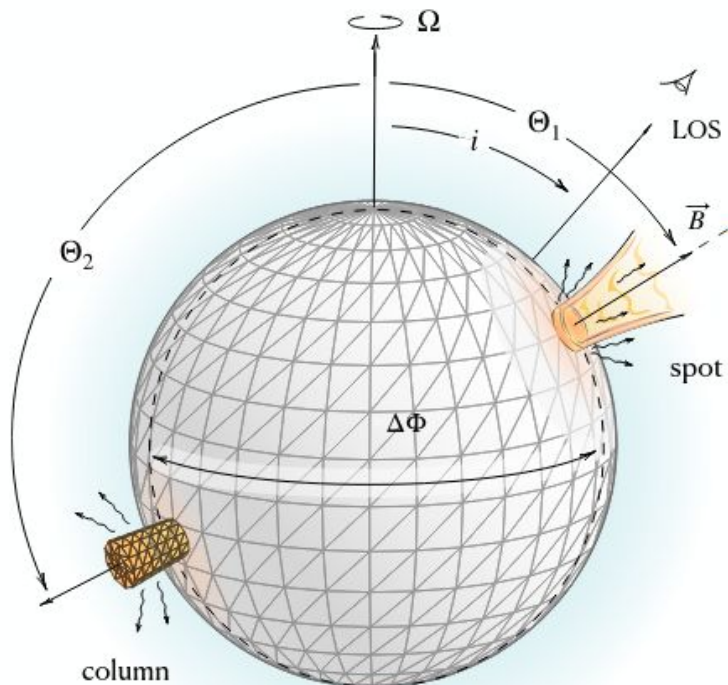


Carlo Ferrigno

Elena Ambrosi, Dimitris K. Maniadakis, Antonino D'Ai, Ekaterina
Sokolova-Lapa, Giancarlo Cusumano

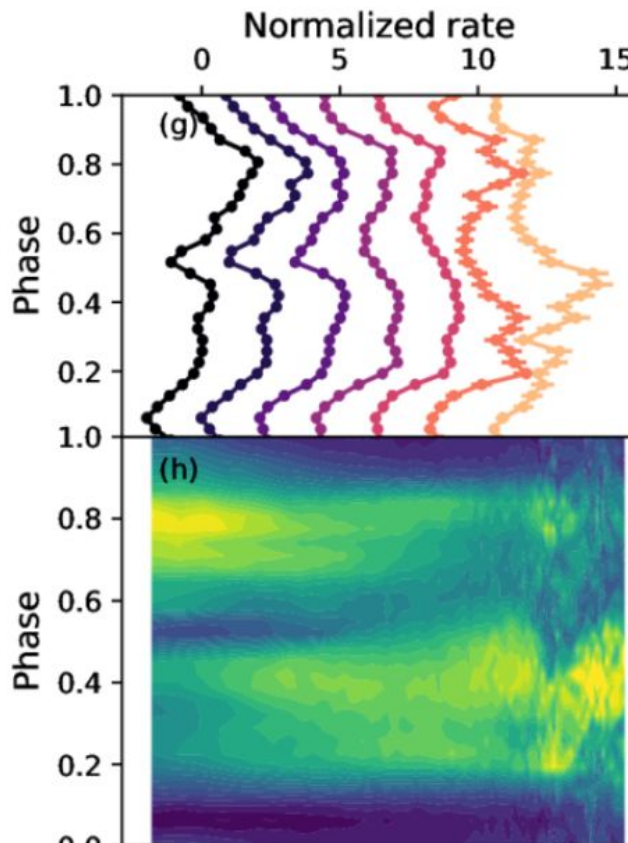
Pulsed fraction spectra constrain properties of
neutron-star High Mass X-ray binaries

We investigate the emission from an accretion column or a hot spot in a highly magnetized rotating neutron star.

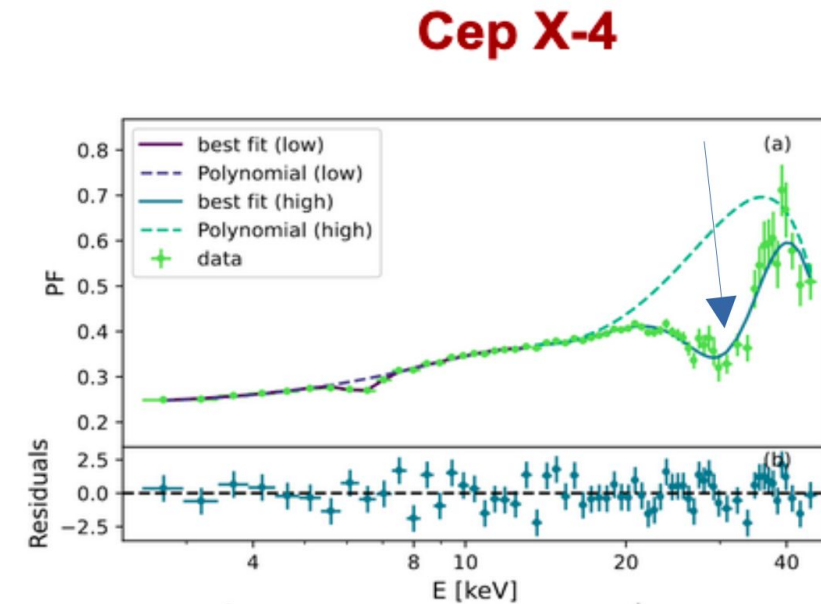


Sokolova-Lapa et al. 2026

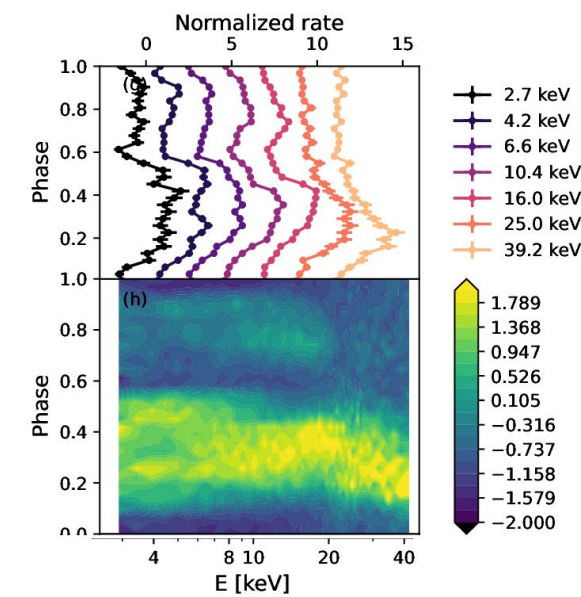
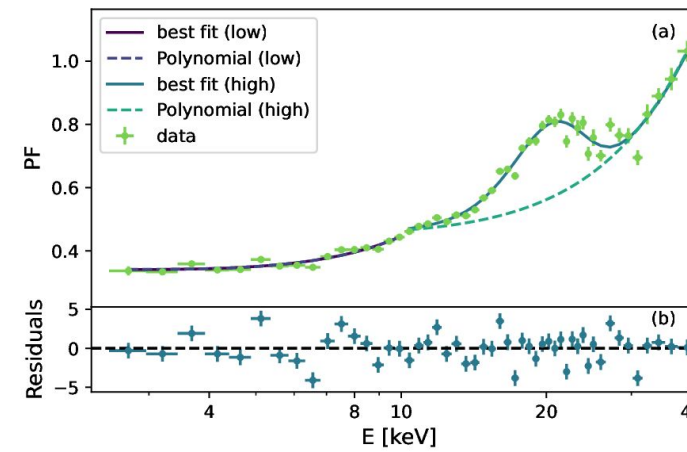
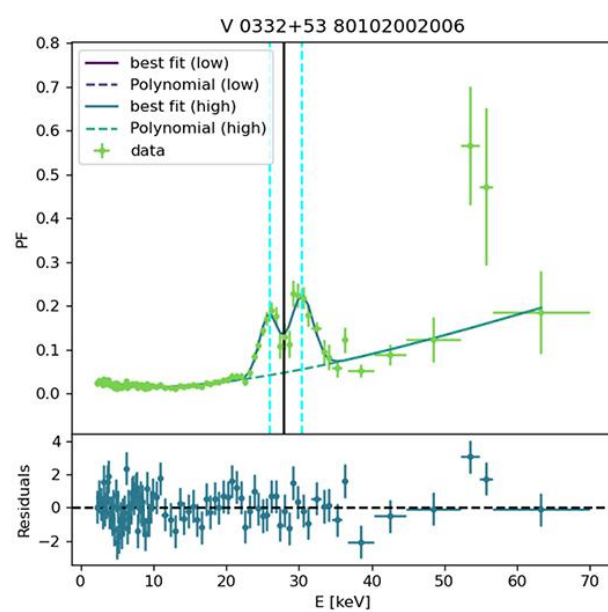
We measure the emission as function of phase and energy for many objects using different facilities in a consistent way.



We extract the pulsed fraction spectrum with optimized techniques and model it in conjunction with features in the energy spectrum.



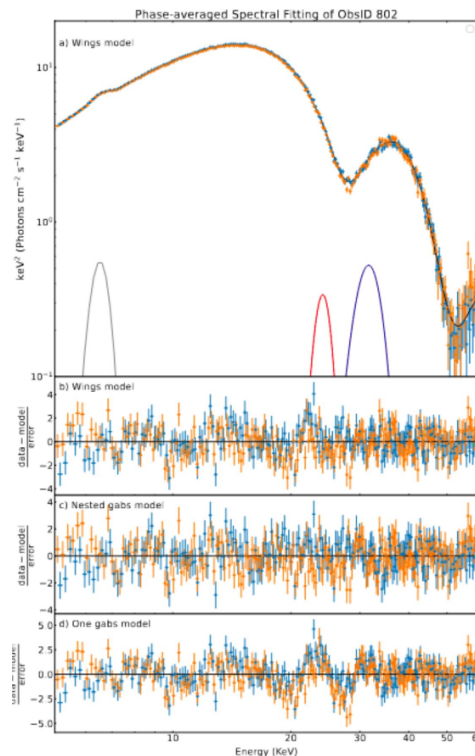
Ferrigno et al. (2023)



4U 1538-522: we find enhanced pulsed fraction at the cyclotron energy,, this limits the geometrical parameter space (Maniadakis et al. 2025).

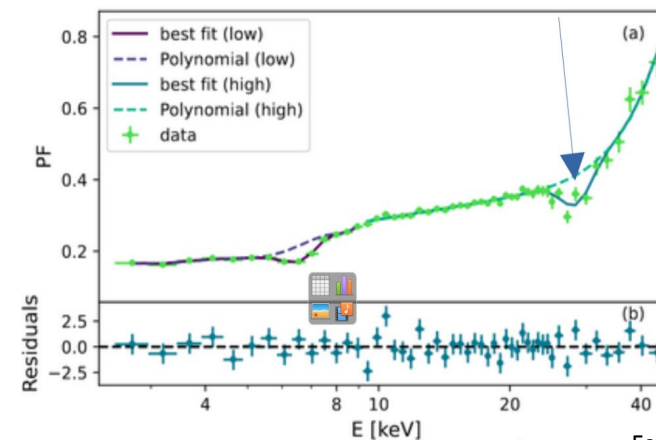
V0332+53: we find two bumps near the cyclotron energy that guide a spectral model and favor an ortogonal rotator (D'Ai et al 2025)

Cen X-3, Her X-1....: pulsed fraction is reduced at the cyclotron energy compatible with beam-pattern change.

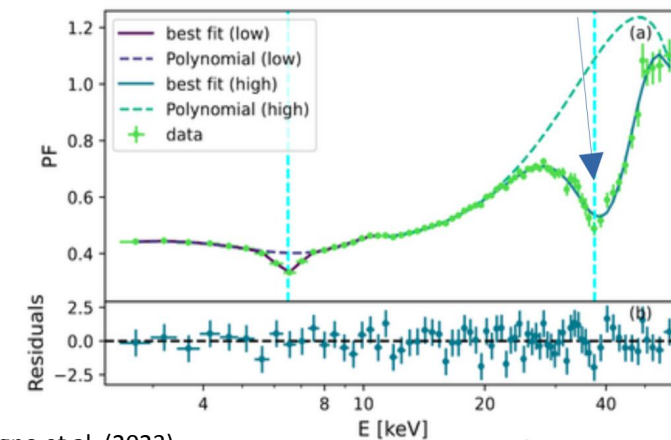


D'Ai et al. 2025

Cen X-3



Her X-1



Ferrigno et al. (2023)