

# ANASTASIYA YILMAZ

## PERSONAL INFORMATION

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## EDUCATION

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**Charles University, Prague– Czech Republic**

*01 October 2020 - Current*

Ph.D. Student, *Evolution of Accretion States in Black Hole X-ray Binaries*

Faculty of Mathematics and Physics– Astronomical Institute of Charles University

Astronomical Institute of the Czech Academy of Sciences

**Bogazici University, Istanbul– Turkey**

*07 September 2012 - 17 August 2018*

Master of Science + Bachelor's of Science

Faculty of Education– Department of Mathematics and Science Education, Teaching Physics Program

## RESEARCH INTERESTS

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Evolution of Accreting Black Holes in X-ray Binaries,

Physics of Accretion Phenomena in X-ray Binaries,

Spectral and Timing Studies of Ultraluminous X-ray Sources

## GRANTS, PROJECTS AND FELLOWSHIPS

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Evolution of Accreting Black Holes in X-ray Binaries, PI. (Grant Agency of Charles University, March 2023-Current)

ESA Archival Research Visitor Program (ESAC Madrid, Spain: March 2023, Dr. Felix Furst; ESTEC: expected Fall 2023, Dr. Victoria Grinberg)

AHEAD2020 Trans-National Access Support for Data Analysis, European Union, Horizon 2020. (Host Institute: University of Geneva, Dr. Enrico Bozzo and Dr. Carlo Ferrigno, February 2022)

Spin, Thermal and Magnetic Field Evolution of Young Neutron Stars (The Scientific and Technological Research Council of Turkey (TUBITAK), 26 November 2018 - 28 July 2019)

AHEAD2020 Trans-National Access Support for Data Analysis, European Union, Horizon 2020. (Host Institute: University of Geneva, Dr. Enrico Bozzo, February 2018)

## **CONTRIBUTED TALKS, SEMINARS, POSTER PRESENTATIONS AND ORGANIZED CONFERENCES/WORKSHOPS**

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Invited Seminar at the Astronomical Institute of Charles University, "Theory Meets Reality: Testing Accretion Disk Models with GRO J1655-40 and LMC X-3" (30 November 2022 Prague, Czech Republic).

Invited Seminar at the Institute of Physics of Silesian University, "Theory Meets Reality: Testing Accretion Disk Models with GRO J1655-40 and LMC X-3" (15 November 2022 Opava, Czech Republic).

Poster presentation at Exploring the Hot and Energetic Universe: the third scientific conference dedicated to the Athena X-ray Observatory, "Theory Meets Reality: Testing Accretion Disk Models with GRO J1655-40 and LMC X-3" (7-12 November 2022 Barcelona, Spain).

Contributed talk at the 24<sup>th</sup> Relativistic Astrophysics Group Meeting (RAGTIME), "Theory Meets Reality: Testing Accretion Disk Models with GRO J1655-40 and LMC X-3" (10-14 October 2022 Opava, Czech Republic).

Contributed talk at the 31<sup>st</sup> Texas Symposium on Relativistic Astrophysics, "Theory Meets Reality: Testing Accretion Disk Models with GRO J1655-40 and LMC X-3" (12-16 September 2022 Prague, Czech Republic).

Contributed talk at the Black Hole Accretion Under the X-ray Microscope, XMM-Newton Science Workshop: "Theory Meets Reality: Testing Accretion Disk Models with GRO J1655-40 and LMC X-3" (13-17 June 2022 Madrid, Spain).

Contributed talk at the Week of Doctoral Students, Faculty of Mathematics and Physics of Charles University: "Evolution of Accretion States in Black Hole X-Ray Binaries" (17 June 2021 Prague, Czech Republic).

Seminar at the Astronomical Institute of the Czech Academy of Sciences, "Timing and Spectral Properties of Ultraluminous X-ray Sources: Black Holes vs. Neutron Stars" (15 January 2021 Prague, Czech Republic).

31<sup>st</sup> Texas Symposium on Relativistic Astrophysics (LOC, 12-16 September 2022 Prague, Czech Republic).

X-ray Spectral Fitting Winter School (SOC/LOC, 7-11 February 2022, Hybrid/Prague, Czech Republic)

## COLLABORATION MEMBERSHIPS

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ATHENA(Advanced Telescope for High ENergy Astrophysics) X-Ray Observatory team member,  
Science Working Group 3.3 ( SWG 3.3 : End Points of Stellar Evolution)

## PUBLICATIONS

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**Yilmaz, A.**, Svoboda, J., Grinberg, V., Boorman, P. G., Bursa, M., Dovčiak, M. *Testing Relativistic Accretion Disk Models with GRO J1655-40.* 2023, Astron. Nachr., e20230019. DOI: 10.1002/asna.20230019

Lančová, D., **Yilmaz, A.**, Wielgus, M., Dovčiak, M., Straub, O., Török, G. *Spectra of Puffy Accretion Discs: the kynbb fit.* 2023, Astron. Nachr., e20230023. DOI: 10. 1002/asna.20230023

Gurbuz, S.; Adiguzel, A.; Ozcan, V.; Kirpici, S.; **Yilmaz, A.** *Experimental High Energy Physics Summer School For High Schools.* Canadian Journal of Physics, 2019, 97(11): 1229-1234.  
DOI: 10.1139/cjp-2018-0823

## TECHNICAL SKILLS

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### Data Analysis

XMM-Newton (X-ray Multi-Mirror Mission, The European Space Agency-ESA) - SAS (Science Analysis Software) + ESAS (Extended Source Analysis Software)

Chandra X-ray Telescope (NASA) – CIAO (Chandra Interactive Analysis of Observations)

NuSTAR (Nuclear Spectroscopic Telescope Array, NASA)

The Neil Gehrels Swift Observatory (NASA)

RXTE (The Rossi X-ray Timing Explorer)

SUZAKU (NASA)

### Software

Experienced user of Python, Xspec/PyXspec, working knowledge of Sherpa and Spex.

Working knowledge of Bayesian X-ray Analysis Software (BXA), C++, Machine Learning.

## LANGUAGE SKILLS

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English: Proficient.

Turkish: Proficient.

German: Intermediate.

French: Beginner.