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Education

- PhD in Mathematics, Duke University, 2008
"Second break in the solution of the semiclassical focusing Nonlinear Schrödinger equation"
Advisor: Prof. S. Venakides
- MS in Computational Physics, St.Petersburg State University, Russia, 2004
"Semiclassical approach for calculating Regge-pole trajectories for singular potentials"
Advisor: Prof. S. Naboko
- MS in Mathematics, University of Alaska Fairbanks, 2002
"The trace formulas for a one-dimensional Schrödinger operator with long-range potentials"
Advisor: Prof. A. Rybkin

Research interests

Integrable dynamical systems, nonlinear waves, inverse scattering, Riemann-Hilbert problems, Nonlinear Schrödinger equation, KdV equation; turning points and Stokes lines analysis

Teaching experience

- **Duke University:**

Instructor:

- **Ordinary and Partial Differential Equations** (math 108) summer 2007
- **Laboratory Calculus II** (math 32L) spring 2007
- **Laboratory Calculus I** (math 31L) summer 2006
- **Laboratory Calculus II** (math 32L) spring 2006
- **One Variable Calculus** (math 41) fall 2005

Teaching Assistant: fall 2004 - spring 2005

- **University of Alaska Fairbanks:**

Instructor:

- **Calculus II** (math 201) summer 2004
- **Calculus II** (math 201) summer 2002

Teaching Assistant: summer 2001 - fall 2002

- **St.Petersburg State University, Russia** - Teaching Assistant: fall 2000

Publications

Belov, S., Avdonina, N.B., Felfli, Z., Marletta, M., Msezane, A.Z., Naboko, S., *Semiclassical approach to Regge poles trajectories calculations for nonsingular potentials: Thomas-Fermi type*, J. Phys. A, vol. 37 no. 27 (2004), pp. 6943-6954

Belov, S., Rybkin, A., *On the existence of WKB-type asymptotics for the generalized eigenvectors of discrete string operators*, Bull. London Math. Soc., vol. 36 no. 2 (2004), pp. 241-251

Felfli, Z., Belov, S., Avdonina, N.B., Marletta, M., Msezane, A.Z., Naboko, S., *Regge poles trajectories for nonsingular potentials: the Thomas-Fermi potentials*, Contemporary problems in mathematical physics: proceedings of the third international workshop, Cotonou 2003, pp. 217-232

Belov, S.M., Rybkin, A.V., *Higher order trace formulas of the Buslaev-Faddeev type for the half-line Schrodinger operator with long-range potentials*, J. Math. Phys., vol. 44 no. 7 (2003), pp. 2748-2761

Avdonina, N.B., Belov, S., Felfli, Z., Msezane, A.Z., Naboko, S., *Semiclassical approach for calculating Regge-pole trajectories for singular potentials*, Phys. Rev. A (3), vol. 66 no. 2 (2002), pp. 022713

Abstracts/Posters/Reports

Venakides, S., Tovbis, A., Zhou, X., Belov, S., *Persistence of Modulated Post-Break NLS Waveforms in the Presence of Solitons*, SIAM Conference on Analysis of Partial Differential Equations (PD07), December 10-12, 2007, Mesa, Arizona, (speaker: S.Venakides)

Belov, S., Chen, Y., Hariharan, A., King, D., Law, J., Wang, T., *Planning problem involving resource constraints*, Twelfth Industrial Mathematical and Statistical Modeling Workshop For Graduate Students (IMSM 2006), July 24-August 1, 2006, Raleigh, NC, CRSC Technical Report, CRSC-TR06-23 (2006), pp.69-85

Belov, S., Felfli, Z., Marletta, M., Avdonina, N.B., Msezane, A.Z., Naboko, S., *Regge Poles Trajectories for Nonsingular Potentials: the Thomas-Fermi Potentials*, Division of Atomic, Molecular and Optical Physics Annual Meeting (DAMOP04), May 25-29, 2004, Tuscon, Arizona, (poster)

Belov, S., Avdonina, N.B., Felfli, Z., Msezane, A.Z., Naboko, S., *New method for asymptotic analysis of Regge poles positions for singular potentials*, XXII International Conference on Photonic, Electronic and Atomic Collisions (ICPEAC 2001), July 18-24, 2001, Santa Fe, New Mexico, (poster)

Belov, S., Avdonina, N.B., Felfli, Z., Msezane, A.Z., Naboko, S., *WKB analysis of the asymptotics of Regge poles positions for singular potentials*, Division of Atomic, Molecular and Optical Physics Annual Meeting (DAMOP01), May 16 - 19, 2001, London, Ontario, Canada, (poster)

Fellowships

SAMSI, Statistical and Applied Mathematical Sciences Institute, Graduate fellowship, Fall 2006

VIGRE Fellowship, Duke University, 2003/2004

Graduate Fellowship, Mathematics Department, University of Alaska Fairbanks, Spring 2001

Programming skills

Matlab, Maple, C, Fortran, Pascal

References

1. Stephanos Venakides

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2. Lewis Blake (teaching)

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3. Alexander Tovbis

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4. Peter Miller

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Additional references

1. Xin Zhou, Duke University, zhou@math.duke.edu
2. Sergey Naboko, University of Alabama, Birmingham, naboko@math.uab.edu
3. Alexei Rybkin, University of Alaska, Fairbanks, ffavr@uaf.edu
4. Marco Marletta, Cardiff University, UK, marlettam@cardiff.ac.uk