

Mykhailo (Michael, Misha) Rashkovetskyi

Research student in astrophysics
Israel, Rishon leZion, Herzl 47

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Fields of interest

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

Education

- **Harvard University** Cambridge, Massachusetts, US
Ph.D. in Astronomy, future 2020 – 2026
– Harvard-Smithsonian Center for Astrophysics
- **Tel Aviv University** Tel Aviv-Yafo, Israel
B.Sc. in Physics 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 Institute 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 Institute 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