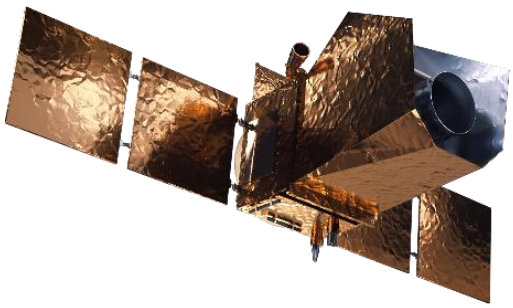
Mission Factsheet - Exoplanets

- Conceived to study exoplanets, bright stars and solar system objects.
- Sun-synchronous, low-Earth polar orbit / 7-year lifetime / science operations begin 2024.
- Access observational data by joining the survey programme or via purchasing dedicated telescope time.

Specifications

Primary Mirror Diameter	0.45m
Spectral Range	0.5 – 4.5µm
Ch 0 Resolution	0.5 – 2.4µm (max. R=70)
Ch 1 Resolution	2.4 – 4.5µm (max. R=50)
Active Cooling	< 90K, no consumables
Pointing Solution	Star Tracker + Gyro



Sample Target Performance

	Error on Transit Depth (ppm)			
Target	0.5 – 2.4µm	2.4 – 4.5µm	Number of transits	Resolution
55 Cancri e	24	39	3	Full
HD 209458 b	72	138	1	Full
GJ 1214 b	113	123	10	Half

Survey

Twinkle's survey programme is divided into an exoplanet survey and a solar system survey. These surveys aim to provide spectroscopic population studies and to encourage worldwide scientific collaborations leading to high-impact publications.

- ***Science**:* the science goals and observing strategy of each survey will be shaped by survey science team and proposals will be voted on by survey members.
- ***Administration**:* a Management Committee, comprising independent science advisors, science team spokespeople and representatives from Blue Skies Space, will administer and operate the survey to an agreed constitution.
- ***Data**:* all members will simultaneously receive access to the data through a secure online portal. Data will be available in raw, calibrated and reduced formats. After the completion of each survey, data will be released to the public in a publication co-authored by all the survey members.
- ***Publications**:* will be managed via an editorial process within a transparent, open framework.

Membership

Membership Tier	Surveys	Users
Single User	Single	1 faculty | 1 team member
Group	Single	1 faculty | 5 team members
Institutional	All	All faculty | All team members