Mykhailo (Michael, Misha) Rashkovetskyi

PhD student in astrophysics
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`https://misharash.github.io`

Fields of interest

Theoretical astrophysics: plasma and high energy, cosmology; quantum field theory.

Education

- **Harvard University** — Cambridge, Massachusetts, US
  Ph.D. in Astronomy — *2020 – 2026*
  - Harvard-Smithsonian Center for Astrophysics
- **Tel Aviv University** — Tel Aviv-Yafo, Israel
  B.Sc. in Physics, Summa Cum Laude (GPA: 98/100) — *2019 – 2020*
  - Raymond & Beverly Sackler School of Physics & Astronomy
  - Advisor: Dr. Omer Bromberg
- **Moscow Institute of Physics and Technology** — Dolgoprudny, Russia
  B.Sc. in Physics, unfinished — *2015 – 2018*
  - Department of General and Applied Physics
  - Advisor: Prof. Vasily Beskin
- **Richelieu Lyceum** — Odesa, Ukraine
  High school, specialization in physics — *2010 – 2015*

Research topics and publications

- The dynamics of highly magnetized jets propagating in the medium
- Orthogonal radiopulsars and their statistics
  - E. M. Novoselov, V. S. Beskin, A. K. Galishnikova, M. M. Rashkovetskyi, and A. V. Biryukov. Orthogonal pulsars as a key test for pulsar evolution. MNRAS, 494(3):3899–3911, April 2020
- Pulsar losses mechanisms
  - M. M. Rashkovetskyi, V. S. Beskin, A. K. Galishnikova, E. M. Novoselov, and A. A. Philippov. Separatrix current as a key subject of pulsar slowing-down – is being prepared for publication
  - V. S. Beskin, A. K. Galishnikova, E. M. Novoselov, A. A. Philippov, and M. M. Rashkovetskyi. So how do radio pulsars slow-down? In *Journal of Physics Conference Series*, volume 932, page 012012, December 2017
- Pulsar radiation propagation
  - H. L. Hakobyan, A. A. Philippov, V. S. Beskin, A. K. Galishnikova, E. M. Novoselov, and M. M. Rashkovetskyi. On the Light-Curve Anomalies of Radio Pulsars. In *Astronomical Society of the Pacific Conference Series*, volume 515, page 295, August 2018

– H. L. Hakobyan, A. A. Philippov, V. S. Beskin, A. K. Galishnikova, E. M. Novoselov, and M. M. Rashkovetskyi. On the light-curve anomalies of radio pulsars. In *Journal of Physics Conference Series*, volume 932, page 012018, December 2017

Schools, conferences and practices

- **15th School of Modern Astrophysics** — Dolgoprudny, Russia
  Moscow Insitute of Physics and Technology — *July 1-12, 2019*
- **Physics of Neutron Stars - 2017** — Saint-Petersburg, Russia
  Ioffe Institute, Sternberg Astronomical Institute — *July 10-14, 2017*
- **13th School of Modern Astrophysics** — Dolgoprudny, Russia
  Moscow Insitute of Physics and Technology — *July 3-21, 2017*
- **International School of Subnuclear Physics - 2017** — Erice, Italy
  "Ettore Majorana" Foundation and Centre for Scientific Culture — *June 14-23, 2017*
- **International school on particles, fields and strings** — Moscow, Russia
  National Research University "High School of Economics" — *April 17-24, 2017*
- **Astronomical practice** — Nizhniy Arkhyz, Russia
  Special Astrophysical Observatory — *June 25 – July 2, 2016*

Awards, grants and honors

Stipend for excellent students of MIPT in the name of A.Abramov 2016–2017
International Physics Olympiad, bronze medal . . . . . Mumbai, 2015
International Physics Olympiad, silver medal . . . . . Astana, 2014

Knowledge and skills

- **Physics:** classical and quantum mechanics, thermodynamics, classical field theory, general relativity, main cosmology models, basics of statistical physics, hydrodynamics, plasma physics, quantum theory principles and paradoxes
- **Mathematics:** calculus, complex analysis, probability and statistics, PDEs and Green functions, special functions, asymptotic analysis
- **Numerical methods:** Monte-Carlo, Particle in cell, Godunov schemes
- **Programming:** Python, C/C++, Fortran
- **Technology:** LaTeX, Jupyter notebook, GNU/Linux, git

Languages

- **Russian:** mother tongue

- **Ukrainian:** fluent
- **English:** advanced
- **Hebrew:** advanced
- **German:** intermediate