

Gallery of exoplanetary oddities: the star that flares too much

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Abstract

In this contribution we present the preliminary results of the study of the magnetic field of the young late-type K5Ve star BD+20 1790 and its close-in giant planet. The aim of this work is to map the active regions at different atmospheric levels (spots at photosphere, plages and prominences at chromosphere) that allow us to trace the magnetic field structure. To characterise these active regions we have carried both echelle spectroscopic and photometric monitoring over eight years. Previous results show a spectacular level of stellar activity. The eight-year light curves reveal the presence of active longitudes. The fact that the activity indices are modulated with the synodic period of the star-planet system rather than the photometric as expected, leads us to suspect a possible star-planet interaction. Also, we have detected flaring activity linked to the synodic period.