

Elena Blokhina

List of Publications by Year in descending order

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126
papers

929
citations

567144

15
h-index

610775

24
g-index

128
all docs

128
docs citations

128
times ranked

573
citing authors

#	ARTICLE	IF	CITATIONS
1	Guest Editorial Special Issue on the International Symposium on Integrated Circuits and Systems"ISICAS 2021. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 1-1.	3.5	0
2	Topological order detection and qubit encoding in Su"Schrieffer"Heeger type quantum dot arrays. Journal of Applied Physics, 2022, 131, .	1.1	6
3	Jitter Optimisation in a Generalised All-Digital Phase-Locked Loop Model. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 77-81.	2.2	1
4	Special Issue on the IEEE Asia Pacific Conference of Circuits and Systems 2019 and the IEEE International Conference on Electronics, Circuits and Systems 2019. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 1-2.	3.5	0
5	Towards the Co-Simulation of Charge Qubits: A Methodology Grounding on an Equivalent Circuit Representation. IEEE Open Journal of Circuits and Systems, 2021, 2, 548-563.	1.4	2
6	Cryo-CMOS for Quantum System On-Chip Integration: Quantum Computing as the Development Driver. IEEE Solid-State Circuits Magazine, 2021, 13, 46-53.	0.5	14
7	All Digital Phase-Locked Loop Networks for Clock Generation and Distribution: Network Stability, Convergence and Performance. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 406-415.	3.5	3
8	Guest Editorial Special Issue on the IEEE Latin American Symposium on Circuits and Systems 2020. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 1787-1788.	3.5	0
9	CMOS charge qubits and qudits: entanglement entropy and mutual information as an optimization method to construct CNOT and SWAP Gates. Semiconductor Science and Technology, 2021, 36, 095014.	1.0	6
10	Semiconductor Quantum Computing: Toward a CMOS quantum computer on chip. IEEE Nanotechnology Magazine, 2021, 15, 8-20.	0.9	10
11	Bias Generation and Calibration of CMOS Charge Qubits at 3.5 Kelvin in 22-nm FDSOI. , 2021, , .		1
12	Cryogenic Low-Drop-Out Regulators Fully Integrated with Quantum Dot Array in 22-nm FD-SOI CMOS. , 2021, , .		3
13	Bias Generation and Calibration of CMOS Charge Qubits at 3.5 Kelvin in 22-nm FDSOI. , 2021, , .		0
14	Modelling and Verification of Nonlinear Electromechanical Coupling in Micro-Scale Kinetic Electromagnetic Energy Harvesters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 565-577.	3.5	7
15	CMOS Position-Based Charge Qubits: Theoretical Analysis of Control and Entanglement. IEEE Access, 2020, 8, 4182-4197.	2.6	24
16	Position-Based CMOS Charge Qubits for Scalable Quantum Processors at 4K. , 2020, , .		9
17	RF Clock Distribution System for a Scalable Quantum Processor in 22-nm FDSOI Operating at 3.8 K Cryogenic Temperature. , 2020, , .		3
18	A Single-Electron Injection Device for CMOS Charge Qubits Implemented in 22-nm FD-SOI. IEEE Solid-State Circuits Letters, 2020, 3, 206-209.	1.3	21

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19	Synchronisation in Noisy PLL Networks: Time Domain Model and its Analysis. , 2020, , .		1
20	Design of a 1.5 GHz Low jitter DCO Ring in 28 nm CMOS Process. , 2020, , .		4
21	FPGA Validation of Event-Driven ADPLL. , 2020, , .		0
22	Guest Editorial Special Issue on the IEEE LASCAS 2019 and the IEEE NEWCAS 2019. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 1425-1425.	3.5	0
23	A Fully Integrated DAC for CMOS Position-Based Charge Qubits with Single-Electron Detector Loopback Testing. IEEE Solid-State Circuits Letters, 2020, 3, 354-357.	1.3	15
24	Near-Limit Kinetic Energy Harvesting From Arbitrary Acceleration Waveforms: Feasibility Study by the Example of Human Motion. IEEE Access, 2020, 8, 219223-219232.	2.6	0
25	Electrostatic Control and Entanglement of CMOS Position-Based Qubits. , 2020, , .		0
26	Guest Editorial Selected Papers From the IEEE Asia Pacific Conference of Circuits and Systems 2018 and the IEEE International Conference on Electronics, Circuits and Systems 2018. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 357-357.	3.5	0
27	Guest Editorial Special Section on the IEEE International Symposium on Circuits and Systems 2019. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 1081-1081.	3.5	0
28	Radial Basis Functions Based Algorithms for Non-Gaussian Delay Propagation in Very Large Circuits. Lecture Notes in Computer Science, 2020, , 217-229.	1.0	1
29	Simulation Methodology for Electron Transfer in CMOS Quantum Dots. Lecture Notes in Computer Science, 2020, , 650-663.	1.0	5
30	Guest Editorial Special Issue on the International Symposium on Integrated Circuits and Systems"ISICAS 2020. IEEE Transactions on Circuits and Systems I: Regular Papers, 2020, 67, 3617-3617.	3.5	0
31	Noisy Intermediate Scale Quantum Computers: on the Co-Simulation of Qubits and Control Electronics. , 2020, , .		1
32	Path-Based Statistical Static Timing Analysis for Large Integrated Circuits in a Weak Correlation Approximation. , 2019, , .		5
33	Synchronized Interconnected ADPLLs for Distributed Clock Generation in 65 nm CMOS Technology. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 1673-1677.	2.2	5
34	Modeling of Semiconductor Electrostatic Qubits Realized Through Coupled Quantum Dots. IEEE Access, 2019, 7, 49262-49278.	2.6	23
35	Semi-Analytical Method for the Extraction of the System Parameters in Application to Kinetic Energy Harvesters. , 2019, , .		0
36	Method of Equivalent Currents for the Calculation of Magnetic Fields in Inductors and Magnets with Application to Electronics. , 2019, , .		0

#	ARTICLE	IF	CITATIONS
37	Modelling of Electromagnetic Coupling in Micro-scale Electromagnetic Energy Harvester. , 2019, , .		0
38	Guest Editorial Selected Papers From Regional Flagship Conferences of the IEEE Circuits and Systems Society (ICECS 2017, LASCAS 2018, and NEWCAS 2018). IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1997-1997.	3.5	0
39	Guest Editorial Special Issue on the IEEE International Symposium on Circuits and Systems 2018. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 1669-1669.	3.5	0
40	Photon Enhanced Interaction and Entanglement in Semiconductor Position-Based Qubits. Applied Sciences (Switzerland), 2019, 9, 4534.	1.3	10
41	Guest Editorial Special Issue on the 2019 International Symposium on Integrated Circuits and Systems. IEEE Transactions on Circuits and Systems I: Regular Papers, 2019, 66, 3253-3253.	3.5	0
42	A Verilog-A Model of the Shuttle of an Electron in a Two Quantum-Dot System. , 2019, , .		3
43	All-Digital Phase-Locked Loop Arrays: Investigation of Synchronisation and Jitter Performance through FPGA Prototyping. , 2019, , .		2
44	Pattern Recognition in Human Motion for Kinetic Energy Harvesting. , 2019, , .		1
45	AI Opportunities for Increased Energy Autonomy of Low Power IoT Devices. , 2019, , .		0
46	A Python-Verilog Toolbox for Modeling of a Hadamard Gate Based on Position-Based CMOS Qubits. , 2019, , .		1
47	Analytic view on coupled single-electron lines. Semiconductor Science and Technology, 2019, 34, 125015.	1.0	10
48	A Mixed-Signal Control Core for a Fully Integrated Semiconductor Quantum Computer System-on-Chip. , 2019, , .		37
49	From two types of electrostatic position-dependent semiconductor qubits to quantum universal gates and hybrid semiconductor-superconducting quantum computer. , 2019, , .		12
50	Characterisation of anti-resonance in two-degree-of-freedom electromagnetic kinetic energy harvester, with modified electromagnetic model. Journal of Intelligent Material Systems and Structures, 2018, 29, 2295-2306.	1.4	2
51	Generation of a Clocking Signal in Synchronized All-Digital PLL Networks. IEEE Transactions on Circuits and Systems II: Express Briefs, 2018, 65, 809-813.	2.2	10
52	A Concept of Synchronous ADPLL Networks in Application to Small-Scale Antenna Arrays. IEEE Access, 2018, 6, 18723-18730.	2.6	13
53	Kinetic Energy Harvesting for the IoT: Perspectives and Challenges for the Next Decade. , 2018, , .		7
54	Occupancy Oscillations and Electron Transfer in Multiple-Quantum-Dot Qubits and their Circuit Representation. , 2018, , .		4

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55	Novel Approach to Modelling Electromechanical Coupling and Testing its Self-Consistency in Micro-Scale Kinetic Electromagnetic Energy Harvesters. , 2018, , .		1
56	Statistical Simulations of Delay Propagation in Large Scale Circuits Using Graph Traversal and Kernel Function Decomposition. , 2018, , .		6
57	Guest Editorial Special Issue on the 2018 International Symposium on Integrated Circuits and Systems. IEEE Transactions on Circuits and Systems I: Regular Papers, 2018, 65, 3605-3605.	3.5	0
58	Special Section Proposal Tunable Devices for Modern Communications: Materials, Integration, Modeling, and Applications. IEEE Access, 2018, 6, 42368-42372.	2.6	0
59	Reconstructing the Model of a Nonlinear MEMS Structure by the Example of a Piezoelectric Resonant Energy Harvester. , 2018, , .		1
60	Averaging Techniques for the Analysis of Event Driven Models of All Digital PLLs. , 2018, , .		2
61	$\langle \text{in-line-formula} \rangle \langle \text{tex-math notation="LaTeX"} \rangle \langle \text{in-line-formula} \rangle$ Effects and Charge Locking in Capacitive MEMS Under Dielectric Charge Control. IEEE Transactions on Circuits and Systems II: Express Briefs, 2017, 64, 206-210.	2.2	2
62	Charge Trapping Control in MOS Capacitors. IEEE Transactions on Industrial Electronics, 2017, 64, 3023-3029.	5.2	8
63	Semianalytical model for high speed analysis of all-digital PLL clock-generating networks. , 2017, , .		3
64	Sliding Mode Control of Heterogeneous Systems. Trends in Mathematics, 2017, , 49-53.	0.1	1
65	Circuit Modeling of a MEMS Varactor Including Dielectric Charging Dynamics. Journal of Physics: Conference Series, 2016, 757, 012012.	0.3	1
66	Electromechanical coupling in electrostatic kinetic energy harvesters. , 2016, , .		2
67	Towards autonomous microscale systems: Progress in electrostatic kinetic energy harvesting. , 2016, , .		0
68	Determining the optimum power of an electrostatic kinetic energy harvester with parasitic capacitances. , 2016, , .		0
69	Circuit considerations and design for MEMS capacitance measurements. , 2016, , .		0
70	A batch-fabricated electret-biased wideband MEMS vibration energy harvester with frequency-up conversion behavior powering a UHF wireless sensor node. Journal of Micromechanics and Microengineering, 2016, 26, 124004.	1.5	44
71	Introduction to Vibration Energy Harvesting. , 2016, , 1-21.		2
72	Analysis and Modelling of Nonlinearities in Vibration Energy Harvesters. , 2016, , 279-320.		0

#	ARTICLE	IF	CITATIONS
73	Nonlinearity in Energy Harvesting Systems. , 2016, , .		29
74	Discrete-time modelling and experimental validation of an All-Digital PLL for clock-generating networks. , 2016, , .		9
75	Introduction to the special issue on ICECS 2014. Analog Integrated Circuits and Signal Processing, 2016, 87, 101-103.	0.9	0
76	Complete electromechanical analysis of electrostatic kinetic energy harvesters biased with a continuous conditioning circuit. Sensors and Actuators A: Physical, 2016, 247, 379-388.	2.0	10
77	Universal nonlinear phenomena in a class of electronic oscillators. , 2015, , .		0
78	Mode-locking in a network of kuramoto-like oscillators. , 2015, , .		2
79	Understanding complexity in multiphysics systems-on-a-chip: Modern approaches for design. , 2015, , .		2
80	Conductive reliability modelling of capacitive MEMS. , 2015, , .		0
81	Real-time characterization of dielectric charging in contactless capacitive MEMS. Analog Integrated Circuits and Signal Processing, 2015, 82, 559-569.	0.9	10
82	A Second-Order Delta-Sigma Control of Dielectric Charge for Contactless Capacitive MEMS. Journal of Microelectromechanical Systems, 2015, 24, 259-261.	1.7	12
83	Capacitive Energy Conversion With Circuits Implementing a Rectangular Charge-Voltage Cycle Part 2: Electromechanical and Nonlinear Analysis. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 2664-2673.	3.5	19
84	Modelling of the dynamical behaviour of floating electrode MEMS. , 2015, , .		1
85	Capacitive Energy Conversion With Circuits Implementing a Rectangular Charge-Voltage Cycle Part 1: Analysis of the Electrical Domain. IEEE Transactions on Circuits and Systems I: Regular Papers, 2015, 62, 2652-2663.	3.5	38
86	Discrete-Time Modelling of Sigma-Delta Inspired Systems for MEMS. Springer Proceedings in Mathematics and Statistics, 2015, , 37-67.	0.1	0
87	Nonlinear Dynamics and Bifurcation Behavior of a 2-DOF Spring Resonator with End Stopper for Energy Harvesting. MATEC Web of Conferences, 2014, 16, 08006.	0.1	1
88	Nonlinearities in electrostatic vibration energy harvesters: A review using the example of a charge pump conditioning circuit. , 2014, , .		1
89	Electrostatic Vibration Energy Harvesters with Linear and Nonlinear Resonators. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2014, 24, 1430030.	0.7	11
90	Design and test of resonators using PiezoMUMPS technology. , 2014, , .		6

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91	Reliable AMS simulation of electrostatic vibration energy harvesters: a case study. , 2014, , .		0
92	The nonlinear dynamics of a micro-scale electrostatic vibration energy harvester. , 2014, , .		1
93	Sigma - Delta inspired control technique for the improvement of MEMS reliability. , 2014, , .		1
94	Modelling and analysis of vibration energy harvesters with charge pump conditioning circuits. , 2014, , .		5
95	Smart integrated conditioning electronics for electrostatic vibration energy harvesters. , 2014, , .		10
96	A wideband 2-DOF resonator for electromagnetic energy harvesting systems. , 2014, , .		4
97	Complexity in heterogeneous systems on chips: Design and analysis challenges. , 2014, , .		0
98	Electrostatic vibration energy harvester with combined effect of electrical nonlinearities and mechanical impact. Journal of Micromechanics and Microengineering, 2014, 24, 035001.	1.5	124
99	Delta-Sigma Control of Dielectric Charge for Contactless Capacitive MEMS. Journal of Microelectromechanical Systems, 2014, 23, 829-841.	1.7	22
100	Sliding in a piecewise-smooth dynamical system with a hold-on effect. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 3085-3092.	0.9	1
101	Characterization method of the dynamics of the trapped charge in contactless capacitive MEMS. , 2014, , .		1
102	Nonlinear effects in electrostatic vibration energy harvesters: Current progress and perspectives. , 2013, , .		4
103	Combined mechanical and circuit nonlinearities in electrostatic vibration energy harvesters. , 2013, , .		6
104	Modelling of a charge control method for capacitive MEMS. , 2013, , .		5
105	Steady-State Oscillations in Resonant Electrostatic Vibration Energy Harvesters. IEEE Transactions on Circuits and Systems I: Regular Papers, 2013, 60, 875-884.	3.5	33
106	Tools for Analytical and Numerical Analysis of Electrostatic Vibration Energy Harvesters: Application to a Continuous Mode Conditioning Circuit. Journal of Physics: Conference Series, 2013, 476, 012076.	0.3	4
107	Wideband Electrostatic Vibration Energy Harvester (e-VEH) Having a Low Start-Up Voltage Employing a High-Voltage Integrated Interface. Journal of Physics: Conference Series, 2013, 476, 012127.	0.3	15
108	Dielectric Charge Control in Electrostatic MEMS Positioners/Varactors. Journal of Microelectromechanical Systems, 2012, 21, 559-573.	1.7	21

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109	Pulsed Digital Oscillators for Electrostatic MEMS. IEEE Transactions on Circuits and Systems I: Regular Papers, 2012, 59, 2835-2845.	3.5	9
110	Limit on converted power in resonant electrostatic vibration energy harvesters. Applied Physics Letters, 2012, 101, .	1.5	17
111	Bifurcations and chaos in electrostatic vibration energy harvesters. , 2012, , .		6
112	MEMS with Σ - Δ type of feedback loop control as an iterative map. , 2011, , .		1
113	On some properties of the output of a pulsed digital oscillator working with multiple resonances. , 2010, , .		2
114	Pulsed digital oscillators as a tool for the selective activation of MEMS resonant modes. , 2010, , .		1
115	Control of MEMS Vibration Modes With Pulsed Digital Oscillators: Part Iâ€”Theory. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 1865-1878.	3.5	15
116	Control of MEMS Vibration Modes With Pulsed Digital Oscillatorsâ€™Part II: Simulation and Experimental Results. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 1879-1890.	3.5	10
117	Dynamics of the MEMS pulsed digital oscillator with multiple delays in the feedback loop. , 2009, , .		4
118	A KICKED OSCILLATOR AS A MODEL OF A PULSED MEMS SYSTEM. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2009, 19, 187-202.	0.7	8
119	Excitation of multiple spatial modes of a MEMS cantilever in the pulsed digital oscillator. , 2009, , .		0
120	High-Dimensional Chaos in a Gyrotron. IEEE Transactions on Electron Devices, 2007, 54, 188-193.	1.6	11
121	High-dimensional chaotic attractors in a gyrotron with nonfixed field structure. Technical Physics Letters, 2006, 32, 364-368.	0.2	3
122	Chaos and hyperchaos in a gyrotron. Radiophysics and Quantum Electronics, 2006, 49, 799-810.	0.1	0
123	Wave Theory of a Traveling-Wave Tube Operated Near the Cutoff. Radiophysics and Quantum Electronics, 2004, 47, 356-373.	0.1	23
124	Nonstationary boundary conditions for computer simulation of the vacuum and plasma devices with diffraction energy output. , 0, , .		0
125	Complex dynamics of gyrotron with non-fixed structure. , 0, , .		4
126	High Dimension Chaotic Attractors in Gyrotron with Non-Fixed Field Structure. , 0, , .		0