

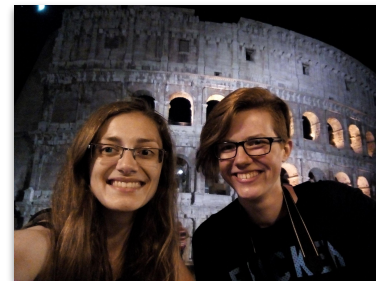
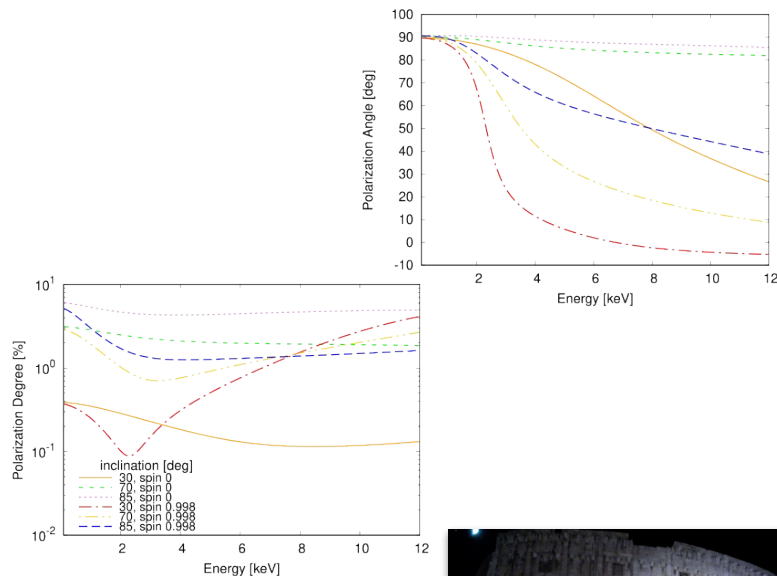
Benefits of international collaboration in space projects for students

**Romana Mikušincová
(INAF - IAPS)**

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X-ray astronomy is an exciting field allowing us to study the most enigmatic sources in the Universe

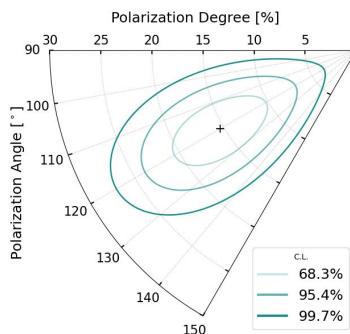
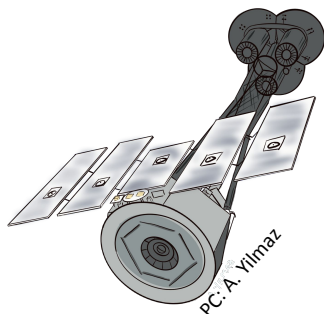
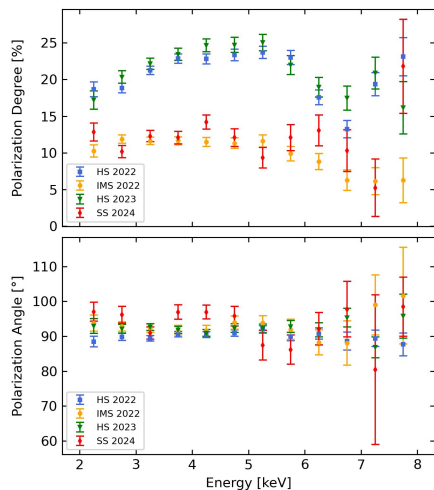
- **Bachelor's program** at CUNI & ASU Prague: I studied Supermassive Black Holes in Active Galactic Nuclei, working on archival observations from *XMM-Newton* (ESA) and *Suzaku* (JAXA) satellites
 - Helped me learn the essentials of data analysis, spectroscopic studies, X-ray sources and accretion processes
- In the **Master's program** I shifted towards X-ray polarimetry
 - Simulations of observations with IXPE (pre-launch) and study of Stellar-mass Black Holes in X-ray Binary Systems
 - Preparatory work, later used for devising the mission's observing plan
 - Involvement in this work allowed me to join collaborations with Italian institutions (Universita Roma Tre, INAF-IAPS Rome, INFN Pisa)



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Cygnus X-3 (Black Hole):

- Extremely high PD across different spectral states
- Explained by new model of accretion configuration



AX J1745.6-2901 (Neutron Star):

- Highest PD for this type of sources

- Thanks to the existing collaborations I had the opportunity to carry out my **PhD research** in Rome at the Roma Tre University
 - Extension of research from the Master's program by including new physical processes to simulations
 - Working on real IXPE data (post-launch)
- **Postdoctoral research fellowship** at INAF-IAPS Rome in the *IXPE* Team
 - I have led research teams studying binary systems observed with *IXPE*
 - Observations with unexpected results - highly polarized sources



.thank you

