

KOTLYAROV VOLODYMYR

LIST OF PUBLICATIONS (90)

1. Maxwell-Bloch equations without spectral broadening: the long-time asymptotics of an input pulse in a long two-level laser amplifier// *Nonlinearity* – 2023, 36 (9), 5007-5074 (with A.Minakov)
2. Віковий ювілей всесвітньо відомого математика. До 100-річчя академіка НАН України В.О.Марченка// *Вісник НАН України*, -2022, №7, 99-104 (співавтор Г.М.Фельдман)
3. Нетиповий шлях у математику. До 85-річчя академіка НАН України Є.Я. Хруслова// *Вісник НАН України*, -2022, №1, 81-86 (співавтор Г.М.Фельдман)
4. Propagation of electric field generated by periodic pumping in a stable medium of two-level atoms of the Maxwell–Bloch model// *Journal of Mathematical Physics*. - 2020. - vol. 61, n. 12. - 123502 (1-32) (with M.S.Filipkovska)
5. Dispersive shock wave, generalized Laguerre polynomials, and asymptotic solitons of the focusing nonlinear Schroedinger equation // *Journal of Mathematical Physics* **60** (2019), 123501 (with Minakov A.A.)
6. A matrix Baker-Akhiezer function associated with the Maxwell-Bloch equations and their finite-gap solutions // *SIGMA* **14** (2018), 082, 27 pages.
7. A Baker-Akhiezer function and finite-gap solutions of the Maxwell-Bloch equations// VI International Conference “ANALYSIS AND MATHEMATICAL PHYSICS”: Book of abstracts, Kharkiv: B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, 2018
8. Maxwell-Bloch Equations without Spectral Broadening: Gauge Equivalence, Transformation Operators and Matrix Riemann-Hilbert Problems // *Journal of Mathematical Physics, Analysis, Geometry* 2017, vol. 13, No. 2, pp. 119-153 (with M.S.Filipkovska and E.A.Melamedova (Moskovchenko))
9. A Matrix Baker-Akhiezer function associated with the Maxwell-Bloch equations// V International Conference “ANALYSIS AND MATHEMATICAL PHYSICS”: Book of abstracts, Kharkiv: B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, 2017
10. Planar unimodular Baker-Akhiezer function for the nonlinear Schroedinger equation// *Annals of Mathematical Sciences and Applications*// Volume 2, Number 2, 343–384, 2017 (with D. Shepelsky)
11. Reconstruction of the Hermitian matrix by its spectrum and spectra of some number of its perturbations // *Doklady Mathematics* 94 (2), 2016, 529-531 (with VA Marchenko and VV Slavin)
12. Planar unimodular Baker-Akhiezer function// IV International Conference “ANALYSIS AND MATHEMATICAL PHYSICS”: Book of abstracts, Kharkiv: B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, 2016 (with D.G.Shepelsky)
13. Modulated elliptic wave and asymptotic solitons in a shock problem to the modified Korteweg-de Vries equation // *J. Phys. A: Math. Theor.* **48** (2015) 305201 (with O.Minakov.)
14. Finite-gap solutions of the Sine-Gordon equation// [arXiv:1401.4410](https://arxiv.org/abs/1401.4410)
15. Periodic problem for the nonlinear Schroedinger equation// [arXiv:1401.4445](https://arxiv.org/abs/1401.4445) (coauthor Its A.R.)
16. Reconstruction of the Hermitian matrix by its spectrum and spectra of some number of its perturbations// II International Conference “ANALYSIS AND MATHEMATICAL PHYSICS”: Book of abstracts, Kharkiv: B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, 2014 (with V.A.Marchenko and V.V.Slavin)
17. A model Riemann–Hilbert problem for unimodular Baker– Akhiezer function// II International Conference “ANALYSIS AND MATHEMATICAL PHYSICS”: Book of abstracts, Kharkiv: B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, 2014
18. Matrix Riemann-Hilbert problems and Maxwell-Bloch equations without spectral broadening// *Journal of Mathematical Physics, Analysis, Geometry* 2014, vol. 10, No. 3, pp. 328-349 (with E.A.Moskovchenko)
19. Matrix Riemann-Hilbert problems in the theory of nonlinear integrable equations// International Conference “ANALYSIS AND MATHEMATICAL PHYSICS”: Book of abstracts, Kharkiv: B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine, 2013

20. Complete linearization of a mixed problem to the Maxwell-Bloch equations by matrix Riemann-Hilbert problem// J. Phys. A: Math. Theor. 46 (2013) 285206 (24pp)
21. Long-Time Asymptotics for the Korteweg-de Vries Equation with Steplike Initial Data//Nonlinearity **26**, (2013), 1839—1864 (coauthors: Iryna Egorova, Zoya Gladka, Gerald Teschl)
22. A mixed problem to the Maxwell-Bloch equations and the matrix Riemann-Hilbert problem// International Conference in honor of Vladimir A. Marchenko's 90th birthday. Book of abstracts, Kharkiv: B.Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine 2012
23. Введение к статье «К 90-летию со дня рождения академика Владимира Александровича Марченко» // Вісник Національного Технічного Університету «ХПІ», 27, 2012, с.3-4.
24. Владимир Александрович Марченко (к 90-летию со дня рождения)// УМН т.67, вып.5, 2012, с.186-191 (соавторы: Ю.М.Березанский, В.Е.Захаров, К.В.Маслов, С.П.Новиков, Л.А.Пастур, Ф.С. Рофе-Бекетов, А.М. Самойленко, Е.Я. Хруслов)
25. Владимир Александрович Марченко / НАН Украины. — К.:М25 Академперіодика, 2012. — 56 с., 7 с. ил. — (Биобиблиограф. ученых Украины) ISBN 978-966-360-199-1 (Отв.редактор В.П.Котляров)
26. Riemann–Hilbert problems and the mKdV equation with step initial data: short-time behavior of solutions and the nonlinear Gibbs-type phenomenon// J. Phys. A: Math. Theor. 45 (2012) 325201 (17pp) (with A. Minakov)
27. Step-Initial Function to the MKdV Equation: Hyper-Elliptic Long-Time Asymptotics of the Solution// Journal of Mathematical Physics, Analysis, Geometry 2012, vol. 8, No. 1, pp. 38–62 (with A. Minakov)
28. Focusing NLS equation: Long-time Dynamics of the Step-like Initial Data// International Mathematics Research Notices, Vol. 2011 (2011), no.7, 1613–1653. (with A. Boutet de Monvel, and D. Shepelsky)
29. Riemann-Hilbert problem to the modified Korteweg –de Vries equation: long-time dynamics of the step-like initial data// Journal of Mathematical. Physics. 51, 093506 (2010) (with A. Minakov)
30. Initial boundary value problems for integrable systems: towards the long time asymptotics, "Nonlinearity", 2010, Том 23, Выпуск 8, Страницы 2483-2499 (with A. Boutet de Monvel, D. Shepelsky and C.Zheng)
31. Periodic Boundary Data for Integrable Model of the Stimulated Raman Scattering: Longtime Asymptotic Behavior// Journal of Physics A: Mathematical and Theoretical **43** (2010) 5, 055205 (with Moskovchenko E.A.)
32. Decaying long-time asymptotics for the focusing NLS equation with periodic boundary condition// International Mathematics Research Notices, Vol. 2009 (2009), no.3 547-- 577 (with A. Boutet de Monvel, and D. Shepelsky,)
33. Long-time Asymptotic Behavior of an Integrable Model of the Stimulated Raman Scattering with Periodic Boundary Data// J. Matematischeskoi Fiziki, Analiza, Geometrii (2009), v.5, no.1 , 82 – 103 (with E.A. Moskovchenko)
34. Long-time asymptotics for the focusing NLS equation with time-periodic boundary condition on the half-line // CMP 290/2 (2009), 479 -522 (with A.Boutet de Monvel and A.R.Its)
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36. Long-time asymptotics for the focusing NLS equation with time-periodic boundary condition, C. R. Math. Acad. Sci. Paris 345 (2007), no.11, 615–620 (with A.Boutet de Monvel and A.R.Its)
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39. Characteristic Properties of the Scattering Data for Modified Korteweg-de Vries Equation on the half-line // Comm.Math.Phys. v.253 (2005) No.1. pp.51-79 (with A.Boutet de Monvel)
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44. Nonlinear Schrodinger Equation on the Semi-Axis. Generation of Asymptotic Solitons by Boundary Data// Preprint BIBOS 01-10-066 Universit"at Bielefeld (with A.Boutet de Monvel)
45. An asymptotic behaviour in neighbourhood of back edge of a solution of KdV equation with "step-like" initial data// Teor. i Matem.Fizika, 2001 v.126, No.2, p.214-227; English transl. \emphTheor. and Math. Phys., 2001, v.126, No.2 (with V.B.Baranetsky)
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