



The PLATO 2.0 Mission

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PLATO has been selected for ESA's M3 launch opportunity with launch foreseen end 2024. PLATO will follow the very successful space missions CoRoT and Kepler, as well as ESA's first small mission CHEOPS and NASA's mission TESS. PLATO will carry out high-precision, long-term photometric and astroseismic monitoring of up to a million of stars covering about 50% of the sky. It will provide a large sample of small planets around bright stars, including terrestrial planets in the habitable zone of solar-like stars. PLATO will characterize planets for their radius, mass, and age. It will provide the first large-scale catalogue of well-characterized small planets at intermediate orbital periods, which will be an important constraint to planet formation theories and will provide targets for future atmosphere spectroscopy. This data base of bulk characterized small planets will form a solid basis to put the Solar System into a wider context and allow for comparative exo-planetology.

In addition, the precise stellar parameters obtained by asteroseismic studies will open new doors to better understand stellar interiors and allow us to constrain poorly-understood physical processes, like convection, improve our understanding of stellar evolution, and determine precise ages of stars and planetary systems.

The talk will provide an overview of the PLATO mission and its science goals.