

The influence of stellar wind environments on Star-Planet Interaction

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Abstract

All Exoplanets interact with their surrounding stellar wind and magnetic field. If a planet is sufficiently close to its host star both can establish a mutual electromagnetic coupling called Star-Planet Interaction. The resulting so called Alfvén wing is controlled by the stellar wind and structures within the wind. Therefore we apply an MHD model to simulate how different stellar wind conditions affect Alfvén wings. In our presentation we show results of these MHD simulations and discuss their implication on properties of Star-Planet Interaction.