Young cool stars are highly active stars; they exhibit elevated flare activity, coronal mass ejections, and stellar winds. While magnetic activity decreases with time, putting end to some of these phenomena, stellar winds persist throughout the entire stellar evolution. Therefore, the cumulative influence from stellar winds will be significant for both, the star’s angular momentum evolution, as well as for possible exoplanets orbiting in the system. We aim to characterise these processes by creating a comprehensive grid of realistic models of stellar winds in cool stars.

Why use a solar model for stellar winds?
The sun is the most understood star so far.

The sun’s properties and characteristics are used as a starting point for other stars.

It has a collection of physics models used to simulate the environment.

Why are we interested in stellar winds?
Better understanding of Star-Planet interaction

Stars may lose mass due to stellar winds, and the evolution of stars is strongly affected by mass loss.

Process the shaping of exoplanet atmosphere.

Our current work
Creating comprehensive grid of numerical models by varying different parameters such as: Magnetic field strength Field geometry

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