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Presentation Title: Interior models of young transiting planets

Work Package: WP116100 Composition & Formation of Gas and Ice Giants

Modelling observed planets in young open clusters and around mature stars offers a way to learn about planet formation and evolution - a scientific goal of the PLATO mission.

Here we first give an overview on our activities to infer the composition of solar system and mature extrasolar giant planets. Then we focus on two young individuals, the super-Neptune K2-33b ($\sim 5 R_E$, ~ 10 Myr), and the hot Jupiter candidate CVSO-30b ($\sim 1.9 R_{Jup}$, < 6 Myr). Since planets at close orbits experience strong irradiation and gravitational attraction, they may be subject to evaporation. Assuming a simple core+gaseous envelope structure, we investigate the possible past and future nature of these planets with and without energy-limited mass loss and tidal disruption. Basically, we present our work in progress on this topic.