



Contribution ID: 201

Type: **Talk in a parallel session**

Matter ejections behind the highs and lows of a transitional millisecond pulsar

Friday 12 July 2024 15:00 (30 minutes)

In this talk, I will describe the results of the most extensive multiwavelength observational campaign ever carried out on the prototype of the class of transitional millisecond pulsars, PSR J1023+0038. The campaign aimed to find an explanation once and for all for the peculiar variability pattern shown by the source during its current active X-ray state. The results of the data analysis indicate that this phenomenology is due to changes in the innermost region of the accretion disc. These changes trigger the emission of discrete mass ejections, which occur on top of a compact jet, as testified by the detection of at least one short-duration millimetre flare at the high-to-low mode switch. The pulsar is subsequently re-enshrouded, completing the picture of the mode switches.

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Session Classification: Spectral and temporal properties of accretion flows and jets around compact objects and the theoretical models

Track Classification: Accretion (AC): Spectral and temporal properties of accretion flows and jets around compact objects and the theoretical models