Anatoly Kamchatnov

List of Publications by Year
in descending order

129	2,723	201674	233421
papers	citations	27 h-index	45 g-index

132	132	132	992
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Trigonometric shock waves in the Kaupâ€“Boussinesq system. Nonlinear Dynamics, 2022, 108, 2505-2512.	5.2	2
2	Contour dynamics of two-dimensional dark solitons. Physical Review E, 2022, 105, 044204.	2.1	0
3	Gurevichâ€“Pitaevskii problem and its development. Physics-Uspekhi, 2021, 64, 48-82.	2.2	15
4	Propagation of wave packets along intensive simple waves. Physics of Fluids, 2021, 33, .	4.0	8
5	Quantitative Analysis of Shock Wave Dynamics in a Fluid of Light. Physical Review Letters, 2021, 126, 183901.	7.8	20
6	Number of Solitons Generated from an Intense Initial Pulse at Asymptotically Large Time. Journal of Experimental and Theoretical Physics, 2021, 132, 63-72.	0.9	5
7	Number of solitons produced from a large initial pulse in the generalized NLS dispersive hydrodynamics theory. Physical Review E, 2021, 104, 054203.	2.1	4
8	Propagation of instability fronts in modulationally unstable systems. Europhysics Letters, 2021, 136, 40001.	2.0	4
9	Formation of dispersive shock waves in a saturable nonlinear medium. Physical Review E, 2020, 102, 032215.	2.1	7
10	Two-photon propagation of light and the modified Liouville equation. Theoretical and Mathematical Physics(Russian Federation), 2020, 204, 1093-1099.	0.9	0
11	Formation of dispersive shock waves in evolution of a two-temperature collisionless plasma. Physics of Fluids, 2020, 32, 126115.	4.0	9
12	Dispersionless evolution of inviscid nonlinear pulses. Europhysics Letters, 2020, 129, 64003.	2.0	5
13	Motion of dispersive shock edges in nonlinear pulse evolution. Theoretical and Mathematical Physics(Russian Federation), 2020, 202, 363-370.	0.9	3
14	Theory of quasi-simple dispersive shock waves and number of solitons evolved from a nonlinear pulse. Chaos, 2020, 30, 123148.	2.5	9
15	The Evolution of High-Intensity Light Pulses in a Nonlinear Medium Taking into Account the Raman Effect. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2019, 127, 95-106.	0.6	1
16	Long-time evolution of pulses in the Kortewegâ€“de Vries equation in the absence of solitons reexamined: Whitham method. Physical Review E, 2019, 99, 012210.	2.1	8
17	Evolution of wave pulses in fully nonlinear shallow-water theory. Physics of Fluids, 2019, 31, .	4.0	15
18	Wave breaking and formation of dispersive shock waves in a defocusing nonlinear optical material. Physical Review A, 2019, 99, .	2.5	16

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19	Self-similar wave breaking in dispersive Korteweg-de Vries hydrodynamics. Chaos, 2019, 29, 023106.	2.5	0
20	Landauâ€“Khalatnikov Problem in Relativistic Fluid Dynamics. Journal of Experimental and Theoretical Physics, 2019, 129, 607-617.	0.9	4
21	Dispersive shock wave theory for nonintegrable equations. Physical Review E, 2019, 99, 012203.	2.1	29
22	Collision of rarefaction waves in Bose-Einstein condensates. Physical Review A, 2019, 99, .	2.5	8
23	Simple waves in a two-component Bose-Einstein condensate. Physical Review E, 2018, 97, 042208.	2.1	6
24	Wave Breaking in Dispersive Fluid Dynamics of the Boseâ€“Einstein Condensate. Journal of Experimental and Theoretical Physics, 2018, 127, 903-911.	0.9	6
25	Evolution of initial discontinuities in the DNLS equation theory. Journal of Physics Communications, 2018, 2, 025027.	1.2	11
26	Expansion dynamics of a two-component quasi-one-dimensional Boseâ€“Einstein condensate: Phase diagram, self-similar solutions, and dispersive shock waves. Journal of Experimental and Theoretical Physics, 2017, 124, 546-563.	0.9	3
27	Evolution of initial discontinuities in the Riemann problem for the Kaup-Boussinesq equation with positive dispersion. Chaos, 2017, 27, 083107.	2.5	26
28	Oblique Spatial Dispersive Shock Waves in Nonlinear SchrÃ¶dinger Flows. SIAM Journal on Applied Mathematics, 2017, 77, 1352-1374.	1.8	13
29	Solution of the Riemann problem for polarization waves in a two-component Bose-Einstein condensate. Physical Review E, 2017, 96, 062202.	2.1	23
30	Riemann problem for the photon fluid: Self-steepening effects. Physical Review A, 2017, 96, .	2.5	15
31	Dispersive shock waves in nonlinear and atomic optics. EPJ Web of Conferences, 2017, 161, 01005.	0.3	0
32	Whitham theory for perturbed Kortewegâ€“de Vries equation. Physica D: Nonlinear Phenomena, 2016, 333, 99-106.	2.8	13
33	On exact solutions of nonlinear acoustic equations. Wave Motion, 2016, 67, 81-88.	2.0	5
34	Nonlinear waves in coherently coupled Bose-Einstein condensates. Physical Review A, 2016, 93, .	2.5	11
35	Dispersive hydrodynamics of nonlinear polarization waves in two-component Bose-Einstein condensates. SciPost Physics, 2016, 1, .	4.9	25
36	Interference effects in the two-dimensional scattering of microcavity polaritons by an obstacle: phase dislocations and resonances. European Physical Journal D, 2015, 69, 1.	1.3	7

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37	Nonlinear waves in two-component Bose-Einstein condensates: Manakov system and Kowalevski equations. Physical Review A, 2015, 91, .	2.5	7
38	On periodic solutions and their modulations of the Manakov system. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 145203.	2.1	5
39	Nonlinear polarization waves in a two-component Bose-Einstein condensate. Physical Review A, 2014, 89, .	2.5	27
40	Large transverse shifts appearing upon passage of vortices through oblique dark solitons. Physical Review A, 2014, 89, .	2.5	3
41	Periodic waves in a two-component Bose-Einstein condensate. Journal of Experimental and Theoretical Physics, 2014, 118, 630-642.	0.9	3
42	Wave patterns generated by a flow of a two-component Bose-Einstein condensate with spin-orbit interaction past a localized obstacle. Europhysics Letters, 2014, 107, 10008.	2.0	2
43	Oblique Breathers Generated by a Flow of Two-Component Bose-Einstein Condensates Past a Polarized Obstacle. Physical Review Letters, 2013, 111, 140402.	7.8	11
44	Transcritical flow of a stratified fluid over topography: analysis of the forced Gardner equation. Journal of Fluid Mechanics, 2013, 736, 495-531.	3.4	15
45	Two-dimensional dispersive shock waves in dissipative optical media. Optics Letters, 2013, 38, 790.	3.3	8
46	Periodic waves in two-component Bose-Einstein condensates with repulsive interactions between atoms. Europhysics Letters, 2013, 103, 60003.	2.0	3
47	Polarization hydrodynamics in a one-dimensional polariton condensate. Physical Review B, 2013, 88, .	3.2	7
48	Quasiâ€“one-dimensional flow of polariton condensate past an obstacle. Europhysics Letters, 2012, 97, 10006.	2.0	8
49	Stationary one-dimensional dispersive shock waves. Optics Letters, 2012, 37, 389.	3.3	2
50	Wave pattern induced by a localized obstacle in the flow of a one-dimensional polariton condensate. Physical Review B, 2012, 86, .	3.2	24
51	Undular bore theory for the Gardner equation. Physical Review E, 2012, 86, 036605.	2.1	83
52	Oblique solitons generated by the flow of a polariton condensate past an obstacle. Journal of Experimental and Theoretical Physics, 2012, 115, 579-585.	0.9	9
53	Generation of dispersive shock waves by the flow of a Bose-Einstein condensate past a narrow obstacle. Physical Review A, 2012, 85, .	2.5	36
54	Kinetic Equation for a Soliton Gas andÂItsÂHydrodynamic Reductions. Journal of Nonlinear Science, 2011, 21, 151-191.	2.1	53

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55	Condition for convective instability of dark solitons. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 2577-2580.	2.1	21
56	Flow of a Bose-Einstein condensate in a quasi-one-dimensional channel under the action of a piston. Journal of Experimental and Theoretical Physics, 2010, 110, 170-182.	0.9	13
57	Dynamics of ring dark solitons in Boseâ€“Einstein condensates and nonlinear optics. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 4625-4628.	2.1	27
58	Two-dimensional supersonic nonlinear SchrÃ¶dinger flow past an extended obstacle. Physical Review E, 2009, 80, 046317.	2.1	36
59	Stationary wave patterns generated by an impurity moving with supersonic velocity through a Bose-Einstein condensate. Physical Review A, 2009, 79, .	2.5	14
60	Wave patterns generated by a supersonic moving body in a binary Bose-Einstein condensate. Physical Review A, 2009, 79, .	2.5	28
61	Dark soliton oscillations in Boseâ€“Einstein condensates with multi-body interactions. Journal of Physics B: Atomic, Molecular and Optical Physics, 2009, 42, 185303.	1.5	20
62	Transcritical flow of a Bose-Einstein condensate through a penetrable barrier. Physical Review A, 2009, 79, .	2.5	43
63	Stabilization of Solitons Generated by a Supersonic Flow of Bose-Einstein Condensate Past an Obstacle. Physical Review Letters, 2008, 100, 160402.	7.8	85
64	Generation of Cherenkov waves in the flow of a Boseâ€“Einstein condensate past an obstacle. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 165301.	1.5	23
65	Matter sound waves in two-component Boseâ€“Einstein condensates. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 215302.	1.5	5
66	Nonlinear diffraction of light beams propagating in photorefractive media with embedded reflecting wire. Physical Review A, 2008, 78, .	2.5	28
67	Two-dimensional periodic waves in supersonic flow of a Boseâ€“Einstein condensate. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 611-619.	2.1	15
68	Whitham method for the Benjamin-Ono-Burgers equation and dispersive shocks. Physical Review E, 2007, 75, 016307.	2.1	17
69	Radiation of linear waves in the stationary flow of a Bose-Einstein condensate past an obstacle. Physical Review A, 2007, 75, .	2.5	45
70	Evolution of solitary waves and undular bores in shallow-water flows over a gradual slope with bottom friction. Journal of Fluid Mechanics, 2007, 585, 213-244.	3.4	53
71	Generation of linear waves in Bose-Einstein condensate flow past an obstacle. Journal of Experimental and Theoretical Physics, 2007, 105, 520-525.	0.9	10
72	Theory of optical dispersive shock waves in photorefractive media. Physical Review A, 2007, 76, .	2.5	77

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73	Generation of oblique dark solitons in supersonic flow of Bose-Einstein condensate past an obstacle. Nuclear Physics A, 2007, 790, 771c-775c.	1.5	3
74	Oblique Dark Solitons in Supersonic Flow of a Bose-Einstein Condensate. Physical Review Letters, 2006, 97, 180405.	7.8	96
75	Spatial dispersive shock waves generated in supersonic flow of Boseâ€“Einstein condensate past slender body. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 350, 192-196.	2.1	37
76	Propagation of a self-induced transparency pulse in a spatially dispersive medium. Journal of Experimental and Theoretical Physics, 2006, 102, 562-569.	0.9	0
77	Wave Breaking and the Generation of Undular Bores in an Integrable Shallow Water System. Studies in Applied Mathematics, 2005, 114, 395-411.	2.4	28
78	Analytic model for a weakly dissipative shallow-water undular bore. Chaos, 2005, 15, 037102.	2.5	29
79	DYNAMICS OF BRIGHT MATTER WAVE SOLITONS IN A BOSEâ€“EINSTEIN CONDENSATE. International Journal of Modern Physics B, 2005, 19, 3415-3473.	2.0	158
80	Kinetic Equation for a Dense Soliton Gas. Physical Review Letters, 2005, 95, 204101.	7.8	134
81	Dissipationless shock waves in Bose-Einstein condensates with repulsive interaction between atoms. Physical Review A, 2004, 69, .	2.5	88
82	Mixed-isotope Bose-Einstein condensates in rubidium. Physical Review A, 2004, 69, .	2.5	13
83	On dissipationless shock waves in a discrete nonlinear SchrÃ¶dinger equation. Journal of Physics A, 2004, 37, 5547-5568.	1.6	12
84	Dynamics of Bose-Einstein condensates in cigar-shaped traps. Physical Review A, 2004, 70, .	2.5	41
85	Expansion of Bose-Einstein condensates confined in quasi-one-dimensional or quasi-two-dimensional traps. Journal of Experimental and Theoretical Physics, 2004, 98, 908-917.	0.9	15
86	Polariton gap solitary waves in semiconductor microcavities. Journal of Luminescence, 2004, 110, 373-377.	3.1	5
87	On Whitham theory for perturbed integrable equations. Physica D: Nonlinear Phenomena, 2004, 188, 247-261.	2.8	38
88	Temporal Talbot effect in interference of matter waves from arrays of Boseâ€“Einstein condensates and transition to Fraunhofer diffraction. Physics Letters, Section A: General, Atomic and Solid State Physics, 2004, 324, 227-234.	2.1	3
89	‹title›Coherent soliton propagation in a mixture of two-level atoms‹/title›. , 2004, , .		0
90	Formation of soliton trains in Boseâ€“Einstein condensates as a nonlinear Fresnel diffraction of matter waves. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 319, 406-412.	2.1	15

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91	Asymptotic soliton train solutions of Kaupâ€“Boussinesq equations. Wave Motion, 2003, 38, 355-365.	2.0	32
92	Polariton effect in nonlinear pulse propagation. Journal of Experimental and Theoretical Physics, 2003, 96, 876-884.	0.9	10
93	Adiabatic Dynamics of Periodic Waves in Bose-Einstein Condensates with Time Dependent Atomic Scattering Length. Physical Review Letters, 2003, 90, 230402.	7.8	154
94	Soliton propagation in a medium with Kerr nonlinearity and resonant impurities: A variational approach. Physical Review E, 2003, 67, 046615.	2.1	10
95	Hydrodynamic flow of expanding Bose-Einstein condensates. Physical Review A, 2003, 68, .	2.5	23
96	Creation and evolution of trains of dark solitons in a trapped one-dimensional Bose-Einstein condensate. Physical Review A, 2003, 68, .	2.5	28
97	Asymptotic soliton train solutions of the defocusing nonlinear SchrÃ¶dinger equation. Physical Review E, 2002, 66, 036609.	2.1	78
98	On the relationship between a 2Ã—2 matrix and second-order scalar spectral problems for integrable equations. Journal of Physics A, 2002, 35, L13-L18.	1.6	12
99	Periodic waves and solitons in a nonlinear fibre with resonant impurities. Journal of Modern Optics, 2002, 49, 2183-2193.	1.3	2
100	Difference frequency Fermi resonance interface modes in organic multilayer structures. Chemical Physics, 2002, 282, 399-408.	1.9	0
101	On generating functions in the AKNS hierarchy. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 301, 269-274.	2.1	18
102	On the Baker-Akhiezer function in the AKNS scheme. Journal of Physics A, 2001, 34, L441-L446.	1.6	8
103	Kinematic Frenkel gap biexciton in one-dimensional structures. Synthetic Metals, 2001, 116, 293-295.	3.9	1
104	Threshold Behavior of Strongly Localized Nonlinear Modes in Crystals with Fermi Resonance Interaction. Molecular Crystals and Liquid Crystals, 2001, 355, 25-39.	0.3	5
105	On asymptotic solutions of integrable wave equations. Physics Letters, Section A: General, Atomic and Solid State Physics, 2001, 287, 223-232.	2.1	8
106	Charged Frenkel biexcitons in organic molecular crystals. JETP Letters, 2001, 73, 341-343.	1.4	2
107	Decay of an optical pulse in a nonlinear fiber at the zero dispersion point. Optics Communications, 2000, 178, 333-337.	2.1	0
108	The inverse problem for second harmonic generation with amplitude-modulated pulses. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 276, 267-271.	2.1	1

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109	Nonconservation of the quantum number K and phase transitions in rapidly rotating nuclei. Physics of Atomic Nuclei, 2000, 63, 373-376.	0.4	0
110	On the evolution of an optical pulse with initial chirp in a nonlinear fiber at the zero dispersion point. Optics Communications, 1999, 162, 162-168.	2.1	9
111	Optical shock waves in media with quadratic nonlinearity. Physical Review E, 1998, 58, R4120-R4123.	2.1	15
112	Dynamics of Fermi resonance solitary waves propagating along two interfaces. Physical Review B, 1998, 57, 2461-2467.	3.2	6
113	The Thirring model as an approximation to the theory of two-photon propagation. Journal of Physics A, 1997, 30, 7485-7499.	1.6	3
114	Variational approach to solitons in systems with cascadedÏ‡(2)snonlinearity. Physical Review E, 1997, 55, 1894-1898.	2.1	12
115	Nonlinear periodic waves and Whitham modulation theory for degenerate two-photon propagation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1997, 226, 355-364.	2.1	2
116	Fermi resonance solitary wave on the interface between two layers of organic semiconductors. Physical Review B, 1996, 53, 15451-15454.	3.2	18
117	Periodic waves and solitons of two-photon propagation. Journal of Physics A, 1996, 29, 4127-4139.	1.6	2
118	Nonlinear optical vibrations in organic superlattices with interface Fermi resonance. Chemical Physics, 1995, 198, 245-255.	1.9	11
119	Creation of solitons from a long SIT pulse. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 202, 54-60.	2.1	5
120	Periodic solutions and Whitham equations for the AB system. Journal of Physics A, 1995, 28, 3279-3288.	1.6	48
121	Fermi Resonance Interface Modes: Propagation along the Interfaces. The Journal of Physical Chemistry, 1994, 98, 13607-13611.	2.9	15
122	Whitham equations in the AKNS scheme. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 186, 387-390.	2.1	34
123	Periodic solutions and Whitham equations for the Heisenberg continuous classical spin model. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 162, 389-396.	2.1	19
124	Multiple transmission of waves across a medium with random scattering centers and angular divergence of radiation in a Fabryâ€“Perot resonator. Soviet Journal of Quantum Electronics, 1990, 20, 989-992.	0.1	0
125	Classical model for the spin alignment of 'odd nucleons'. Journal of Physics G: Nuclear and Particle Physics, 1990, 16, 1203-1212.	3.6	3
126	On improving the effectiveness of periodic solutions of the NLS and DNLS equations. Journal of Physics A, 1990, 23, 2945-2960.	1.6	43

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127	Influence of the gas flow turbulence on the angular divergence of radiation emitted from a plane-parallel optical resonator. Soviet Journal of Quantum Electronics, 1989, 19, 468-471.	0.1	2
128	Thermal self-interaction of light beams. Soviet Journal of Quantum Electronics, 1987, 17, 906-909.	0.1	0
129	Theory of continuous-flow amplifiers and resonators. Soviet Journal of Quantum Electronics, 1982, 12, 599-602.	0.1	3