

## **CHEOPS: Characterising exoplanet Satellite - ESA's first S-class mission**

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### **Abstract**

CHEOPS (CHaracterising ExOPlanet Satellite) is the first exoplanet mission dedicated to the search for transits of exoplanets by means of ultrahigh precision photometry of bright stars already known to host planets, with launch readiness foreseen by the end of 2018. It is also the first S-class mission in ESA's Cosmic Vision 2015-2025. The mission is a partnership between Switzerland and ESA's science programme, with important contributions from 10 other member states. It will provide the unique capability of determining accurate radii for a subset of those planets in the super-Earth to Neptune mass range, for which the mass has already been estimated from ground-based spectroscopic surveys. It will also provide precision radii for new planets discovered by the next generation of ground-based transits surveys (Neptune-size and smaller). By unveiling transiting exoplanets with high potential for in-depth characterization, CHEOPS will also provide prime targets for future instruments suited to the spectroscopic characterisation of exoplanetary atmospheres.

The high photometric precision of CHEOPS will be achieved using a photometer covering the 0.35 - 1.1 $\mu$ m waveband, designed around a single frame-transfer CCD which is mounted in the focal plane of a 30 cm equivalent aperture diameter, f/5 on-axis Ritchey-Chretien telescope.

20% of the observing time in the 3.5 year nominal mission will be available to Guest Observers from the Community. Proposals will be requested through open calls from ESA that are foreseen to be every year, with the first 6 months before launch.

In this talk I will give a short overview of the mission, its science objectives and its current status, as well as the observing opportunities that it will present to the Community.

### **Short Summary**

CHEOPS (CHaracterising ExOPlanet Satellite) is the first exoplanet mission dedicated to the search for transits of exoplanets through ultrahigh precision photometry of bright stars already known to host planets. In this talk I will give an overview of the mission (launch ready end 2018), including observing opportunities for the Community.