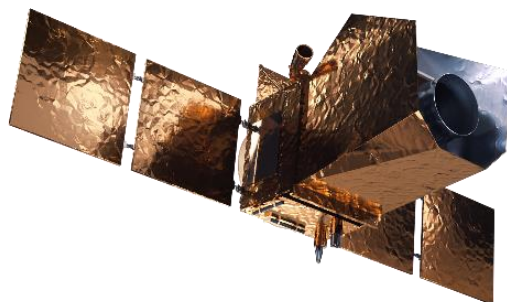


Mission Factsheet - Asteroids

- Conceived to study solar system objects, exoplanets, and bright stars.
- 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 – 4.5 μ m
Ch 0 Resolution	0.5 – 2.4 μ m (max. R=70)
Ch 1 Resolution	2.4 – 4.5 μ m (max. R=50)
Active Cooling	< 90K, no consumables
Pointing Solution	Star Tracker + Gyro



Time required to reach SNR at 3 μ m

Vis Mag	SNR = 20	SNR = 50	SNR = 100
11	-	-	1 min
12	-	< 1 min	2 min
13	< 1 min	3 mins	10 min
14	3 mins	15 mins	1 hour
15	15 mins	1.5 hours	6 hours

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