ . <i>Physical Review B</i> , 1998, 57, 2426-2430.	3.2	5
201	General solution scheme for second-order differential equations: application to quantum transport. <i>Computers in Physics</i> , 1998, 12, 248.	0.5	5
202	Comment on "Molecular Transport Junctions: Clearing Mists". <i>Advanced Materials</i> , 2009, 21, 1547-1547.	21.0	5
203	Biologically-Inspired Electronics with Memory Circuit Elements. , 2012, , 15-36.		5
204	Foundations of stochastic time-dependent current-density functional theory for open quantum systems: Potential pitfalls and rigorous results. <i>Physical Review B</i> , 2013, 87, .	3.2	5
205	Memcomputing Numerical Inversion With Self-Organizing Logic Gates. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2018, 29, 2645-2650.	11.3	5
206	Critical branching processes in digital memcomputing machines. <i>Europhysics Letters</i> , 2019, 127, 30005.	2.0	5
207	Stress-Testing Memcomputing on Hard Combinatorial Optimization Problems. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2020, 31, 2222-2226.	11.3	5
208	Effect of quantum resonances on local temperature in nonequilibrium open systems. <i>Physical Review B</i> , 2021, 103, .	3.2	5
209	Second Harmonic Generation Exploiting Ultra-Stable Resistive Switching Devices for Secure Hardware Systems. <i>IEEE Nanotechnology Magazine</i> , 2022, 21, 71-80.	2.0	5
210	Inelastic Current-Voltage Characteristics of Atomic and Molecular Junctions. <i>Nano Letters</i> , 2005, 5, 813-813.	9.1	4
211	The decay of excited He from stochastic density-functional theory: a quantum measurement theory interpretation. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 395214.	1.8	4
212	DNA Characterization by Transverse Electrical Current in a Nanochannel. <i>Methods in Molecular Biology</i> , 2012, 870, 149-163.	0.9	4
213	An experimental demonstration of the memristor test. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2022, 142, 115290.	2.7	4
214	The I-V characteristics of double barrier stair-wells. <i>Superlattices and Microstructures</i> , 1995, 17, 117-121.	3.1	3
215	How many bound-states does a one-dimensional superlattice have?. <i>Superlattices and Microstructures</i> , 1996, 20, 149-153.	3.1	3
216	Thermoelectric phenomena in disordered open quantum systems. <i>Physical Review B</i> , 2010, 81, .	3.2	3

#	ARTICLE	IF	CITATIONS
217	Fast computation with memory circuit elements. , 2012, , .		3
218	Probing Water Structures in Nanopores Using Tunneling Currents. Physical Review Letters, 2013, 111, 216804.	7.8	3
219	Improving sequencing by tunneling with multiplexing and cross-correlations. Journal of Computational Electronics, 2014, 13, 794-800.	2.5	3
220	Reconfigurable transmission lines with memcapacitive materials. Applied Physics Letters, 2015, 107, 253101.	3.3	3
221	Chaos as a symmetry-breaking phenomenon. Modern Physics Letters B, 2019, 33, 1950287.	1.9	3
222	On the Universality of Memcomputing Machines. IEEE Transactions on Neural Networks and Learning Systems, 2019, 30, 1610-1620.	11.3	3
223	The Fourier signatures of memristive hysteresis. Journal Physics D: Applied Physics, 2021, 54, 245302.	2.8	3
224	Application of Floquet theory to dynamical systems with memory. Chaos, 2020, 30, 123102.	2.5	3
225	Polariton-Based Quantum Memristors. Physical Review Applied, 2022, 17, .	3.8	3
226	Microscopic Theory of Wannier-Mott Excitons Bound to Monolayer Insertions: the InAs in GaAs Case. Physica Status Solidi A, 1997, 164, 129-132.	1.7	2
227	A remark on the high-energy limit of the one-dimensional scattering problem with position dependent mass. Solid State Communications, 1998, 106, 249-251.	1.9	2
228	Stability of ultrathin semiconductor layers. Applied Physics Letters, 1999, 74, 1722-1724.	3.3	2
229	Percolation study of defect tolerance in missing-crossbar networks. Solid State Communications, 2002, 124, 167-170.	1.9	2
230	DNA sequencing via electron tunneling. , 2012, , .		2
231	Molecular neuron based on the Franck-Condon blockade. Nanotechnology, 2013, 24, 384001.	2.6	2
232	Introduction for solid state membranes for bio-molecules sensing and manipulation. Journal of Computational Electronics, 2014, 13, 779-780.	2.5	2
233	The role of measurement time on the universal crossover from $1/f$ to non- $1/f$ noise behavior. Journal of Computational Electronics, 2015, 14, 203-208.	2.5	2
234	Non-equilibrium criticality and efficient exploration of glassy landscapes with memory dynamics. Physica A: Statistical Mechanics and Its Applications, 2022, 591, 126727.	2.6	2

#	ARTICLE	IF	CITATIONS
235	Ultrathin GaAs Layers Embedded in AlAs: The Observation of Intense Short-Wavelength Emission. <i>Physica Status Solidi A</i> , 1997, 164, 165-168.	1.7	1
236	Sequencing at the end of the tunnel. <i>Nature Nanotechnology</i> , 2010, 5, 828-829.	31.5	1
237	Publisher's Note: Superconducting Memristors [ <i>Phys. Rev. Applied</i> , 034011 (2014)]. <i>Physical Review Applied</i> , 2014, 2, .	3.8	1
238	MemComputing: An efficient topological computing paradigm. , 2017, , .		1
239	Phase-dependent noise in Josephson junctions. <i>EPJ Applied Physics</i> , 2018, 81, 10601.	0.7	1
240	Many-body multivaluedness of particle-current variance in closed and open cold-atom systems. <i>Physical Review A</i> , 2018, 98, .	2.5	1
241	Directed percolation and numerical stability of simulations of digital memcomputing machines. <i>Chaos</i> , 2021, 31, 063127.	2.5	1
242	Nanomagnetic Self-Organizing Logic Gates. <i>Physical Review Applied</i> , 2021, 16, .	3.8	1
243	Mode-assisted joint training of deep Boltzmann machines. <i>Scientific Reports</i> , 2021, 11, 19000.	3.3	1
244	Molecules as Components in Electronic Devices: A First-Principles Study. <i>Computational Chemistry - Reviews of Current Trends</i> , 2002, , 1-15.	0.4	1
245	Electronic structure of n - i - p - i Si superlattices. <i>Journal of Physics Condensed Matter</i> , 1997, 9, L657-L661.	1.8	0
246	Local Heating in Nanoscale Conductors. <i>Nano Letters</i> , 2005, 5, 813-813.	9.1	0
247	Current-Induced Effects in Nanoscale Conductors. , 2006, , 185-205.		0
248	A 2D driven brownian particle with memory. , 2013, , .		0
249	Dynamic computing random access memory: A brain-inspired computing paradigm with memelements. , 2014, , .		0
250	Ion Transport and Dehydration in Subnanoscale Pores. <i>Biophysical Journal</i> , 2017, 112, 544a.	0.5	0
251	SIMULATIONS OF MOLECULAR ELECTRONICS. , 2001, , .		0
252	Digital Memcomputing Machines. , 2016, , .		0