

Alexander Salganik

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<https://www.researchgate.net/profile/Alexander-Salganik>

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| Research Interests | I am interested in using data from X-ray telescopes to study X-ray pulsars. Most of my work is devoted to the study of observational effects of accretion and radiation transfer. | | |
| Education | <i>Bachelor + Master of Science in Astrophysics (6-year program)</i> Sep 2018 - June 2024 St. Petersburg State University, St. Petersburg, Russia Average unweighted GPA: 4.0/4.0 | | |
| Research Experiences | <i>Senior Laboratory Assistant at Space Research Institute of the Russian Academy of Sciences (IKI RAS)</i> Aug. 2021 - present <ul style="list-style-type: none">• Spectral and temporal analysis of data from <i>NuSTAR</i>, <i>Swift</i> and SRG observatories.• Interpretation of optical and infrared data to study the nature of Be/X-ray binaries.• Study of observational manifestations of the effects of radiation transfer and accretion in X-ray pulsars. | | |
| Awards and Honors | St. Petersburg Government Physics Scholarship for Gifted Students | 2018 | |
| | Enhanced State Academic Scholarship | 2018 | |
| Publications | <ul style="list-style-type: none">• “On the nature of the X-ray pulsar XTE J1859+083 and its broadband properties” Salganik A., Tsygankov S. S., Djupvik A. A., Karasev D. I., Lutovinov A. A., Buckley D. A. H., Gromadzki M., Poutanen J., 2022, <i>MNRAS</i>, 509, 5955• Two more publications with me as the first author are being prepared. | | |
| Atels | <ul style="list-style-type: none">• “eRASSU J050810.4-660653 in the LMC: Discovery of X-ray pulsations with XMM-Newton and NuSTAR” Haberl, F.; Salganik, A.; Maitra, C.; Doroshenko, V.; Ducci, L.; Kaltenbrunner, D.; Kreykenbohm, I.; Lutovinov, A.; Maggi, P.; Mereminskiy, I.; Molkov, S.; Rau, A.; Semena, A.; Tsygankov, S.; Vasilopoulos, G.; Weber, P.; Wilms, J., The Astronomer’s Telegram, 15133, 1 | | |
| Accepted observational proposals | PI of <i>Swift</i> (6 ks) TOO observations of Swift J1808.4–1754 | Aug 2021 | |
| | PI of <i>NuSTAR</i> (56 ks) TOO observations of eRASSU J050810.4–660653 | Dec 2021 | |
| | PI of <i>Swift</i> (16.5 ks) TOO observations of eRASSU J050810.4–660653 | 2021-2022 | |
| Talks | “On the nature of the X-ray pulsar XTE J1859+083 and its broadband properties” <ul style="list-style-type: none">• Conference “Fundamental and Applied Space Research 2021”, IKI RAS, Moscow• Saint Petersburg State University, Saint Petersburg, Russia• University of Turku, Turku, Finland | | |
| | | Apr 2021 | |
| | | Dec 2021 | |
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| | <ul style="list-style-type: none"> • Conference "Astronomy and space exploration", online | Jan 2022 |
| Posters | <p>Conference "High-Energy Astrophysics Today and Tomorrow HEA-2019" "X-ray pulsars in Small Magellanic Cloud"</p> <p>Conference "High-Energy Astrophysics Today and Tomorrow HEA-2021" "On the nature of the X-ray pulsar XTE J1859+083 and its broadband properties"</p> | <p>Dec 2019</p> <p>Dec 2021</p> |
| Hackathons | <p><i>2021 Google Summer of Code:</i> Machine Learning for Science (ML4SCI) 2021 Hackathon (CGM challenge) Member of the Winning Team</p> | Nov 2021 |
| Relevant Coursework | <p>Physics: Classical Mechanics, Electromagnetism, Quantum Mechanics, Statistical Physics, Thermal Physics, Radiation transfer theory, Optics, General Relativity.</p> <p>Mathematics: Calculus, Differential Equations, Linear & Higher Algebra, Statistics, Equations of mathematical physics, Numerical Methods, Time Series Analysis, Differential geometry.</p> <p>Astrophysics: General Astrophysics, Celestial Mechanics, General Astronomy</p> | |
| Skills | <ul style="list-style-type: none"> • Programming languages: Python, Fortran, C language • Operating systems: Mac OS, Linux • Software: L^AT_EX, HEASoft, CIAO, XMM-SAS, IRAF/ds9, Git, Midas • General techniques: Machine Learning, Advanced Statistics, Monte-Carlo simulations, physical simulations | |
| Extracurricular Activities | <p><i>Popularization of science</i></p> <ul style="list-style-type: none"> • I help in popularizing science and holding competitions to solve astrophysical problems. • Jury member of the St. Petersburg Astronomical Olympiad for schoolchildren. | |