

Detection and Dynamics of Exoplanets (DDE): Interplay between theory and observations



Contribution ID: 90

Type: **not specified**

On the habitability of circumstellar planets in binary stars

Wednesday 9 July 2025 12:00 (15 minutes)

Numerical simulations of circum-stellar planetary orbits in binary star systems show that the eccentricity of such planets can vary due to the gravitational interaction with the secondary star. The evolution of the eccentricity depends on the architecture of the binary star-planet system. We have developed methods to localize these gravitational perturbations which display It is shown that even a distant secondary star can perturb a planet in the circum-stellar habitable zone of the primary star. Here we show the possible effects for an Earth-like planet that comes closer to the Sun-like star than Venus due to an eccentric orbit, exposing it to a higher EUV flux from the host star.

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Session Classification: Planets in binary systems