Alexander Figotin

List of Publications by Year
in descending order

51 papers	861 citations	516710 16 h-index	501196 28 g-index
54 all docs	54 docs citations	54 times ranked	268 citing authors

#	Article	IF	Citations
1	Localization of classical waves I: Acoustic waves. Communications in Mathematical Physics, 1996, 180, 439-482.	2.2	100
2	Localized classical waves created by defects. Journal of Statistical Physics, 1997, 86, 165-177.	1.2	79
3	Localization of Classical Waves II: Electromagnetic Waves. Communications in Mathematical Physics, 1997, 184, 411-441.	2.2	71
4	Midgap Defect Modes in Dielectric and Acoustic Media. SIAM Journal on Applied Mathematics, 1998, 58, 1748-1773.	1.8	53
5	Localized electromagnetic waves in a layered periodic dielectric medium with a defect. Physical Review B, 1998, 58, 180-188.	3.2	44
6	The Computation of Spectra of Some 2D Photonic Crystals. Journal of Computational Physics, 1997, 136, 585-598.	3.8	40
7	Giant amplification in degenerate band edge slow-wave structures interacting with an electron beam. Physics of Plasmas, 2016, 23, .	1.9	35
8	Low Starting Electron Beam Current in Degenerate Band Edge Oscillators. IEEE Transactions on Plasma Science, 2016, 44, 918-929.	1.3	35
9	Degenerate band edge laser. Physical Review B, 2018, 97, .	3.2	33
10	Localization phenomenon in gaps of the spectrum of random lattice operators. Journal of Statistical Physics, 1994, 75, 997-1021.	1.2	32
11	Localization of electromagnetic and acoustic waves in random media. Lattice models. Journal of Statistical Physics, 1994, 76, 985-1003.	1.2	27
12	Hamiltonian Structure for Dispersive and Dissipative Dynamical Systems. Journal of Statistical Physics, 2007, 128, 969-1056.	1.2	25
13	Experimental Testing of a 3-D-Printed Metamaterial Slow Wave Structure for High-Power Microwave Generation. IEEE Transactions on Plasma Science, 2020, 48, 4356-4364.	1.3	23
14	Multi-transmission-line-beam interactive system. Journal of Mathematical Physics, 2013, 54, .	1.1	18
15	A New Amplification Regime for Traveling Wave Tubes With Third-Order Modal Degeneracy. IEEE Transactions on Plasma Science, 2018, 46, 43-56.	1.3	18
16	Electron-Beam-Driven Devices With Synchronous Multiple Degenerate Eigenmodes. IEEE Transactions on Plasma Science, 2018, 46, 3126-3138.	1.3	18
17	Concept for Pulse Compression Device Using Structured Spatial Energy Distribution. IEEE Transactions on Microwave Theory and Techniques, 2016, , 1-14.	4.6	15
18	Exceptional Points of Degeneracy Directly Induced by Space–Time Modulation of a Single Transmission Line. IEEE Antennas and Wireless Propagation Letters, 2020, 19, 1906-1910.	4.0	13

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19	Band-gap structure of the spectrum of periodic Maxwell operators. Journal of Statistical Physics, 1994, 74, 447-455.	1.2	12
20	Nonlinear Maxwell Equations in Inhomogeneous Media. Communications in Mathematical Physics, 2003, 241, 519-581.	2.2	12
21	Exceptional degeneracies in traveling wave tubes with dispersive slow-wave structure including space-charge effect. Applied Physics Letters, 2021, 118, .	3.3	12
22	Some mathematical problems in a neoclassical theory of electric charges. Discrete and Continuous Dynamical Systems, 2010, 27, 1283-1326.	0.9	11
23	Nonlinear photonic crystals: II. Interaction classification for quadratic nonlinearities. Waves in Random and Complex Media, 2002, 12, R25-R52.	1.5	9
24	Lagrangian variational framework for boundary value problems. Journal of Mathematical Physics, 2015, 56, .	1.1	9
25	Hamiltonian treatment of time dispersive and dissipative media within the linear response theory. Journal of Computational and Applied Mathematics, 2007, 204, 199-208.	2.0	8
26	Wave-Corpuscle Mechanics for Electric Charges. Journal of Statistical Physics, 2010, 138, 912-954.	1.2	8
27	Relativistic Point Dynamics and Einstein Formula as a Property of Localized Solutions of a Nonlinear Klein-Gordon Equation. Communications in Mathematical Physics, 2013, 322, 453-499.	2.2	8
28	Dissipative properties of systems composed of high-loss and lossless components. Journal of Mathematical Physics, 2012, 53, 123508.	1.1	7
29	Relativistic Dynamics of Accelerating Particles Derived from Field Equations. Foundations of Physics, 2012, 42, 996-1014.	1.3	7
30	Synthesis of lossless electric circuits based on prescribed Jordan forms. Journal of Mathematical Physics, 2020, 61, .	1.1	7
31	Nonlinear photonic crystals: III. Cubic nonlinearity. Waves in Random and Complex Media, 2003, 13, R41-R69.	1.5	6
32	Persistence of Anderson localization in Schrödinger operators with decaying random potentials. Arkiv for Matematik, 2007, 45, 15-30.	0.5	6
33	Perturbations of circuit evolution matrices with Jordan blocks. Journal of Mathematical Physics, 2021, 62, .	1.1	6
34	Open Systems Viewed Through Their Conservative Extensions. Journal of Statistical Physics, 2006, 125, 359-409.	1.2	5
35	Electrodynamics of Balanced Charges. Foundations of Physics, 2011, 41, 242-260.	1.3	5
36	Exceptional points of degeneracy in traveling wave tubes. Journal of Mathematical Physics, 2021, 62, .	1.1	5

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37	Exceptional point in a degenerate system made of a gyrator and two unstable resonators. Physical Review A, 2022, 105, .	2.5	5
38	Photonic pseudogaps for periodic dielectric structures. Journal of Statistical Physics, 1994, 74, 433-446.	1.2	4
39	Wavepacket Preservation Under Nonlinear Evolution. Communications in Mathematical Physics, 2008, 278, 329-384.	2.2	4
40	Lagrangian framework for systems composed of high-loss and lossless components. Journal of Mathematical Physics, 2014, 55, .	1.1	4
41	Newton's law for a trajectory of concentration of solutions to nonlinear Schrodinger equation. Communications on Pure and Applied Analysis, 2014, 13, 1685-1718.	0.8	3
42	How to achieve exceptional points in coupled resonators using a gyrator or PT-symmetry, and in a time-modulated single resonator: high sensitivity to perturbations. EPJ Applied Metamaterials, 2022, 9, 14.	1.5	3
43	The localization properties of a random steady flow on a lattice. Journal of Statistical Physics, 1992, 66, 1599-1612.	1.2	1
44	Bound States of a One-Band Model for 3D Periodic Medium. Journal of Computational Physics, 1997, 138, 153-170.	3.8	1
45	Analytic theory of multicavity klystrons. Journal of Mathematical Physics, 2022, 63, 062703.	1.1	1
46	Model of a nonhomogeneous medium conducting light. Journal of Statistical Physics, 1992, 69, 969-993.	1.2	0
47	Neoclassical theory of elementary charges with spin of 1/2. Journal of Mathematical Physics, 2014, 55, 082901.	1.1	0
48	On overdamping phenomena in gyroscopic systems composed of high-loss and lossless components. Journal of Mathematical Physics, 2016, 57, 042902.	1.1	0
49	Efficient Generation of High Power Microwaves using the Degenerate Band Edge Oscillators. , 2017, , .		0
50	Low Starting Current Oscillator Based on the Degenerate Band Edge in a Double Helix Slow Wave Structure. , 2019, , .		0
51	High-sensitivity in various gyrator-based circuits with exceptional points of degeneracy. EPJ Applied Metamaterials, 2022, 9, 8.	1.5	0