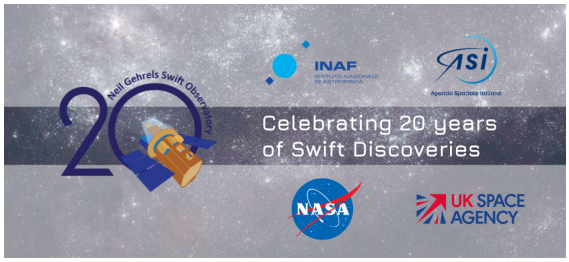

Contribution ID: **48** Type: **Poster**

Recent developments of the JED-SAD paradigm, a unified accretion ejection paradigm for X-ray binaries :

Tuesday 25 March 2025 14:29 (1 minute)

The hysteresis behavior of X-ray binaries during their outbursts remains a mystery. In this work, we developed a paradigm where the disk material accretes in two possible, mutually exclusive, ways (Ferreira et al. 2006). In the usual alpha-disk mode (SAD, Shakura & Sunayev 73), the dominant local torque is due to a radial transport of the disk angular momentum. In the jet-emitting disk mode (JED), magnetically-driven jets carry away mass, energy, and all the angular momentum vertically. We developed a two-temperature plasma code that computes the thermal balance at each radius for different values of the disk accretion rate (mdot) and transition radius (jJ) between the JED and the SAD (Marcel+18a, A&A 615, A57). This framework has been applied with success to X-rays outburst of GX 339-4 (Marcel et al., 2019, A&A 626, A115) and MAXI J1820+070 (Marino et al. 2021, A&A 656, A63), using data from RXTE, Swift-XRT and BAT, Nicer and NuSTAR. Recently it has also been applied to Cyg X-1 and Swift 1727-1613 where switf-BAT data are very constraining. Combined with the general-relativistic radiative transfer code MONK (Zhang et al. 2019), we are now able to compute polarimetric signatures and compare to IXPE observations. I will introduce the model and present the most recent developments and results.

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