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PLATO: the instrument and the science preparation

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Abstract

PLATO (PLAnetary Transits and Oscillations of stars) is the M3 mission in the ESA's Cosmic Vision 2015-2025 programme. It aims at finding a large number of exoplanets, at characterizing their bulk density with emphasis on the properties of terrestrial planets in the habitable zone around solar-like stars, and at studying exoplanetary systems evolution.

In order to achieve its scientific objectives, the PLATO satellite will perform uninterrupted high precision photometric by monitoring large samples of stars in FoV greater than 2200 square degree. High flexible mission scenario will allow performing a mixture of long period monitoring (up to years) alternating to step-and-stare phases, with the possibility to return back monitoring interesting fields/ objects. Ground-based follow-up is part of the PLATO project.

PLATO will use 26 cameras, based on all-refractive design, to deliver light curves useful for transit search and astreroseismic stellar characterisation.

In this talk we will address the way the payload, the preparatory science, and the ground segment are implemented and how the community can be involved in the PLATO preparatory and follow-up activities.

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