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**Presentation Title: Detectability of co-orbital exoplanets by PLATO: estimations using synthetic planetary systems**

Work Package: WP116 380 Statistical Comparison Between Theory and PLATO Data

Abstract: Despite the existence of co-orbital bodies in the solar system (1:1 Mean-motion resonance), and the prediction of the formation of co-orbital planets by planetary system formation models, no co-orbital exoplanets (also called trojans) have been detected thus far. After a description of various stable co-orbital configurations for a pair of planet, I will give an overview of the signature of co-orbitals in Transit Timing Variation, transits, and combination of transit and radial velocity measurements. Using synthetic population of planetary systems (from the Bern model), we estimate the probability of detection of co-orbital pair of exoplanet by the PLATO mission using only the transit measurements, as well as the requirement on the radial-velocity follow up to be able to detect co-orbitals by the combination of transit and radial velocity technique.