

Omar Vilela Neto

List of Publications by Year in descending order

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76
papers

859
citations

686830

13
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610482

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76
all docs

76
docs citations

76
times ranked

533
citing authors

#	ARTICLE	IF	CITATIONS
1	USE: A Universal, Scalable, and Efficient Clocking Scheme for QCA. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016, 35, 513-517.	1.9	132
2	Raman spectroscopy analysis of number of layers in mass-produced graphene flakes. Carbon, 2020, 161, 181-189.	5.4	87
3	NanoRouter: A Quantum-dot Cellular Automata Design. IEEE Journal on Selected Areas in Communications, 2013, 31, 825-834.	9.7	49
4	Robust Serial Nanocommunication With QCA. IEEE Nanotechnology Magazine, 2015, 14, 464-472.	1.1	42
5	A Theoretical and Experimental Study of Positive and Neutral LiF Clusters Produced by Fast Ion Impact on a Polycrystalline LiF Target. Journal of Physical Chemistry A, 2009, 113, 1813-1821.	1.1	41
6	A Placement and routing algorithm for Quantum-dot Cellular Automata. , 2016, , .		37
7	A Methodology for Standard Cell Design for QCA. , 2016, , .		36
8	Placement and Routing by Overlapping and Merging QCA Gates. , 2018, , .		32
9	TCAM/CAM-QCA: (Ternary) Content Addressable Memory using Quantum-dot Cellular Automata. Microelectronics Journal, 2015, 46, 563-571.	1.1	25
10	Neural Network Simulation and Evolutionary Synthesis of QCA Circuits. IEEE Transactions on Computers, 2007, 56, 191-201.	2.4	23
11	Photonic crystal integrated logic gates and circuits. Optics Express, 2022, 30, 1976.	1.7	22
12	Theoretical and Experimental Study of Negative LiF Clusters Produced by Fast Ion Impact on a Polycrystalline ⁷ LiF Target. Journal of Physical Chemistry A, 2009, 113, 15031-15040.	1.1	20
13	A Quantum-Dot Cellular Automata Processor Design. , 2014, , .		20
14	Energy efficient QCA circuits design: simulating and analyzing partially reversible pipelines. Journal of Computational Electronics, 2018, 17, 479-489.	1.3	19
15	Intelligent Computational Nanotechnology: The Role of Computational Intelligence in the Development of Nanoscience and Nanotechnology. Journal of Computational and Theoretical Nanoscience, 2014, 11, 928-944.	0.4	18
16	Analysis of the Magnetostatic Energy of Chains of Single-Domain Nanomagnets for Logic Gates. IEEE Transactions on Magnetics, 2017, 53, 1-10.	1.2	17
17	Towards reversible QCA computers: Reversible gates and ALU. , 2015, , .		16
18	Effect of Structural Disorder on Photonic Crystal Logic Gates. IEEE Photonics Journal, 2017, 9, 1-15.	1.0	15

#	ARTICLE	IF	CITATIONS
19	A Review on Photonic Crystal Logic Gates. Journal of Integrated Circuits and Systems, 2021, 16, 1-13.	0.3	13
20	All-optical Majority and Feynman gates in photonic crystals. , 2015, , .		12
21	Improved multilayer OLED architecture using evolutionary genetic algorithm. Thin Solid Films, 2009, 518, 1382-1385.	0.8	11
22	NMLSim: a Nanomagnetic Logic (NML) circuit designer and simulation tool. Journal of Computational Electronics, 2018, 17, 1370-1381.	1.3	11
23	Google Colab CAD4U: Hands-On Cloud Laboratories for Digital Design. , 2021, , .		10
24	Deepâ€learningâ€based denoising approach to enhance Raman spectroscopy in massâ€produced graphene. Journal of Raman Spectroscopy, 2022, 53, 863-871.	1.2	10
25	BANCS: Bidirectional Alternating Nanomagnetic Clocking Scheme. , 2018, , .		8
26	Cellular automata-based byte error correction in QCA. Nano Communication Networks, 2020, 23, 100278.	1.6	8
27	On the impact of the synchronization constraint and interconnections in quantum-dot cellular automata. Microprocessors and Microsystems, 2020, 76, 103109.	1.8	8
28	Three-Input NPN Class Gate Library for Atomic Silicon Quantum Dots. IEEE Design and Test, 2022, 39, 147-155.	1.1	7
29	Exploration of the Synchronization Constraint in Quantum-dot Cellular Automata. , 2018, , .		6
30	Enhancing Fundamental Energy Limits of Field-Coupled Nanocomputing Circuits. , 2018, , .		6
31	NMLSim 2.0. , 2019, , .		6
32	Computational intelligence applied to the growth of quantum dots. Journal of Crystal Growth, 2008, 310, 5063-5065.	0.7	5
33	Designing Partially Reversible Field-Coupled Nanocomputing Circuits. IEEE Nanotechnology Magazine, 2019, 18, 589-597.	1.1	5
34	Mind the Gap: Bridging Verilog and Computer Architecture. , 2020, , .		5
35	A parallel evolutionary algorithm to search for global minima geometries of heterogeneous ab initio atomic clusters. , 2011, , .		4
36	DNAr-logic. , 2019, , .		4

#	ARTICLE	IF	CITATIONS
37	DNAr: An R Package to Simulate and Analyze CRN and DSD Networks. ACS Synthetic Biology, 2020, 9, 3416-3421.	1.9	4
38	Grayâ€code adder with parity generator â€ a novel quantumâ€dot cellular automata implementation. IET Circuits, Devices and Systems, 2020, 14, 243-250.	0.9	4
39	Evaluating nanomagnetic logic circuit layouts using different clock schemes. Analog Integrated Circuits and Signal Processing, 2021, 106, 205-218.	0.9	4
40	Geometric greedy router in Quantum-dot Cellular Automata. AEU - International Journal of Electronics and Communications, 2021, 128, 153498.	1.7	4
41	Evaluating analog arithmetic circuit for approximate computing with DNA strand displacement. Analog Integrated Circuits and Signal Processing, 2021, 108, 485-493.	0.9	4
42	Complementary photonic crystal integrated logic devices. Optics Letters, 2020, 45, 5502.	1.7	4
43	Evolutionary synthesis of robust QCA circuits. , 2013, , .		3
44	A new methodology for design and simulation of NML circuits. , 2016, , .		3
45	Improving Energy Efficiency on Partially Reversible Pipelined QCA Circuits. , 2018, , .		3
46	A Novel Five-input Multiple-function QCA Threshold Gate. , 2018, , .		3
47	Design of Compact Integrated Photonic Crystal NAND and NOR Logic Gates. , 2020, , .		3
48	Shape Engineering for Custom Nanomagnetic Logic Circuits in NMLSim 2.0. IEEE Design and Test, 2021, 38, 85-93.	1.1	3
49	NMLib: A Nanomagnetic Logic Standard Cell Library. , 2021, , .		3
50	Novel Three-Input Gates for Silicon Quantum Dot. , 2021, , .		3
51	Modeling the young modulus of nanocomposites: A neural network approach. , 2011, , .		2
52	An efficient FPGA implementation in quantum-dot cellular automata. , 2013, , .		2
53	Optimization of the Electrical Efficiency of Graded Multilayer Organic Light-Emitting Diodes Supported by Genetic Algorithm. Journal of Computational and Theoretical Nanoscience, 2014, 11, 1505-1511.	0.4	2
54	CAM/TCAM - NML. , 2017, , .		2

#	ARTICLE	IF	CITATIONS
55	Improving Energy Efficiency of Field-Coupled Nanocomputing Circuits by Evolutionary Synthesis. , 2018, , .		2
56	Analysis of single-module and cascade molecular analog circuits for approximate computing based on DNA Strand Displacement. , 2020, , .		2
57	A Computer Based Optimization Method for Quantum Dots Growth. ECS Transactions, 2008, 14, 441-445.	0.3	1
58	Self-assembly quantum dots growth prediction by quantum-inspired linear genetic programming. , 2011, , .		1
59	Simplified model for automatic QCA circuitry verification. , 2017, , .		1
60	Photonic crystal design tool. , 2017, , .		1
61	A Novel Crossing Device for in-plane Nanomagnetic Logic Circuits. , 2018, , .		1
62	Optimal Energy Efficiency and Throughput on Partially Reversible Pipelined QCA Circuits. IEEE Design and Test, 2020, 37, 40-50.	1.1	1
63	Toward nanometric scale integration. , 2019, , .		1
64	Geometry-based Optimization of an in-Plane Nanomagnetic Majority Circuit. , 2020, , .		1
65	An NML in-plane Wire Crossing Structure. , 2022, , .		1
66	Evolvable Hardware Applied to Nanotechnology. , 2006, , .		0
67	Computational Intelligence Optimization Method for AlGaAs/GaAs Quantum Well Solar Cells. ECS Transactions, 2009, 23, 515-520.	0.3	0
68	Evolutionary optimization of sets of basis functions for first-row atoms by using discretization process. , 2011, , .		0
69	Evolutionary algorithms applied to elucidate ionic water cluster structure formation. , 2012, , .		0
70	Microcavities optimization under uncertainty by evolutionary algorithms. , 2013, , .		0
71	Genetic Algorithm applied to the optimized project of semiconductor microcavity lasers. , 2014, , .		0
72	Protecting Programs Against Memory Violation In Hardware. IEEE Latin America Transactions, 2015, 13, 885-891.	1.2	0

#	ARTICLE	IF	CITATIONS
73	SMOV: Array Bound-Check and access in a single instruction. , 2016, , .		0
74	Energy reduction opportunities in Field-Coupled Nanocomputing Adders. , 2020, , .		0
75	Guest Editors' Words. Journal of Integrated Circuits and Systems, 2021, 16, 1-2.	0.3	0
76	Design and Test of Digital Logic DNA Systems. IEEE Design and Test, 2021, 38, 94-101.	1.1	0