Vladimir Strokov

vnstrokov at gmail.com GitHub LinkedIn

EDUCATION

Johns Hopkins University Baltimore, USA
Department of Physics and Astronomy
Ph.D.
Advisor: Emanuele Berti / Co-advisor: Giacomo Fragione (Northwestern) 2020–2024
- Research: Gravitational Waves, Intermediate-Mass Black Holes, Populations of GW Sources

Lebedev Physical Institute Moscow, Russia
Astro Space Centre, Theoretical Astrophysics Department
Candidate of Sciences, Advisor: V.N. Lukash 2011
- Research: Gravity Theory

Moscow Institute of Physics and Technology Moscow, Russia
Ginzburg's Chair for Problems of Physics and Astrophysics
M.Sc., *with excellence* / **B.Sc.**, *with excellence* 2007 / 2005

RESEARCH EXPERIENCE

West Virginia University Morgantown, USA
Center for Gravitational Waves and Cosmology
GWAC Postdoctoral Fellow, LISA GW science 2024–present

Lebedev Physical Institute Moscow, Russia
Astro Space Centre, Theoretical Astrophysics Department
Lab Assistant / **Research Fellow** (on medical leave: 2014–2017) 2005–2020
Activities:
- GPU algorithms for simulations of black hole shadows
- Extraction of black hole silhouettes from future interferometric data
- Selecting exoplanetary candidates for the Millimetron project

Federal Univeristy of Espírito Santo Vitória, ES, Brazil
J.C. Fabris' Gravitation and Cosmology Group
Postdoctorate, theories of modified gravity 2013–2014

Federal Univeristy of Juiz de Fora Juiz de Fora, MG, Brazil
I.L. Shapiro's Field Theory Group
Postdoctorate, field theory in curved space–time 2012–2013

PROGRAMMING PROFICIENCY

The scientific research toolkit:
- Python: `numpy`, `matplotlib`, `astropy`, etc.
- Machine learning: `tensorflow` (`keras`), `scikit-learn`, `jax`
- Parallelization: GPU (CUDA C/C++, `pycuda`), cluster computing (`slurm`/`launcher`)
- General: `git`, LaTeX

AWARDS AND GRANTS

- Space@Hopkins Seed Grant "Preparing to Untangle the Gravitational Wave Cacophony from Multivariate Data for the LISA Space Mission" (PI: E. Berti, Co-I: S. Kushnarev, Collaborators: **V. Strokov**, C. Kümmerle, N. Geissler)
- 2023 Teaching Award (Department of Physics and Astronomy, JHU)
- Nomination for the University Experiental Learning Outstanding Achiever Award 2023 (JHU)

TEACHING

- Teaching assistant at *Johns Hopkins University*: graduate-level Electrodynamics (Spring 2022–2024), graduate-level Quantum Mechanics I (Fall 2022), General Physics Lab II (Spring 2021), General Physics for Physics Science Majors (Spring 2021)
- Developing and teaching an intersession course at *Johns Hopkins University*: "MCMC: a lever to move the world of data" (Intersession 2023)
- Developing and teaching physics "bootcamps" for the Post-Baccalaureate Premedical Program at *Johns Hopkins University*
- Physics tutor for the Post-Baccalaureate Premedical Program at *Johns Hopkins University* (2022–2023 academic year)
- Mentoring a high school student (Jacob Winick, Millburn High School, NJ) on a research project *Visualizing Gravity in GR* (2022)

SELECTED PRESENTATIONS

"Quasimonochromatic LISA sources in the Frequency Domain" (talk), *APS April Meeting 2024*, Sacramento, CA — 2024

"LISA Constraints on an Intermediate-Mass Black Hole in the Galactic Center" (talk), *MODEST-23: Star Clusters in the Post-Pandemic Era*, Evanston, IL — 2023

"LISA Constraints on an Intermediate-Mass Black Hole in the Galactic Center" (talk), *APS April Meeting 2023*, Minneapolis, MN — 2023

"Hunting for intermediate-mass black holes with LISA binary radial velocity measurements" (talk), *Intermediate-Mass Black Holes: New Science from Stellar Evolution to Cosmology*, San Juan, Puerto Rico — 2022

"Hunting for intermediate-mass black holes with LISA binary radial velocity measurements" (talk), *APS April Meeting 2022*, New York, NY — 2022

"Exoplanetary candidates to observations with Millimetron" (talk), *42nd COSPAR Scientific Assembly*, Pasadena, CA — 2018

"The full cycle of simulating black hole shadows" (poster), *42nd COSPAR Scientific Assembly*, Pasadena, CA — 2018

LANGUAGES

Russian: Native.
English/Portuguese: Proficient.
French: Advanced.
German: Reading Knowledge.