Curriculum vitae

Vladislav G. Dubrovsky

Professor
Physical engineering department
Novosibirsk State Technical University
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Personal information

Born in Dausuz, RSFSR, USSR, July 2, 1948
Married since 1977, two children
Citizen and permanent resident of the Russia
Address: Lesosechnaya Str. 4, Apt. 34,
Novosibirsk, 630060, Russia
Passport data's: № 50 03 018634, 25 March 2002.

Education and degrees

1971 graduated from the Physics Department, Novosibirsk State University, physicist – theoretical nuclear physics. Novosibirsk, USSR.
1985 Candidate of the Physics-Mathematical Sciences (~ Ph. D.)
(Theoretical and Mathematical Physics), Committee of State Standards of the USSR, Moscow, USSR.
Title of dissertation: "Hamiltonian and group-theoretical structure of nonlinear evolution equations integrable by the general N-th order differential spectral problem"

1999 Doctor of the Physics-Mathematical Sciences (Theoretical Physics), Tomsk State University. **Number of doctor diploma:** DK № 000787, 12 November 1999.
Title of dissertation: "The application of inverse problem for the construction of exact solutions of 2+1-dimensional integrable nonlinear evolution equations"

Professional Experience

1971 – 1974 – graduate student at Novosibirsk State University, specialization – theoretical nuclear physics. Novosibirsk, USSR.

1974 – 1984 – Assistant Professor, Engineering physics Department, Novosibirsk Institute of Electrical Engineering, Novosibirsk, USSR.

1984 – 1991 – Associate Professor, Engineering physics Department, Novosibirsk Institute of Electrical Engineering, Novosibirsk, Russia.

1992 – 1999 – Associate Professor, Radio Engineering Electronics and Physics Department, Novosibirsk State Technical University, Novosibirsk, Russia.

1999 – 2004 Professor, Radio Engineering Electronics and Physics Department, Novosibirsk State Technical University, Novosibirsk, Russia.
Number of professor diploma**:** ПР № 004403, 20 June 2001.

1996 – 2000 – Soros associate professor of International Science Soros Education Program (ISSEP).

2004 – Professor of Engineering physics Department, head of the chair of Applied and theoretical physics of Novosibirsk State Technical University, Novosibirsk, Russia.

The work of Dubrovsky V.G. with students from 1984:
Lectures and seminars on General and Theoretical Physics, special topics in theoretical and mathematical physics (theory of solitons).

The list of publications of Dubrovsky V.G.:

1. **V.G. Dubrovsky,** B.G. Konopelchenko, "The general form of nonlinear evolution equations integrable by matrix Gelfand-Dikey spectral problem and their group-theoretical and hamiltonian structures", **Fortschritte der Physik**, Band 32, Heft 2, 25 – 60 (1984).
2. B.G. Konopelchenko, **V.G. Dubrovsky**, "General N-th order differential spectral problem: general structure of the integrable equations, nonuniqueness of recursion operator and gauge invariance", **Annals of Physics**, **156(2)**, 265 – 302 (1984).
3. B.G. Konopelchenko, **V.G. Dubrovsky**, "On the structure of nonlinear equations integrable by the general linear spectral problem", **Phys. Lett.**, **95A**, 457 –462 (1983).
4. B.G. Konopelchenko, **V.G. Dubrovsky**, "Some new integrable nonlinear evolution equations in 2+1 dimensions", **Phys. Lett.**, **102A**, 15 – 17 (1984).
5. **V.G. Dubrovsky,** B.G. Konopelchenko, "General structure of nonlinear equations in 2+1 dimensions integrable by generalized two-dimensional differential spectral problem", Preprint of Institute of Nuclear Physics, Novosibirsk, **№ 84-50** (1984).
6. B.G. Konopelchenko, **V.G. Dubrovsky**, "Hierarchy of Poisson brackets for elements of a scattering matrix", **Lett. in Math. Phys., 8(4)**, 273 – 278 (1984).
7. **V.G. Dubrovsky,** B.G. Konopelchenko, "Backlund-Calogero group for the general differential spectral problem of an arbitrary order", **J. Phys. A: Math. Gen.**, **18A**, 1872 – 1890 (1985).
8. B.G. Konopelchenko, **V.G. Dubrovsky**, "Backlund-Calogero group and general form of integrable equations for the two-dimensional Gelfand-Dickey-Zakharov-Shabat problem. Bilocal approach", **Physica, 16D**, 79 –98 (1985).

9. B.G. Konopelchenko, **V.G. Dubrovsky**, "The hierarchy of the Poisson brackets between the elements of the scattering matrix for the general differential spectral problem", **Inverse Problems**, **2**, 433 – 460 (1986).
10. **V.G. Dubrovsky,** B.G. Konopelchenko, "Coherent structures for the Ishimori equation. I. Localized solitons with stationary boundaries", **Physica, 48D**, 367 – 395 (1991).
11. B.G. Konopelchenko, **V.G. Dubrovsky**, "Localized solitons for the Ishimori equation", **Contemp. Mathematics, 122**, 77 – 89 (1991).
12. **B.G. Konopelchenko**, V.G. Dubrovsky, "Inverse Spectral Transform for the modified Kadomtsev-Petviashvili equation", **Stud. Appl. Math.**, **86**, 216-268(1992).
13. **V.G. Dubrovsky**, B.G. Konopelchenko, "On the interrelation between the solutions of the mKP and KP equation via Miura transformation", **J. Phys. A: Math. Gen., 24A**, 4315-4324(1991).
14. **V.G. Dubrovsky**, B.G. Konopelchenko, "Coherent structures for the Ishimori equation. II. Time-dependent boundaries", **Physica, 55D**, 1-13(1992).
15. **V.G. Dubrovsky**, B.G. Konopelchenko, "Inverse Spectral Transform for the mKP equation and dromion solutions for the Ishimori Equation", Proc. of the eighth Workshop NEEDS-92, World Scientific, Singapore, 457-462(1993).
16. **V.G. Dubrovsky**, B.G. Konopelchenko, "$\bar{\partial}$-dressing and exact solutions for the (2+1)-dimensional Harry Dym equation", **J. Phys. A: Math. Gen., 27A**, 4619-4628(1994).
17. **B.G. Konopelchenko**, V.G. Dubrovsky, "The two-dimesional integrable generalization of the sine-Gordon equation. I. $\bar{\partial}$-∂-dressing and initial value problem", **Stud. in Appl. Mathem., 90**, 189-223(1993).
18. **V.G. Dubrovsky**, B.G. Konopelchenko, "The 2+1-dimensional generalization of the sine-Gordon equation. II. Localized solutions", **Inverse Problems, 9**, 391-416(1993).
19. **V.G. Dubrovsky**, B.G. Konopelchenko, "The 2+1-dimensional integrable sine-Gordon equation, Proc. of the eighth Workshop NEEDS-92, World Scientific, Singapore, 112-123(1993).
20. V.G. Dubrovsky, "The application of the $\bar{\partial}$-dressing method to some integrable (2+1)-dimensional nonlinear equations", in Proc. of the first Workshop on Nonlinear Physics: theory and experiment, Le Sirenuse, Gallipoli(Lecce), Italy, June 29 - July 7, 1995; eds. E. Alfinito, M. Boiti et al; 94 - 103, World Scientific, Singapore, 1996.
21. V.G. Dubrovsky, "The application of the $\bar{\partial}$-dressing method to some integrable (2+1)- dimensional nonlinear equations", **J. Phys. A: Math. Gen, 29A**, 3617-3630(1996).
22. V.G. Dubrovsky, "$\bar{\partial}$-dressing method and the solutions with constant asymptotic values at infinity of DS-II equation", **J. Math. Phys., 38**, 6382-6409(1997).
23. V.G. Dubrovsky, "The construction of exact multiple pole solutions of some 2+1 -dimensional integrable nonlinear evolution equations via $\bar{\partial}$-dressing method", **J. Phys. A: Math. and Gen., 32A**, 369-390(1999).

24. **V.G. Dubrovsky**, I.B. Formusatik, "New solutions of two-dimensional integrable sine-Gordon equation generated by nontrivial singular boundaries", **Phys. Lett., 278A**, 339 – 347 (2001).
25. **V.G. Dubrovsky**, I.B. Formusatik, "The construction of exact rational solutions with constant asymptotic values at infinity of two-dimensional NVN integrable nonlinear evolution equations via $\bar{\partial}$-dressing method", **Phys. A: Math. and Gen., 34A**, 1837-1851 (2001).
26. **V.G. Dubrovsky**, I.B. Formusatik, Ya. V. Lisitsyn, "New exact solutions of some two-dimensional integrable nonlinear equations via $\bar{\partial}$-dressing method". Proc. Of IV-th International conference "Symmetry in Nonlinear Mathematical Physics", Kyiv, Ukraine 9-15 July in Proc. Of Inst. Of Mathematics of NAS of Ukraine - Mathematics and its Applications, Kiev, Part 1, 302-313 (2002).
27. **V.G. Dubrovsky**, Ya. V. Lisitsyn, "The construction of exact solutions of two-dimensional generalizations of Sawada-Kotera and Kaup-Kupershmidt integrable nonlinear equations via $\bar{\partial}$-dressing method", **Phys. Lett., 295A**, 198-207(2002).
28. **V. G Dubrovsky**, I. B. Formusatik, "New rational solutions of Veselov-Novikov equation and new exact rational potentials of two-dimensional stationary Schroedinger equation via $\bar{\partial}$-dressing method", Proc. of the 11-th Intern Conf. General Relativity and gravitation, 1-7 July, Tomsk – in Gravitation and Cosmology, **V. 9, № 1(33)**, 24-26(2003).
29. **V. G Dubrovsky**, I. B. Formusatik, "New lumps of Veselov-Novikov equation and new exact rational potentials of two-dimensional stationary Schroedinger equation via $\bar{\partial}$-dressing method", **Phys. Lett., V. 313A/1-2**, 68-76 (2003).
30. **V.G. Dubrovsky**, I.B. Formusatik, "New lumps of Veselov_Novikov integrable nonlinear equation and new exact rational potentials of two-dimensional stationary Schroedinger equation via $\bar{\partial}$-dressing method". Proc. of V-th International conference "Symmetry in Nonlinear Mathematical Physics", Kyiv, Ukraine 23—29 June, 2003, in Proc. of Inst. Of Mathematics of NAS of Ukraine - Mathematics and its Applications, Kyiv, Vol. 50, Part 1, 382-387 (2004).
31. **V.G. Dubrovsky**, A.V. Gramolin "Gauge-invariant description of some (2+1)-dimensional integrable nonlinear evolution equations" Journal of Physics A: Mathematical and Theoretical, Volume 41, Issue 27, pp. 275208 (2008), (14pp).
32. **В. Г. Дубровский**, А. В. Грамолин. Калибровочно-инвариантное описание некоторых (2+1)-мерных интегрируемых нелинейных эволюционных уравнений. ТМФ, **160**:1 (2009), 35–48.
33. **V. G. Dubrovsky** and A. V. Gramolin. Gauge-invariant description of several (2+1)-dimensional integrable nonlinear evolution equations. Theoretical and Mathematical Physics, 2009, **160**:1, 905–916.
34. **V. G. Dubrovsky** and A. V. Gramolin. Gauge-invariant description of several (2+1)-dimensional integrable nonlinear evolution equations. **ArXiv:0907.3205** [nlin.SI].
35. M.Yu. Basalaev, **V.G. Dubrovsky** and A.V. Topovsky "New exact solutions with constant asymptotic values at infinity of the NVN integrable nonlinear

evolution equation via $\bar{\partial}$-dressing method", **arXiv:0912.2155v1** [nlin.SI] 11 Dec 2009.
36. **Dubrovsky V.G.**, Topovsky A.V., Basalaev M.Yu., New exact solutions functional parameters of the Nizhnik-Veselov-Novikov equation with constant asymptotic values at infinity, Theoret. and Math. Phys., 165(2): 1470 -- 1489 (2010).
with functional parameters of the Nizhnik-Veselov-Novikov equation with constant asymptotic values at infinity, Theoret. and Math. Phys., **165(2)**: 1470 -- 1489 (2010).
37. **Dubrovsky V.G.**, Topovsky A.V., Basalaev M.Yu., 2D Stationary Schrodinger equation via the dibar-dressing method: new exactly solvable potentials, wave functions and their physical interpretation, Journal of mathematical physics. 2010. Vol. 51, no. 9, pp. 092106-092106-22.
38. **Dubrovsky V.G.**, Topovsky A.V., Basalaev M.Yu., New exact solutions of two-dimensional integrable nonlinear equations using the $\bar{\partial}$-dressing method, Theoret. and Math. Phys., **167(3)**:725 – 739 (2011).
39. **V. G. Dubrovsky**, A. V. Topovsky. "About linear superpositions of solutions of Veselov-Novikov equation", http://arxiv.org/abs/1110.1626, 2011 [nlin.SI]..
40. **V.G. Dubrovsky**, A.V Topovsky About linear superpositions of special exact solutions of Veselov-Novikov equation.VI-th International conference "Solitons, Collapses and Turbullence: Achievements, Developments and Perspectives", Russia, Novosibirsk Academgorodok, 4-8 June 2012. The Conference Program & Proceedings, Rassian Academy of Sciences, Novosibirsk State University,P.N. Lebedev Physical Institute RAS, Institute of Computational Technologies SB RAS, S.S. Kutateladze Institute of Thermophysics SB RAS , p.53, 2012.
41. **Dubrovsky V.G.**, Topovsky A.V., About simple nonlinear and linear superpositions of special exact solutions of Veselov-Novikov equation, Journal of mathematical physics. 2013. Vol. 54, pp. 033509-1 -- 033509-13.
2013, American Institute of Physics, [http://dx.doi.org/10.1063/1.4795132].
42. **Dubrovsky V.G.**, Topovsky A.V., About linear superpositions of special exact solutions of Nizhnik-Veselov-Novikov equation, Journal of Physics: Conference Series **482** (2014) 012011 doi:10.1088/1742-6596/482/1/012011.
43.**Дубровский В.Г.**, Топовский А.В., Басалаев М.Ю., Решения с функциональными параметрами 2+1-мерных интегрируемых нелинейных уравнений. Двумерное интегрируемое обобщение уравнения Каупа-Куппершмидта. Известия высших учебных заведений. Физика. 2015. - Т. 58, № 7. - С. 53-61.
44.**Дубровский В.Г.**, Топовский А.В., Басалаев М.Ю., Решения с функциональными параметрами 2+1-мерных интегрируемых нелинейных уравнений. Двумерное интегрируемое обобщение уравнения Савады-Котера. Доклады Академии наук высшей школы Российской Федерации. 2015. - № 2 (27). - С. 7-23.

Foreign visits of Dubrovsky V.G.:

1994 Lecce University, Italy, Physics Department, Visiting Professor, two months.
1995 Lecce University, Italy, Physics Department, Visiting Professor, one month.
1995 Workshop "Nonlinear Physics: Theory and Experiment. I", Gallipoli, Italy.
1998 Lecce University, Italy, Physics Department, Visiting Professor, one month.
2001 Lecce University, Italy, Physics Department, Visiting Professor, one month.
2001 Institute of Mathematics of NAS Ukraine, 5-16 July 2001, IV-th International Conference "Symmetry 2001".
2003 Institute of Mathematics of NAS Ukraine, 23-29 June, V-th International Conference "Symmetry 2003".
2008 Workshop "Nonlinear Physics: Theory and Experiment. V", Gallipoli, Italy.
2010 Workshop "Nonlinear Physics: Theory and Experiment. VI", Gallipoli, Italy.
2011 Workshop "Physical Laboratories equipment in high school engineering education". Gottingen, November, 2011.
2013 Workshop " Physics and Mathematics of Nonlinear Phenomena" , Gallipoli, Italy.

The field of scientific interests and research work of Dubrovsky V.G.

In broad sense: theoretical and mathematical physics.
In narrow sense: The application of Inverse Spectral Transform method for the investigation of multidimensional integrable nonlinear equations, in particular for the construction of broad classes of exact solutions of these equations.