

Nikita Belousov
Curriculum Vitae

General

<i>Place of birth</i>	Saint Petersburg, Russia
<i>Date of birth</i>	06.09.1996
<i>E-mail</i>	belousovnikita.m@gmail.com

Employment

<i>since 2024</i>	Postdoc Beijing Institute of Mathematical Sciences and Applications
<i>2024</i>	Research assistant Laboratory for mirror symmetry and automorphic forms , Higher School of Economics in Moscow
<i>2022–2024</i>	Lecturer Physics department, Higher School of Economics in St Petersburg
<i>2020–2023</i>	Research assistant Euler International Mathematical Institute

Education

<i>2024</i>	PhD in Mathematical physics St Petersburg Department of Steklov Mathematical Institute Thesis: <i>Baxter's Q-operators for Ruijsenaars, Sutherland and Lieb–Liniger systems</i> Advisor: Sergey Derkachov
<i>2020</i>	MSc in Physics St Petersburg State University

2018

BSc in Applied mathematics and physics
St Petersburg Academic University

Research interests Integrable systems, special functions

Publications

16. *Calogero–Sutherland hyperbolic system and Heckman–Opdam $\mathfrak{gl}_n$ hypergeometric function*
w/ L. Cherepanov, S. Derkachov and S. Khoroshkin
[Selecta Mathematica](#) (2026), [[2508.18864](#)]
15. *Complex binomial theorem and pentagon identities*
w/ G. Sarkissian and V. Spiridonov
[Theoretical and Mathematical Physics](#) (2026), [[2412.07562](#)]
14. *Complex rational Ruijsenaars model. The two-particle case*
w/ G. Sarkissian and V. Spiridonov
[Natural Science Review](#) (2025), [[2508.12449](#)]
13. *Ruijsenaars spectral transform*
w/ S. Khoroshkin
[Letters in Mathematical Physics](#) (2025), [[2411.19659](#)]
12. *Reflection operator and hypergeometry II: $SL(2, \mathbb{C})$ spin chain*
w/ P. Antonenko, S. Derkachov and P. Valinevich
[Zapiski Nauchnykh Seminarov POMI](#) (2024), [[2406.19864](#)]
11. *Reflection operator and hypergeometry I: $SL(2, \mathbb{R})$ spin chain*
w/ P. Antonenko, S. Derkachov and S. Khoroshkin
[Zapiski Nauchnykh Seminarov POMI](#) (2024), [[2406.19862](#)]
10. *Baxter operators in Ruijsenaars hyperbolic system IV: coupling constant reflection symmetry*
w/ S. Derkachov, S. Kharchev and S. Khoroshkin
[Communications in Mathematical Physics](#) (2024), [[2308.07619](#)]
9. *Baxter operators in Ruijsenaars hyperbolic System III: orthogonality and completeness of wave functions*
w/ S. Derkachov, S. Kharchev and S. Khoroshkin
[Annales Henri Poincaré](#) (2024), [[2307.16817](#)]

8. *Baxter operators in Ruijsenaars hyperbolic system II: bispectral wave functions*
w/ S. Derkachov, S. Kharchev and S. Khoroshkin
[Annales Henri Poincaré](#) (2024), [[2303.06382](#)]
7. *Baxter operators in Ruijsenaars hyperbolic system I: commutativity of Q -operators*
w/ S. Derkachov, S. Kharchev and S. Khoroshkin
[Annales Henri Poincaré](#) (2024), [[2303.06383](#)]
6. *Hypergeometric identities related to Ruijsenaars systems*
w/ S. Derkachov, S. Kharchev and S. Khoroshkin
[Journal of Algebra](#) (2024), [[2303.07350](#)]
5. *Baxter Q -operators in Ruijsenaars–Sutherland hyperbolic systems: one- and two-particle cases*
w/ S. Derkachov, S. Kharchev and S. Khoroshkin
[Journal of Mathematical Sciences](#) (2024), [[2309.06108](#)]
4. *Regular representation of the group $GL(N, \mathbb{R})$: factorization, Casimir operators and Toda chain*
w/ S. Derkachov
[Journal of Mathematical Sciences](#) (2022)
3. *Bäcklund transformation for the nonlinear Schrodinger equation*
[Journal of Mathematical Sciences](#) (2022)
2. *Completeness of the $3j$ -symbols for the group $SL(2, \mathbb{C})$*
w/ S. Derkachov
[Journal of Mathematical Sciences](#) (2021)
1. *The Q -operator for the quantum NLS model*
w/ S. Derkachov
[Journal of Mathematical Sciences](#) (2019), [[1812.10043](#)]

Preprints

3. *From hyperbolic to complex Euler integrals*
w/ G. Sarkissian and V. Spiridonov [[2604.04471](#)]
2. *BC Toda chain II: symmetries. Dual picture*
w/ S. Derkachov and S. Khoroshkin [[2603.16387](#)]

1. *BC Toda chain I: reflection operator and eigenfunctions*
w/ S. Derkachov and S. Khoroshkin [\[2603.16380\]](#)

Talks

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|------------------------|--|
| 20 Oct
2025 | <i>Eigenfunctions of A and BC Toda chains</i>
Integrable systems blackboard seminar , BIMSA |
| 28 May
2024 | <i>Zamolodchikov–Faddeev algebra in Ruijsenaars hyperbolic model</i>
Mathematical and Theoretical Physics, dedicated to Ludwig Faddeev , PDMI |
| 13 Oct,
14 Nov 2023 | <i>Baxter Q-operators in Ruijsenaars hyperbolic system</i>
at Leeds and BIMSA Integrable Systems seminars |
| 22 Sep
2023 | <i>Bispectrality in Ruijsenaars hyperbolic model</i>
Geometry and Integrability , Skoltech |

Posters

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| 12–16 Jan
2026 | <i>Hallnäs–Ruijsenaars functions</i>
Quantum Algebras Meet Gauge and String Theory ,
SIMIS, Shanghai |
| 21–22 Dec
2022 | <i>Backlund transformation for the nonlinear Schrodinger equation</i>
Academician Andrei A. Slavnov memorial conference ,
Steklov Mathematical Institute, Moscow |

Teaching

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| Sep 2021 —
May 2024 | Integrable systems
Lectures for master’s students at HSE, St Petersburg |
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Co-organized activities

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| Jun 2023 | PDMI and HSE joint workshop on quantum integrability , St Petersburg |
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<i>Sep 2020 — Feb 2021</i>	Quantum separation of variables method Seminars at PDMI, St Petersburg
<i>Aug — Dec 2019</i>	Integrable systems Seminars at PDMI, St Petersburg
<i>Sep 2020 — May 2023</i>	Advanced physics problems for schoolchildren Physical-Technical High School, St Petersburg
<i>Jul 2018, 2019, 2021, 2022</i>	Physics lectures, advanced problems and experiments for schoolchildren Physics summer school , St Petersburg

Last updated: May 15, 2026