

# Stellar flares with PLATO & synergies with TESS and eROSITA

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The advent of modern photometric monitoring space missions has boosted studies of stellar flares. Such events are key signatures of magnetic activity on late-type stars, and important diagnostics for our understanding of coronal physics as well as the evolution of planet atmospheres. These latter ones are irradiated and heated by flares, possibly to the point of atmospheric erosion and altered atmospheric chemistry.

Flares will be identified within the PLATO pipeline MSAP1 both in order to remove stellar variability from the light curves and to extract astrophysically important information. In this talk I provide a brief summary of the work carried out under my lead in the PLATO WP 123 700 ("Stellar flares").

Moreover, I will present the potential of TESS and eROSITA in characterizing the magnetic activity of PLATO targets. These missions have over the last few years both performed an almost full-sky survey in the optical and in X-rays, respectively. I will show preliminary results from a first match between the PIC 1.1.0 and data obtained from TESS and eROSITA, and how the information obtained is beneficial for studies of exoplanets.

**Primary author:** STELZER, Beate (University of Tuebingen)

**Presenter:** STELZER, Beate (University of Tuebingen)

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