Hot Jupiters around young stars

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Abstract

The observation of T Tauri stars (solar-type stars from 1 to 20 Myr) is a key to understanding the formation of systems like our solar system.
Hot Jupiters, massive planets formed in the outskirts of the protoplanetary disk having then migrated towards their host star, were recently discovered around T Tauri stars (ex: Donati et al. 2016, Nature), proving that their migration can happen very early in their life. Characterizing their orbit and identifying the migration processes help us know more about these young stars' physical parameters and their early evolution.

Filtering the stellar activity from the signal, which leads to a potential exoplanet detection, requires to model the activity with high accuracy, thereby providing precious information on the state of these young stars.
My talk will present the work published in the paper "A hot Jupiter around the very active weak-line T Tauri star TAP 26", Yu et al. 2017, MNRAS.

Keywords: young stars, exoplanets, velocimetry, stellar tomography

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