CHEOPS Observing with CHEOPS



CHEOPS (CHaracterising ExOPlanet Satellite) First mission dedicated to the search for exoplanet transits of local, bright stars already known to host exoplanets, through ultra-high precision, transit photometry

Partnership between ESA's Science Programme and Switzerland; Mission Consortium of 11 member states, led by Prof Willy Benz @UBern (CH)

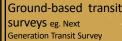


The Mission

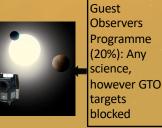
- 3.5 yrs nominal lifetime (goal 5 yrs).
- Sun-synchronous orbit (~100 mins), LTAN 6AM, altitude 700km.
- Shared launch on Soyuz from Kourou, French Guiana.
- Launch planned before the end of the year.

Observing time

- Up to 10% of time top-sliced for spacecraft activities and monitoring & characterisation programme.
- Remainder split 80:20 between Guaranteed Time Observing (GTO) + Guest Observers (GO) Programme -1578 hrs/946 orbits available to Community in first yr.



Ground-based RV SUIVEYS eg. HARPS, HARPS-N,



HIRES, SOPHIE, ESPRESSO (2017)

TESS candidates, (Kepler³)/K2

Guaranteed Time Observing Programme (GTO)

- Belongs to, and defined by, CHEOPS Science Team.
- Core target list covers 3.5 yrs \rightarrow targets reserved: frozen at the time of GO calls, updated in between.

ESA Guest Observers' Programme (GO)

- Managed by ESA, open to all.
- Competitive selection process via Announcements of Opportunity (AOs), foreseen to be annual.
- AO-1 closed May 2019; results out end July.
- Any science using CHEOPS capabilities can be proposed
- Reserved targets blocked to GO.
- Up to 25% of GO time allocated to Discretionary Programme (DT) \rightarrow rapid response for targets of very high scientific interest \rightarrow open all yr round \rightarrow enables targets discovered between calls to be proposed.

Admatis 🚀

Observing

- Broadband photometer (0.33 1.1 um).
- Pointed observations of individual targets (defocused).
- 1 min cadence (stacked images); unstacked imagettes also available.

CHEOPS data

- All science data pipeline-processed at the Science Operations Centre (SOC) @ UGeneva (CH).
- Data products include calibrated/corrected images and light curves/time series, together with raw data.
- Calibration/reference files + descriptions of algorithms will be available through the CHEOPS archive.

CHEOPS data access

- Available through CHEOPS data archive, hosted by SOC.
- GTO and GO data subject to same proprietary period on a per target basis:
- 1 year after last observation of target completed.
- No longer than 1.5 years after first visit.
- Proprietary period of DT up to that of GTO/GO.

Applying for time on CHEOPS

- Two-stage application process:
 - Phase 1: scientific + technical justification, targets, time request (ESA proposal submission tool).
 - Phase 2 (successful proposals): observation requests.
- Proposal preparation tools developed by Consortium: Exposure Time Calculator, reserved target list checker, target visibility maps/feasibility checker, Observers Manual.

More information?

- Details on AO-1 (now closed) available at: https://cosmos.esa.int/web/cheops-guest-observersprogramme/ao-1
- Next opportunity through DT: opens early 2020 (TBC).
- Timeline for AO-2 to be announced in coming months.

Further information on CHEOPS at http://cosmos.esa.int/web/cheops and http://cheops.unibe.ch Contact ESA project scientist: kate.isaak@esa.int 1. Instrument in the cleanroom at Ubern, shortly before shipping to ADS, Spain, Credit UBern; 2. CHEOPS spacecraft in the final stages of integration at ADS, Spain, Credit ADS 3. Restricted visibility only of the Kepler fields.

