Temporal and dynamical behavior of multi-phase accretion flow

Marios Kouzis, CAMK PAN, Warsaw

4 February 2026 - Annual Meeting, CAMK PAN, Warsaw

Supervisor: prof. dr. hab. Agata Różańska

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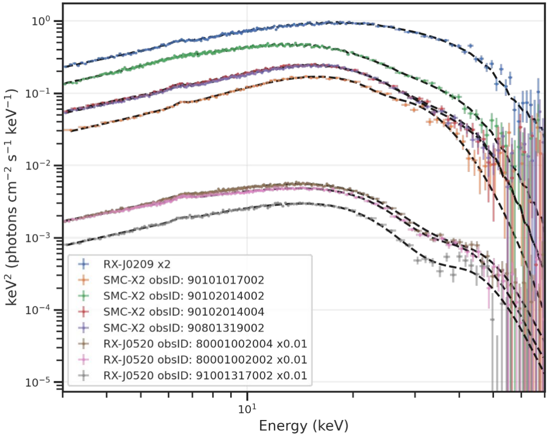
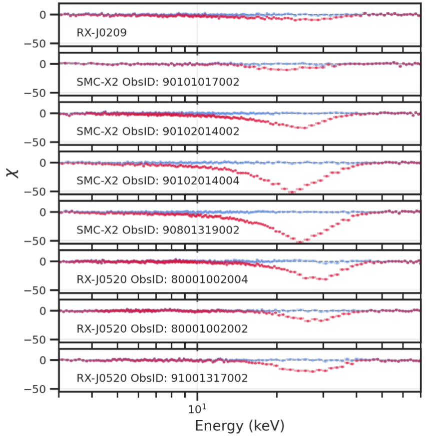
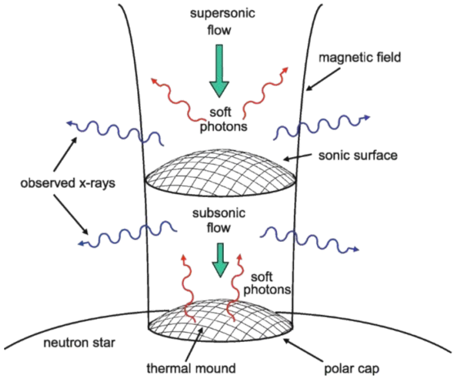
TALES
Time-domain Analysis to study the Life-cycle & Evolution of Supermassive black holes

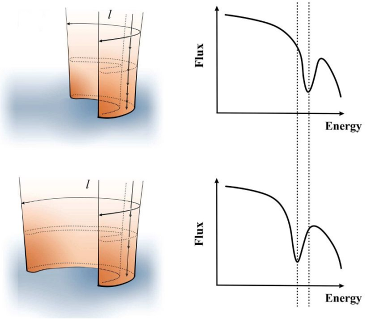
ASTRAPE: A study of super-Eddington accretion in compact objects



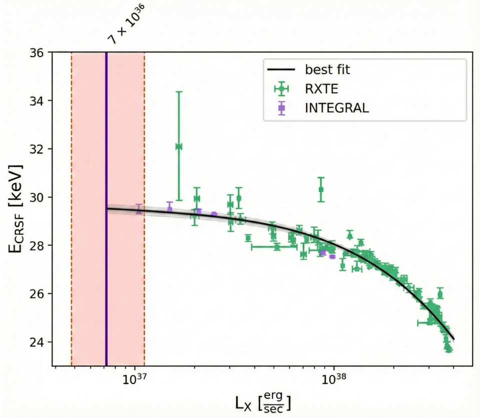




Becker & Wolff 07



Credit: A. Mushtukov



and...

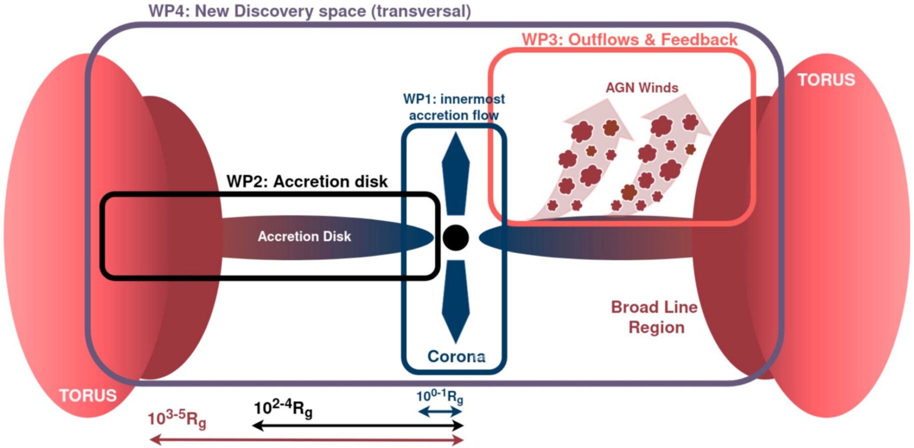
> proceeding in Astronomical Notes (doi/10.1002/asna.20240114)

> poster in “Celebrating 20 years of Swift discoveries”, Florence, Italy

> talk in 17th Hellenic Astronomical Conference, Patras, Greece

> poster in 27th RAGTIME, Opava, Czech Republic

TALES: **T**ime-domain **A**nalysis to study the **L**ife-cycle and **E**volution of **S**upermassive black holes



WP2: Accretion disk

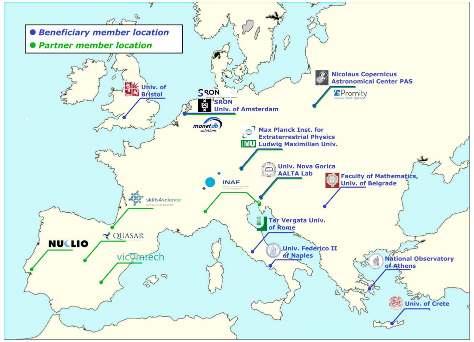
Lead: prof. Dragana Ilic, Faculty of Mathematics, University of Belgrade

Key Questions

- ❑ Accretion disk structure
- ❑ Black hole properties
- ❑ Testing unified models

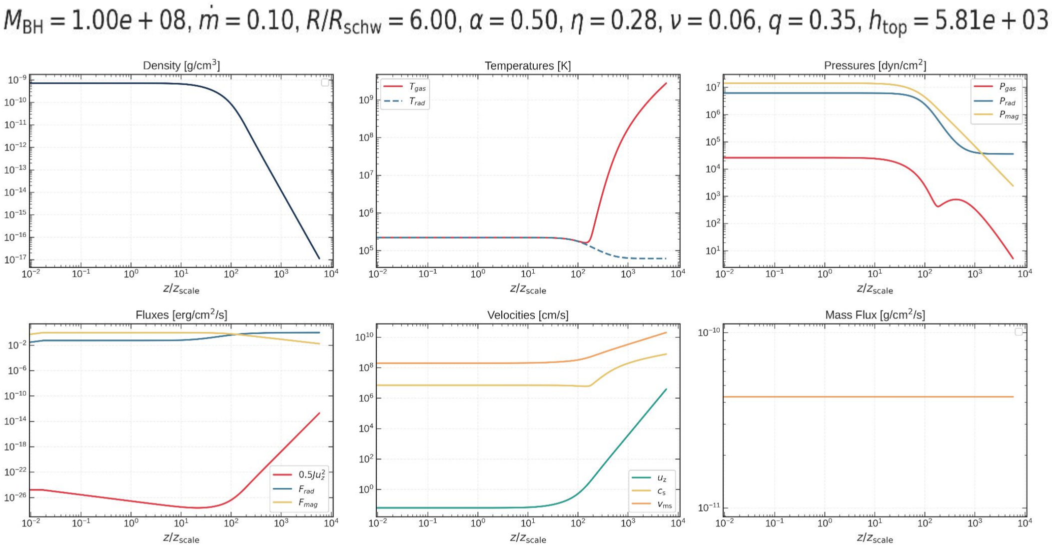
Team:

10 astrophysics research groups
11 partners (industrial and academic)

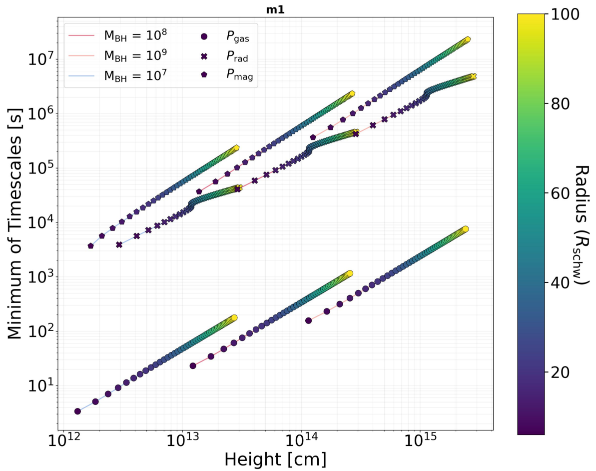


Extending diskvert

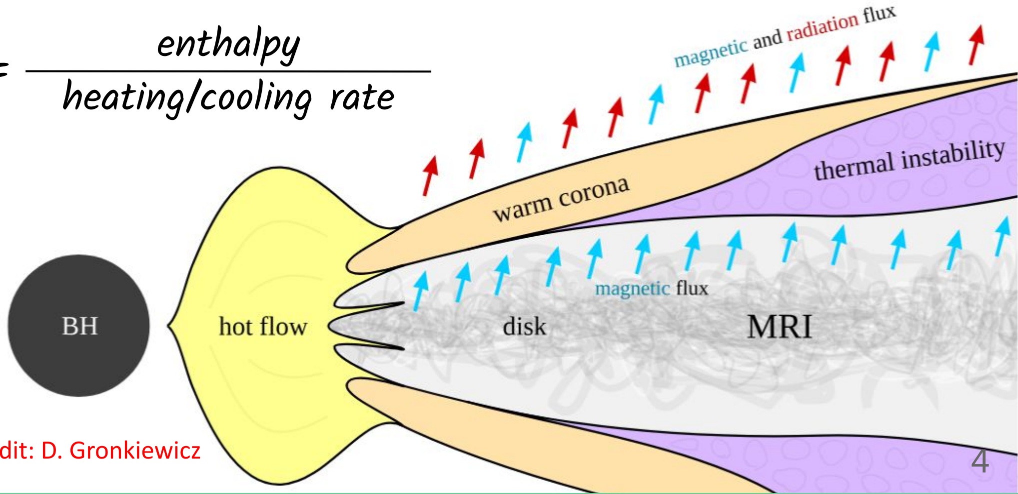
~~static solution~~



A closer look on timescales



$$t_{th} = \frac{enthalpy}{heating/cooling\ rate}$$



Credit: D. Gronkiewicz

Thank you!

PS. Every Thursday @ 6pm we organize a film screening. Feel free to join!