CHEOPS and PLATO as part of the ESA roadmap to detect and characterize extrasolar planets

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Twenty years after the discovery of 51 Peg B, we know about 2000 exoplanets in about 1200 planetary systems. The diversity of planetary systems and planets discovered leaves open many questions about their formation and evolution, the properties of their interiors and atmospheres, and their habitability.

The roadmap traced by ESA in 2010, in support of its Cosmic Vision program 2015-2025, foresees three parallel lanes: discovery, characterization of internal structure, and characterization of atmosphere properties. CHEOPS and PLATO are the two ESA missions fully dedicated to exoplanets science, selected up now. With launches in late 2017 and 2024, respectively, CHEOPS will be devoted to the determine the internal structure of planets that have been previously discovered, while PLATO will survey half of the sky to search planets around close-by stars, fully characterizing their structure, and providing complete information on the planetary system architecture and evolutionary state.

We will illustrate the two projects, the synergies with other experiments, and the expected results with particular emphasis to their contribution to the search for habitability and life.

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