



The PLATO mission: Studying the diversity of exoplanets orbiting up to the habitable zone of Sun-like stars

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The ESA PLATO mission will provide unprecedented data to study the diversity of planets orbiting up to the habitable zone of bright Sun-like stars. PLATO will detect and characterise exoplanets using the transit method combined with ground-based radial velocity measurements, and study the host stars with asteroseismology. PLATO's core observing sample consists of Sun-like stars of $V < 11$. For statistical studies, PLATO will also monitor a large sample of Sun-like stars with $V < 13$ and cool late-type dwarfs with $V < 16$. To benefit from PLATO's advanced photometric capabilities, the general community will be invited to submit proposals on complementary science topics in the framework of a guest observer's programme. The PLATO payload consists of four groups of six cameras each that overlap covering a total field of about 2150 deg^2 with four different sensitivities. Two additional cameras will observe the brightest stars ($V < 8.5$) in two-colours, and will be used as fine guidance sensor. PLATO is the third medium-class mission in ESA's Cosmic Vision programme, with a planned launch date in 2026. The satellite will operate in an orbit around the second Lagrange point, L2. We will present the status of the mission science definition and performance, and of the satellite and ground-segment developments.