Oleksiy O Vakhnenko

List of Publications by Year
in descending order

54 papers	628 citations	567281 15 h-index	677142 22 g-index
54 all docs	54 docs citations	54 times ranked	160 citing authors

#	ARTICLE	IF	CITATIONS
1	On the motion of solitons in discrete molecular chains. Theoretical and Mathematical Physics(Russian Federation), 1986, 68, 873-880.	0.9	56
2	Physically corrected Ablowitz-Ladik model and its application to the Peierls-Nabarro problem. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 196, 307-312.	2.1	45
3	Soft-ratchet modeling of end-point memory in the nonlinear resonant response of sedimentary rocks. Physical Review B, 2005, 71, .	3.2	42
4	Strain-induced kinetics of intergrain defects as the mechanism of slow dynamics in the nonlinear resonant response of humid sandstone bars. Physical Review E, 2004, 70, 015602.	2.1	37
5	Nonlinear integrable model of Frenkel-like excitations on a ribbon of triangular lattice. Journal of Mathematical Physics, 2015, 56, .	1.1	27
6	Integrable nonlinear ladder system with background-controlled intersite resonant coupling. Journal of Physics A, 2006, 39, 11013-11027.	1.6	24
7	Nonlinear beating excitations on ladder lattice. Journal of Physics A, 1999, 32, 5735-5748.	1.6	21
8	Solitons on a zigzag-runged ladder lattice. Physical Review E, 2001, 64, 067601.	2.1	21
9	Integrable Nonlinear Schrödinger System on a Triangular-Lattice Ribbon. Journal of the Physical Society of Japan, 2015, 84, 014003.	1.6	21
10	Soliton Generation in Semi‐Infinite Molecular Chains. Physica Status Solidi (B): Basic Research, 1988, 146, 605-612.	1.5	20
11	Transverse and longitudinal dynamics of nonlinear intramolecular excitations on multileg ladder lattices. Physical Review E, 2000, 61, 7110-7120.	2.1	19
12	Semidiscrete Integrable Nonlinear Systems Generated by the New Fourth-Order Spectral Operator: Local Conservation Laws. Journal of Nonlinear Mathematical Physics, 2011, 18, 401.	1.3	19
13	Solitons in parametrically driven discrete nonlinear Schrödinger systems with the exploding range of intersite interactions. Journal of Mathematical Physics, 2002, 43, 2587.	1.1	17
14	Three-component nonlinear dynamical system generated by the new third-order discrete spectral problem. Journal of Physics A, 2003, 36, 5405-5430.	1.6	16
15	Inverse scattering transform for the nonlinear Schrödinger system on a zigzag-runged ladder lattice. Journal of Mathematical Physics, 2010, 51, 103518.	1.1	16
16	Multimode soliton dynamics in perturbed ladder lattices. Physical Review E, 2000, 63, 016612.	2.1	13
17	Semi-discrete integrable nonlinear Schrödinger system with background-controlled inter-site resonant coupling. Journal of Nonlinear Mathematical Physics, 2017, 24, 250.	1.3	12
18	Nonlinear integrable dynamics of coupled vibrational and intra-site excitations on a regular one-dimensional lattice. Physics Letters, Section A: General, Atomic and Solid State Physics, 2021, 405, 127431.	2.1	12

#	Article	IF	Citations
19	Modeling of stress-strain dependences for Berea sandstone under quasistatic loading. Physical Review B, 2007, 76, .	3.2	11
20	Nonlinear integrable systems containing the canonical subsystems of distinct physical origins. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126081.	2.1	11
21	Spectral and transport characteristics of an arbitrarily bent planar quantum electron guide. Physical Review B, 1995, 52, 17386-17392.	3.2	10
22	Enigma of probability amplitudes in Hamiltonian formulation of integrable semidiscrete nonlinear Schrödinger systems. Physical Review E, 2008, 77, 026604.	2.1	10
23	Electron scattering in an arbitrarily bent planar quantum channel. Journal of Physics Condensed Matter, 1994, 6, 3229-3236.	1.8	9
24	Nonlinear model of intramolecular excitations on a multileg ladder lattice. Physical Review E, 1999, 60, R2492-R2495.	2.1	9
25	Coupling-governed metamorphoses of the integrable nonlinear Schrödinger system on a triangular-lattice ribbon. Physics Letters, Section A: General, Atomic and Solid State Physics, 2016, 380, 2069-2074.	2.1	9
26	Asymmetric canonicalization of the integrable nonlinear Schrödinger system on a triangular-lattice ribbon. Applied Mathematics Letters, 2017, 64, 81-86.	2.7	9
27	Integrable nonlinear Schrödinger system on a lattice with three structural elements in the unit cell. Journal of Mathematical Physics, 2018, 59, .	1.1	9
28	Symmetry-broken canonizations of the semi-discrete integrable nonlinear Schrödinger system with background-controlled inter-site coupling. Journal of Mathematical Physics, 2016, 57, .	1.1	8
29	Nonlinear integrable system of coherently coupled excitations on an intercalated ladder lattice. European Physical Journal Plus, 2018, 133, 1.	2.6	8
30	Nonlinear system of PT-symmetric excitations and Toda vibrations integrable by the Darboux–Bäcklund dressing method. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	2.1	8
31	Slalom soliton dynamics on a ladder lattice with zig-zag distributed impurities. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 278, 59-67.	2.1	7
32	Soft-ratchet modeling of slow dynamics in the nonlinear resonant response of sedimentary rocks. AIP Conference Proceedings, 2006, , .	0.4	7
33	Four-Wave Semidiscrete Nonlinear Integrable System with <i>??</i>-Symmetry. Journal of Nonlinear Mathematical Physics, 2013, 20, 606.	1.3	7
34	Four-component integrable systems inspired by the Toda and the Davydov–Kyslukha models. Wave Motion, 2019, 88, 1-12.	2.0	7
35	Localized states in an arbitrarily bent quantum wire (bend-imitating approach). Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 211, 46-52.	2.1	6
36	Distinctive Features Of The Integrable Nonlinear Schrodinger System On A Ribbon Of Triangular Lattice. Ukrainian Journal of Physics, 2017, 62, 271-282.	0.2	6

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37	Bend-imitating approach to quantum wire-like nanostructures. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 231, 419-423.	2.1	5
38	Multicomponent nonlinear dynamical systems inspired by the Toda lattice. Journal of Physics A, 2001, 34, 9339-9348.	1.6	5
39	Semidiscrete Integrable Nonlinear Systems Generated by the New Fourth Order Spectral Operator: Systems of Obverse Type. Journal of Nonlinear Mathematical Physics, 2011, 18, 415.	1.3	5
40	Prototype and reduced nonlinear integrable lattice systems with the modulated pulson behavior. Wave Motion, 2021, 104, 102745.	2.0	5
41	Six-component semi-discrete integrable nonlinear Schrödinger system. Letters in Mathematical Physics, 2018, 108, 1807-1824.	1.1	4
42	Planar quantum wire-like nanostructures in a perpendicular magnetic field. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 249, 349-354.	2.1	3
43	Integrable nonlinear triplet lattice system with the combined inter-mode couplings. European Physical Journal Plus, 2020, 135, 1.	2.6	3
44	Coupling-managed criticality in nonlinear dynamics of an integrable exciton-phonon system on a one-dimensional lattice. Low Temperature Physics, 2021, 47, 1084-1088.	0.6	3
45	Intrinsic vibrations of the planar orientation-translational stripe-structures. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 186, 213-216.	2.1	2
46	Nonlinear dynamics of an integrable gauge-coupled exciton-phonon system on a regular one-dimensional lattice. Low Temperature Physics, 2022, 48, 239-245.	0.6	2
47	Physically corrected Ablowitz-Ladik model and its application to the Peierls-Nabarro problem. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 196, 307-312.	2.1	1
48	Low-amplitude instability as a premise for the spontaneous symmetry breaking in the new integrable semidiscrete nonlinear system. Chaos, Solitons and Fractals, 2014, 60, 1-10.	5.1	1
49	Dynamical realization of end-point memory in consolidated materials. AIP Conference Proceedings, 2006, , .	0.4	0
50	Bend-imitating models of abruptly bent electron waveguides. Journal of Mathematical Physics, 2011, 52, 073513.	1.1	0
51	New Integrable Nonlinear Lattice Systems with Two Adjustable Coupling Parameters. Nonlinear Engineering, 2013, 2, .	2.7	0
52	Effect of lattice ribbonization via the background-controlled inter-site resonant interactions in nonlinear integrable systems. AIP Conference Proceedings, 2018, , .	0.4	0
53	Coupled Nonlinear Dynamics in the Three-Mode Integrable System on a Regular Chain. Ukrainian Journal of Physics, 2021, 66, 601.	0.2	0
54	Dynamics of Multicomponent Solitons in Perturbed Ladder Lattices. , 2004, , 503-510.		0