

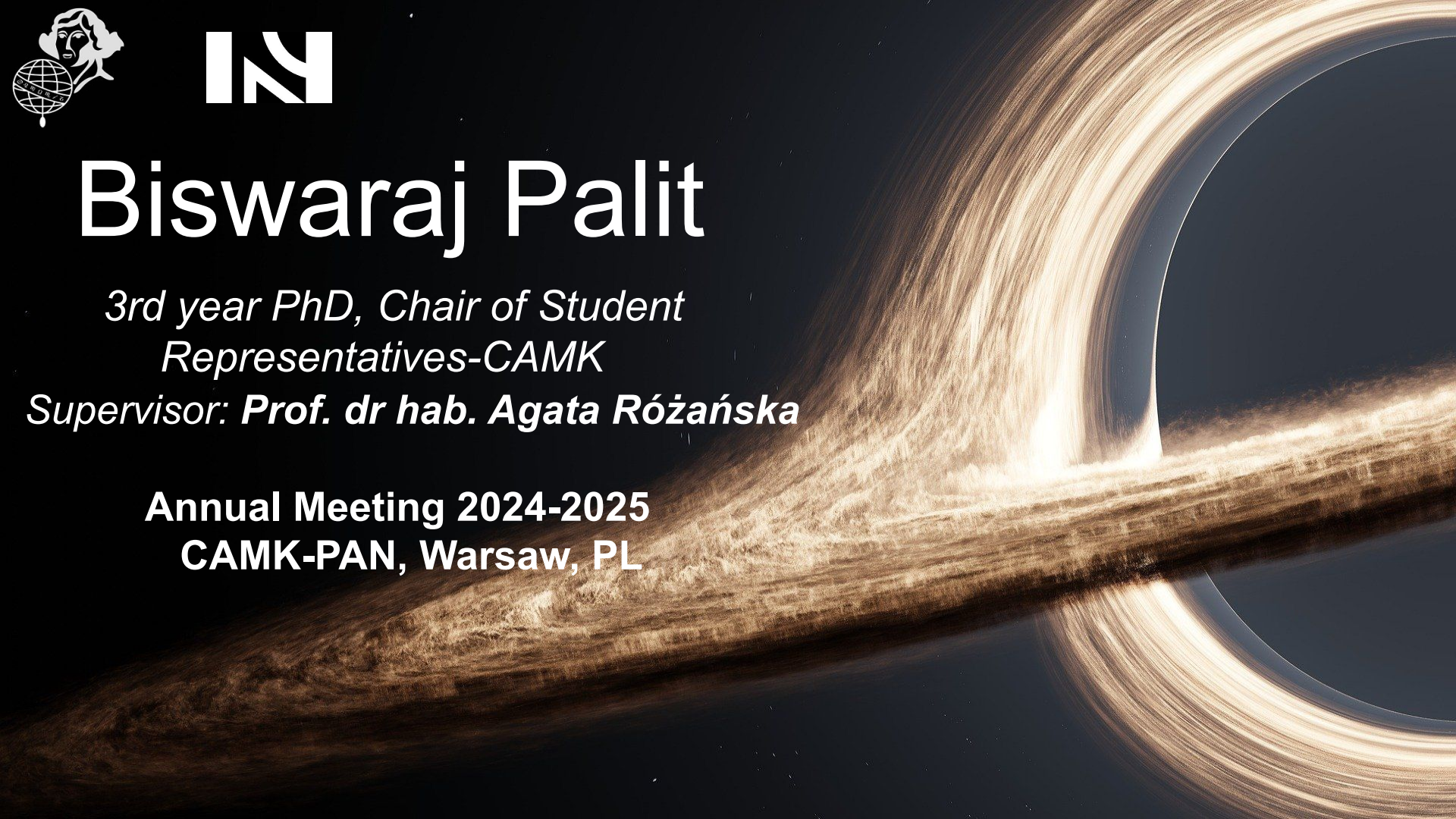


# Biswaraj Palit

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Representatives-CAMK*

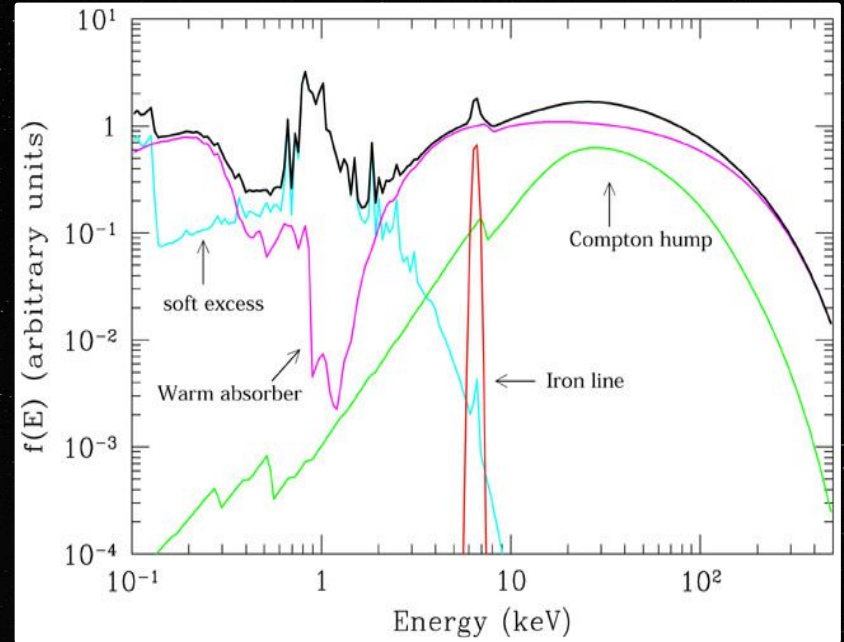
*Supervisor: Prof. dr hab. Agata Róžańska*

**Annual Meeting 2024-2025  
CAMK-PAN, Warsaw, PL**



# National Science Center, OPUS Grant

Title: X-ray fingerprints of accreting compact objects



Double-peak  
Continuum

Fe K-alpha  
line

Soft X-ray  
excess

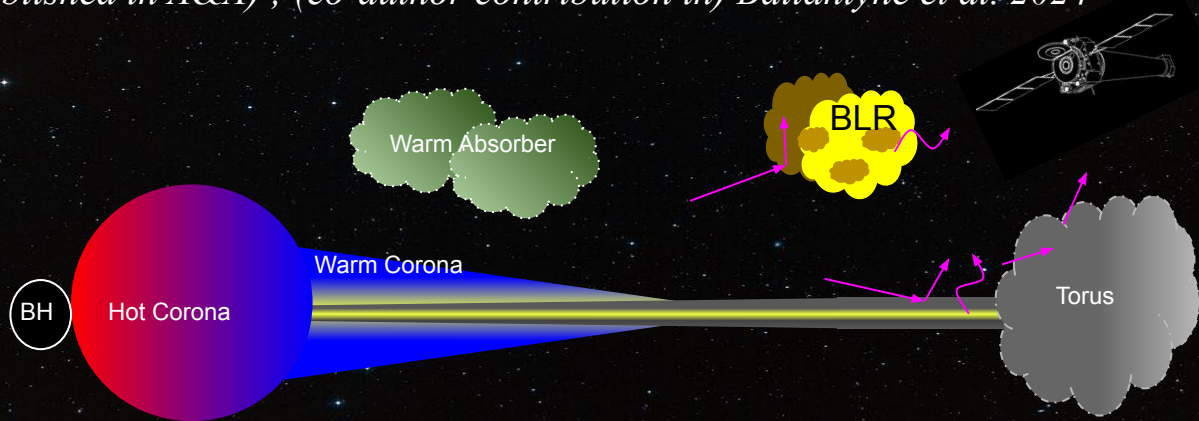
Warm  
Absorber

X-ray time  
lags

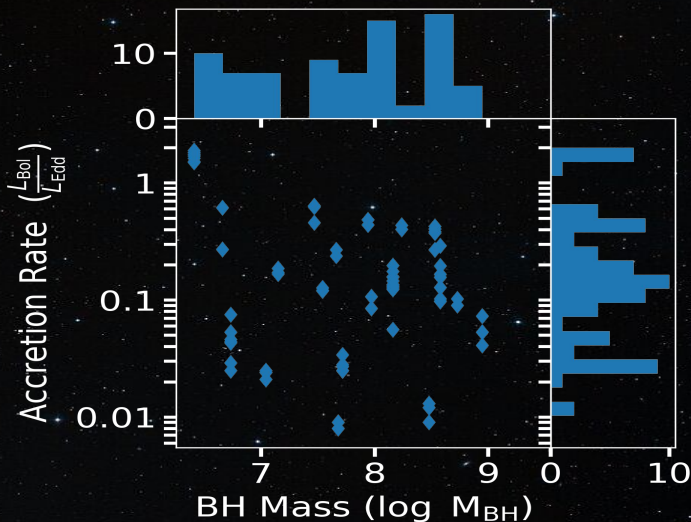
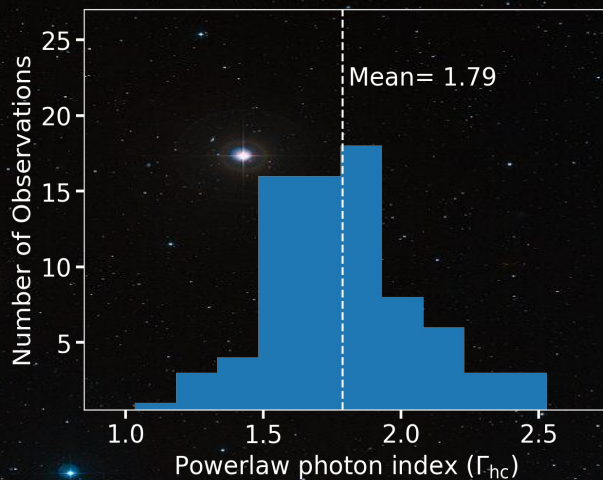


# Soft excess anomaly: Possible warm corona scenario ?

*Palit et al. 2024 (published in A&A) ; (co-author contribution in) Ballantyne et al. 2024*

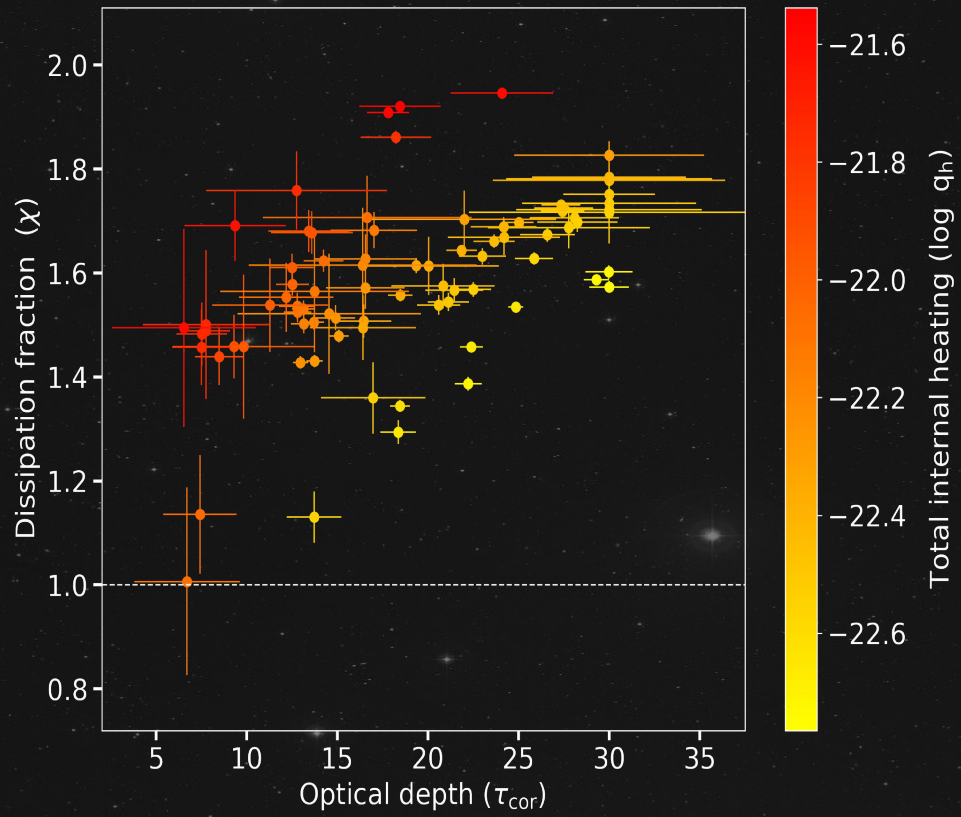


- Total of 21 AGN sources
- Low absorption along Line of sight  $\lesssim 10^{23} \text{ cm}^2$
- Wide range of accretion rates and black hole masses
- Energy range 0.3 - 10 keV



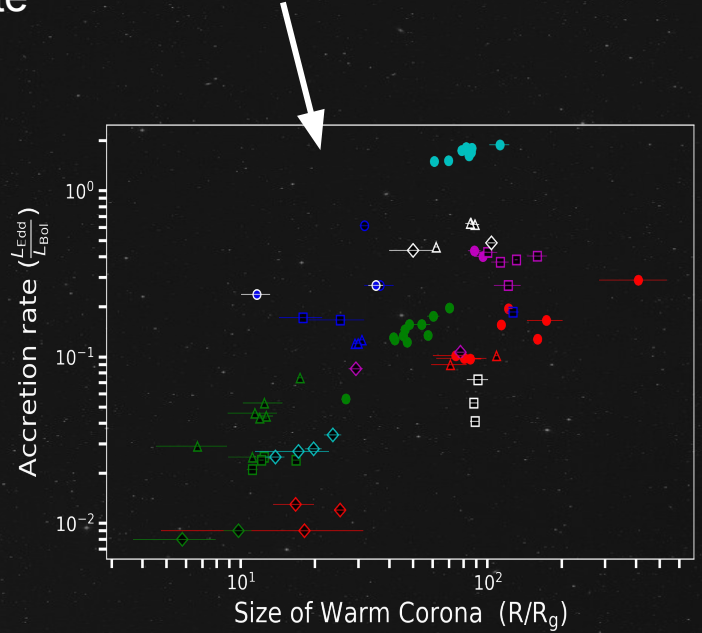
# Soft excess anomaly: Possible warm corona scenario ?

Palit et al. 2024 (published in A&A)



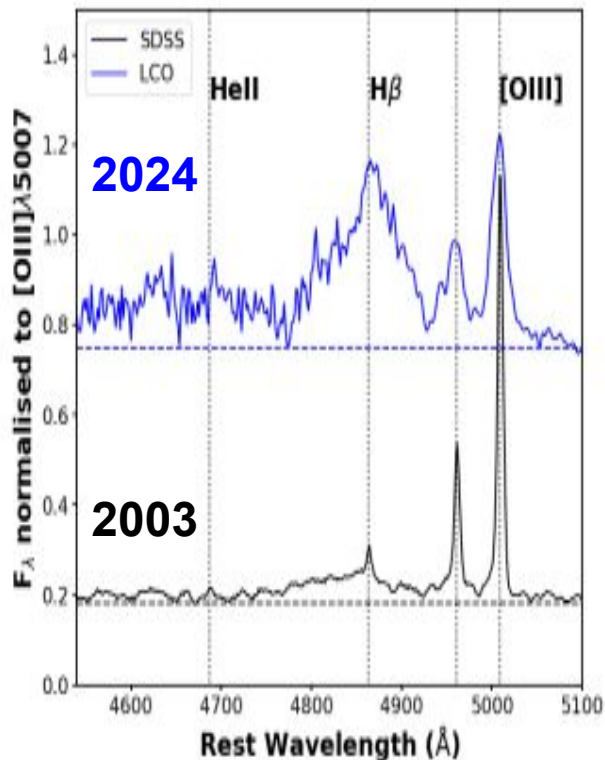
- Majority of sources require active warm corona on top of a passive disk ( $\chi \gg 1$ )

- WC size increases with accretion rate



# Soft excess anomaly: Variability

*Palit et al. 2025a (submitted to MNRAS-L), 2025b (in prep)*

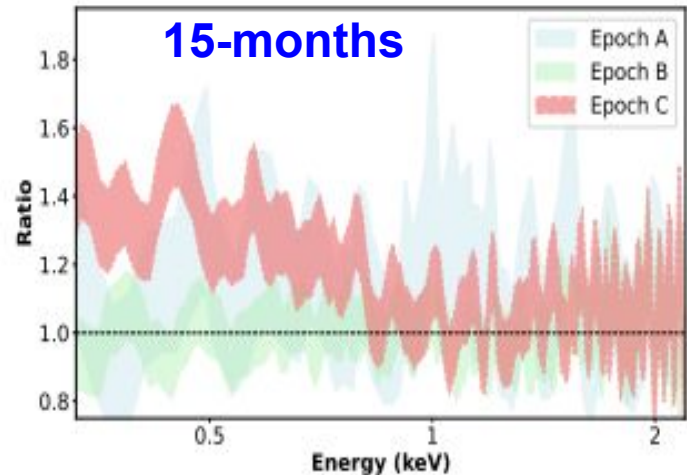


## Mkn 590

X-ray/UV flux  
jump by  $> \sim 10\%$

AGN subtype change  
from 1.5 - 1.2

Change in accretion  
sub-structures ?  
Is there a duty cycle ?



**Changing Look AGN**

- *Approved monitoring proposals in Optical and Radio  $\sim 3$  hours*
- *Using variability as tool to constrain inner accretion flow properties*



Sexten-Sesto, IT



Geneva, SWI

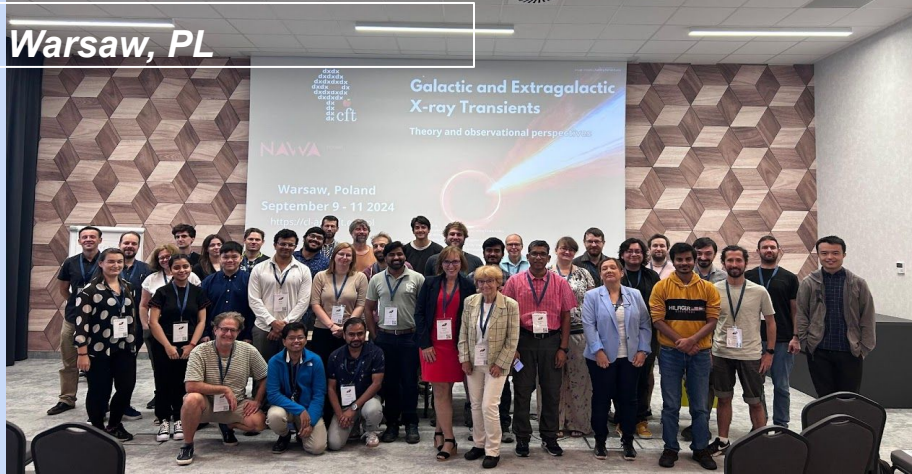


## Science performance & data analysis workshop

University of Geneva, 12-14 February 2024

The 1<sup>st</sup> XRISM science performance and data analysis Workshop aims at providing the scientific community in Europe with a comprehensive view of the scientific performance of the XRISM mission following its successful commissioning

Warsaw, PL



Como, IT





# Eventful 2024...





# Eventful 2024...

