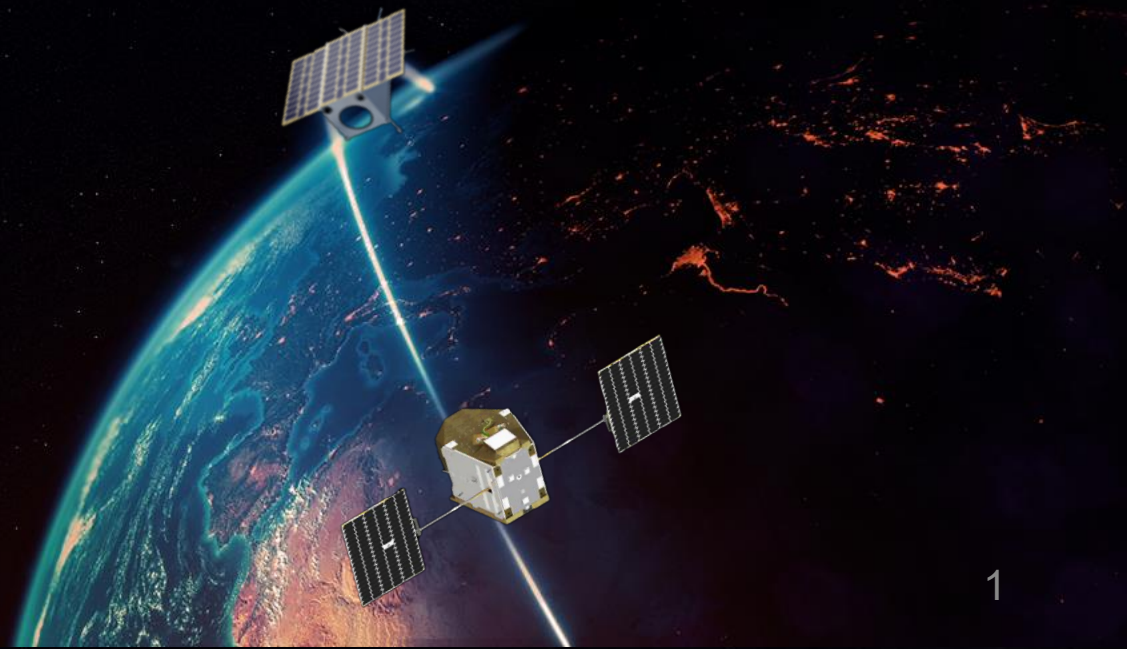
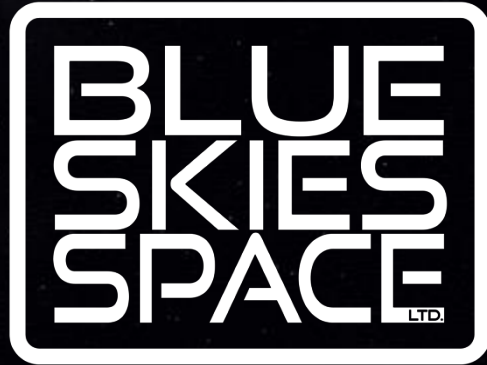


A new model for the future of space-based research data

*Parul Janagal
Blue Skies Space Ltd., London, UK*



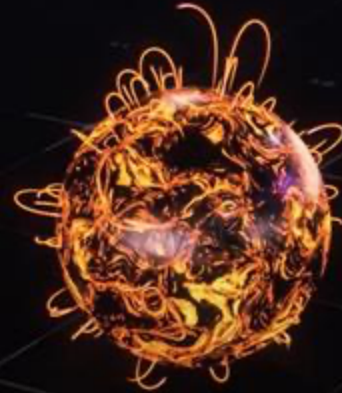


Provider of space science data

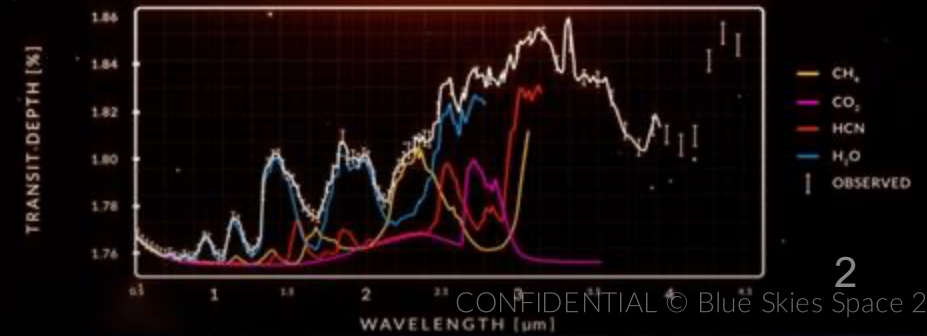
Fleet of small to medium class satellites

Focus on in-demand science cases

MAUVE



Twinkle



New model for astronomy

- A private company approach to accelerate the delivery of science data
- Blue Skies Space finances the satellites up front -



- Recover the costs through annual memberships to our programs
- Re-invest any surplus to the next satellite → A sustainable model

Accelerating satellite delivery



Delivered in under three years



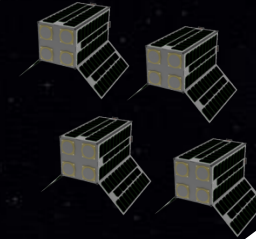
High heritage approach



Built by industry experts



RadioLuna

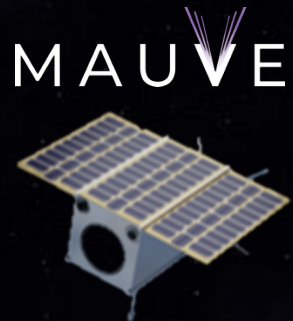
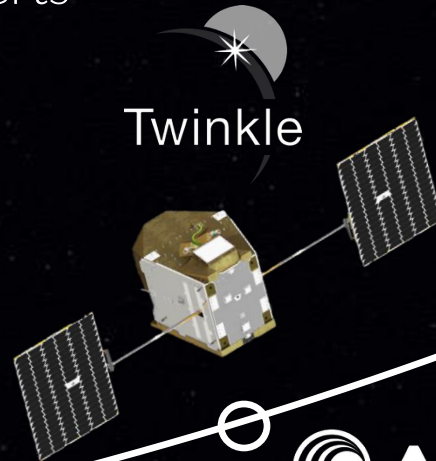


Space Science
Earth Observation



MAUVE+

Twinkle



MAUVE



Meet the Team



Prof. Jonathan Tennyson
Chair



Dr. Marcell Tessenyi
CEO



Prof. Giovanna Tinetti
Chief Scientist



Phillip Windred
Chief Operating Officer



Richard Archer
Strategic Partnerships



Benjamin Wilcock
Sr. Science Programme Manager



Ian Stotesbury
Lead Systems Engineer



Rachel Grant
Senior Software Engineer



Dr. Fatemeh Zahra Majidi
Mauve Project Scientist



Lawrence Bradley
Software Engineer



Yoga Barrathwaj
Business Operations



Dr. Parul Janagal
Science Outreach



Dr. Arianna Saba
Performance Simulations



Sarah Harvey
Junior Software Engineer



James McLaren
Software Consultant



Tailong Zhang
Intern



Prof. Giorgio Savini
Engineering Adviser



Dr. Dan Brown
Adviser



Dr. Fabio Favata
Senior Adviser



Dr. Ahmed Al-Refaie
Software Consultant

Members



MAUVE

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Boston University



INAF - Osservatorio Astrofisico di Arcetri



Rice University



Cardiff University



Centro de Astrobiología



Excellence Cluster ORIGINS



French Alternative Energies and Atomic Energy Commission



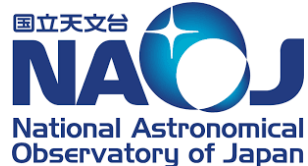
Ludwig-Maximilians-Universität München



Western University



Vanderbilt University



National Astronomical Observatory of Japan



Nanjing University



National Tsing Hua University



Ohio State University



University of Central Lancashire



University of Delaware



University of Toronto



University of Southern Queensland



Vanderbilt University

Approach to science



- All science is defined by consortium members
- Blue Skies Space conducts performance simulations to assist target selection
- Members submit science themes & target lists
- Blue Skies Space provides raw and calibrated data in FITS format

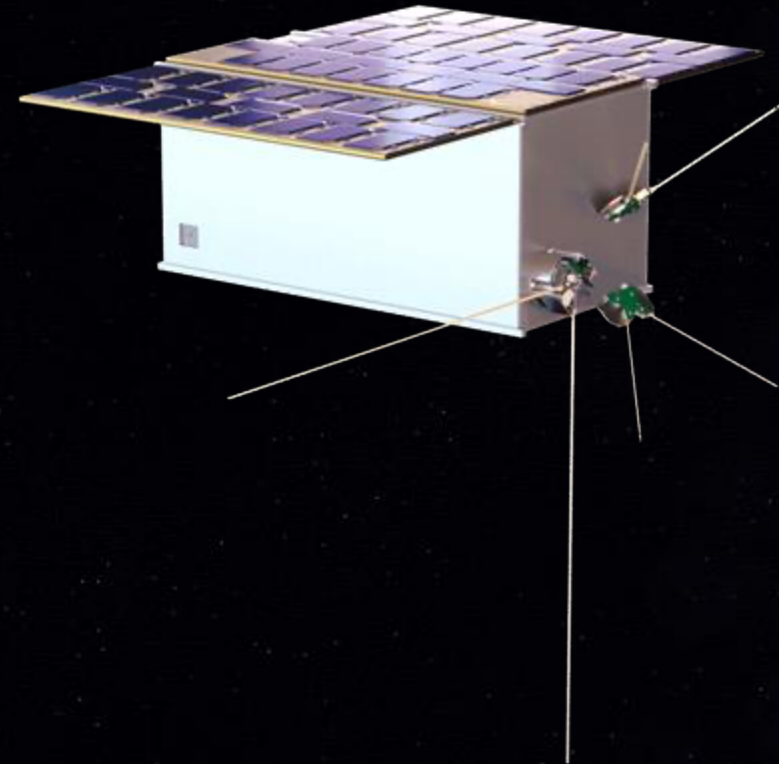
A time-domain opportunity with Mauve

UV-Vis Spectrophotometry

Conceived for monitoring flaring stars

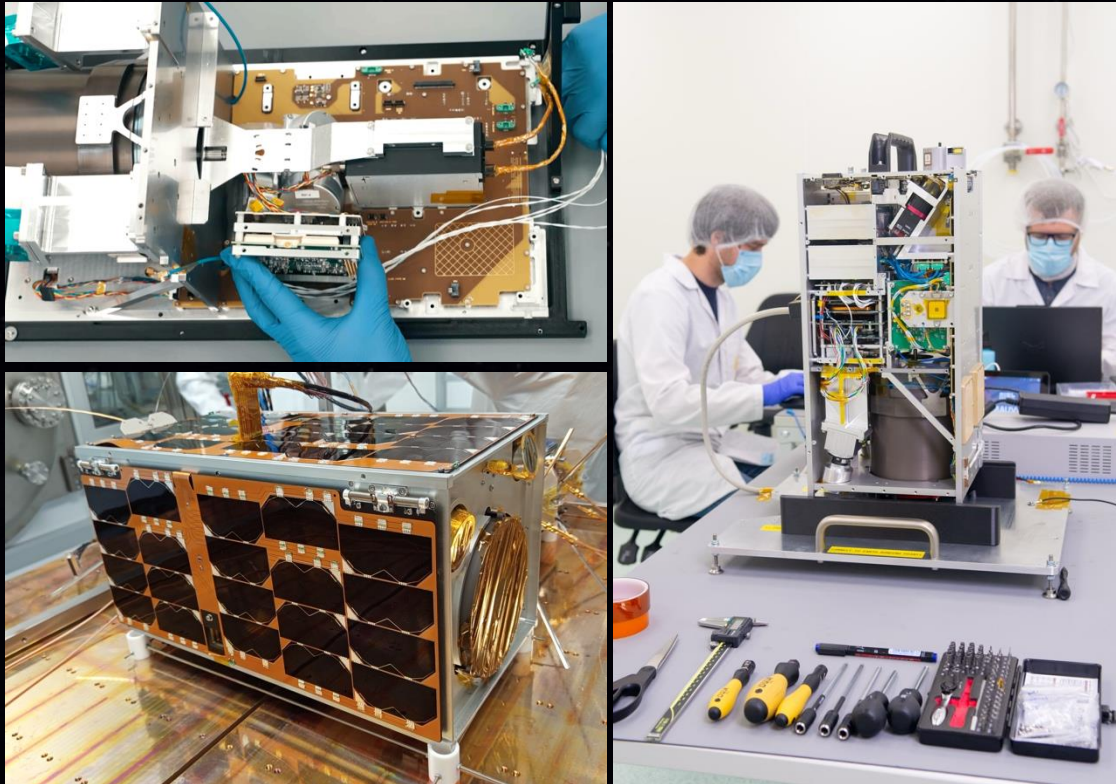
3-year collaborative survey programme

1000's of yearly observation hours



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101082738.

Mauve



Size	16U (25kg)
Orbit	500km, 10:30LTAN, sun-synchronous
Wavelength range	200 - 700 nm (NUV + Visible)
Spectral resolution	10 nm
Resolution	R = 20 - 65
Spectrometer	2-mirror grating spectrograph with CMOS linear array detector
Telescope	13 cm Cassegrain
Field of View	~ 95" full cone

Mauve Launch

- Launching in October 2025
- Falcon 9 - Transporter 15
- LEO polar orbit - 500 km

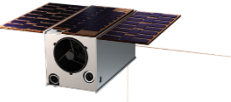
MAUVE

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BLUE SKIES SPACE SETS LAUNCH DATE FOR FIRST SCIENCE SATELLITE

WRITER Anna Wood LIKES 0


EXPECTED TIME TO READ

Techopedia Dictionary Artificial Intelligence Cryptocurrency Cybersecurity Hardware

Emerging Technology

UK Startup Blue Skies Space Partners with SpaceX for First Satellite Launch

by Technology Journalist Franklin Okeke Fact Checked by Duncan Proctor Updated on 8 August 2024

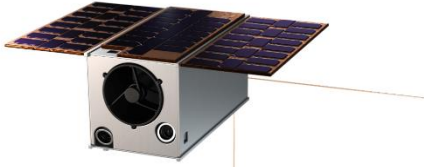


Aerospace Global News Air Transport Defence Space All Topics

UK science start-up Blue Skies Space to launch first stargazing satellite

UK start-up company Blue Skies Space has confirmed an October 2025 launch date for its Mauve stargazing satellite. The satellite will be launched on SpaceX's Falcon 9 rocket as part of the Transporter-15 rideshare programme, and will be the company's first satellite in orbit.

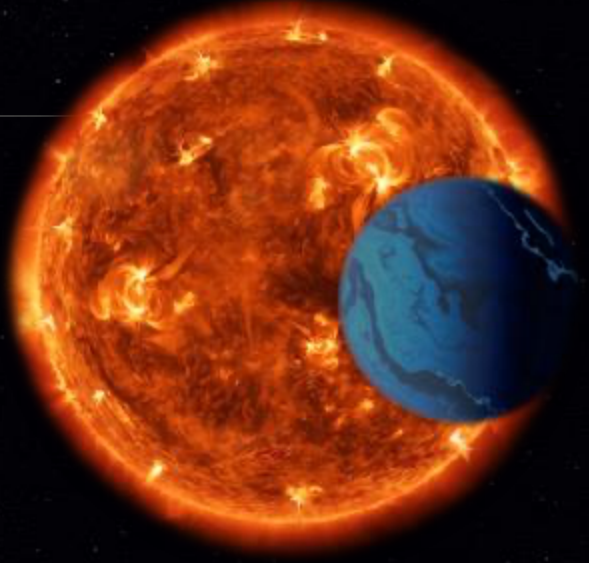
Space Blue Skies Space Mauve SpaceX SHARE in f X



Mauve science



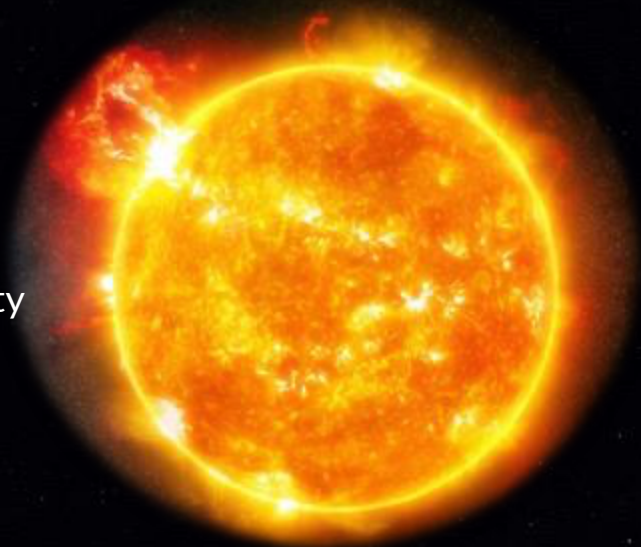
Hot Stars



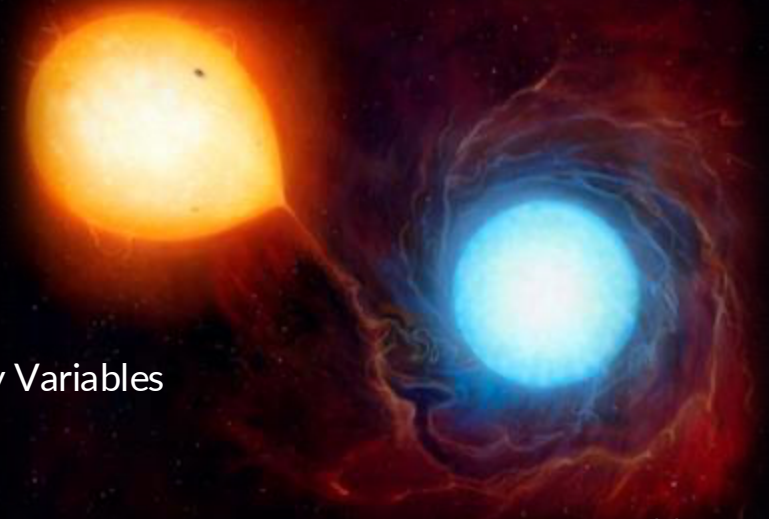
Exoplanet Hosts



Herbig Ae/Be Stars



Flaring Activity



Contact Binary Variables

Mauve Science Themes

Calibration

3 Members

Young Planet Hosts

3 Members

Characterising Future Habitable Worlds

Observatory Targets

3 Members

Probing Stellar CMEs in G-type Sun-like Stars: Possible UV Dimming Signatures Following Flares

2 Members

Binaries in exotic stellar populations with MAUVE

3 Members

Emission Mechanism for Super-flares on Young Sun-like Stars

4 Members

Unveiling the Nature of Near-ultraviolet and Optical Continuum Radiation from Stellar Flares on M-dwarfs

4 Members

Accretion Variability of Herbig Ae/Be Stars

3 Members

The Mauve Classical Be Star Survey

2 Members

Exoplanet characterisation with Twinkle

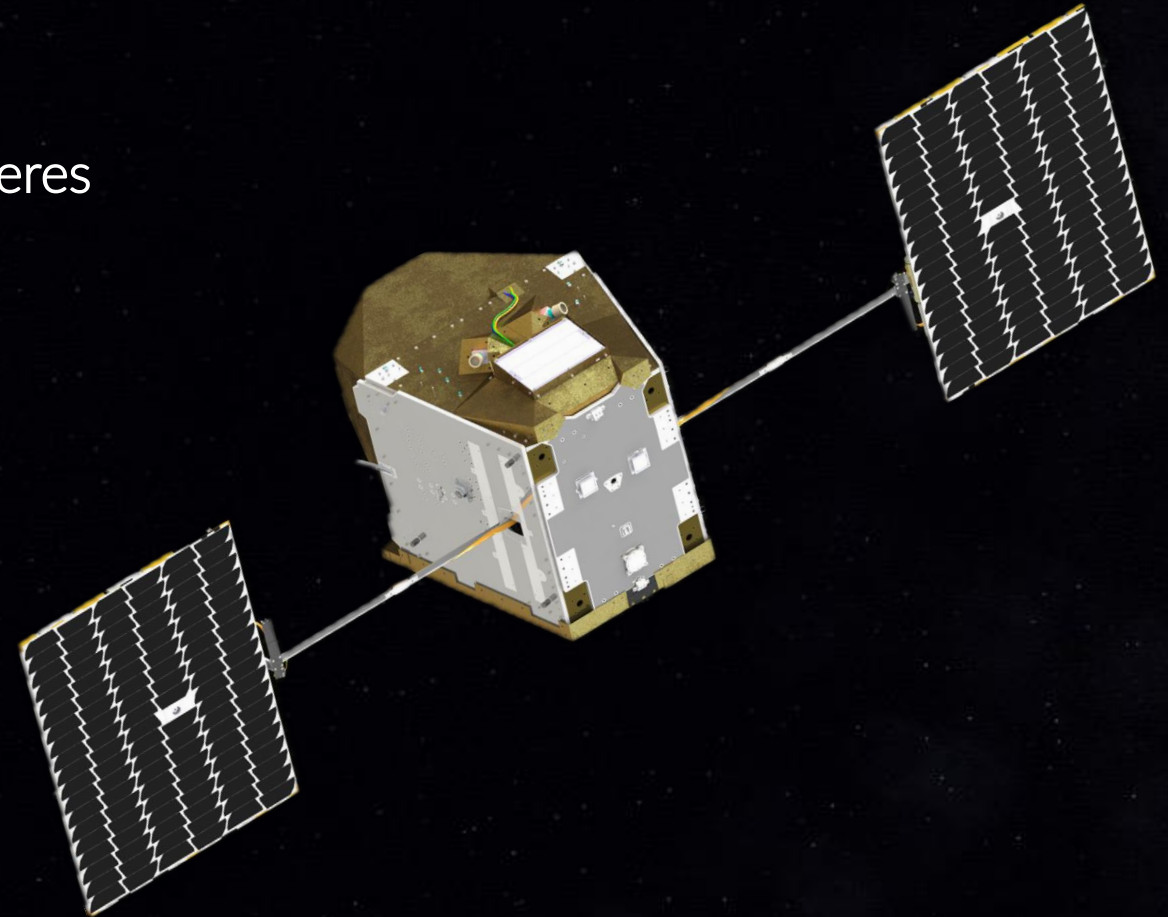


Space-based IR spectrophotometry

Spectroscopic characterisation of exoplanet atmospheres
and Solar System bodies

1000's of yearly observation hours

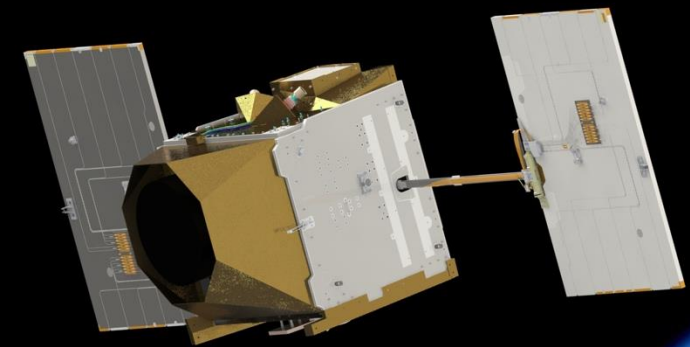
A global collaboration



Twinkle



Primary Mirror	0.45 m
Spectral Range	0.5 – 4.5 μm
Resolution	Ch 0 (0.5 – 2.5 μm): max R=70 Ch 1 (2.4 – 4.5 μm): max R=50
Platform	Airbus Arrow
Payload	Teledyne & ABB
Orbit Altitude	1200 km
Pointing Solutions	Star Tracker + Gyro
Thermal Solutions	Cryocooler
Operational Lifetime	7 years



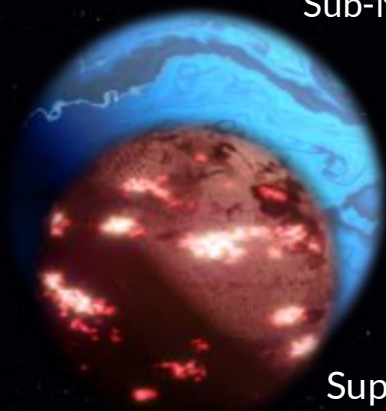
Twinkle Science



Stellar & Sub-Stellar



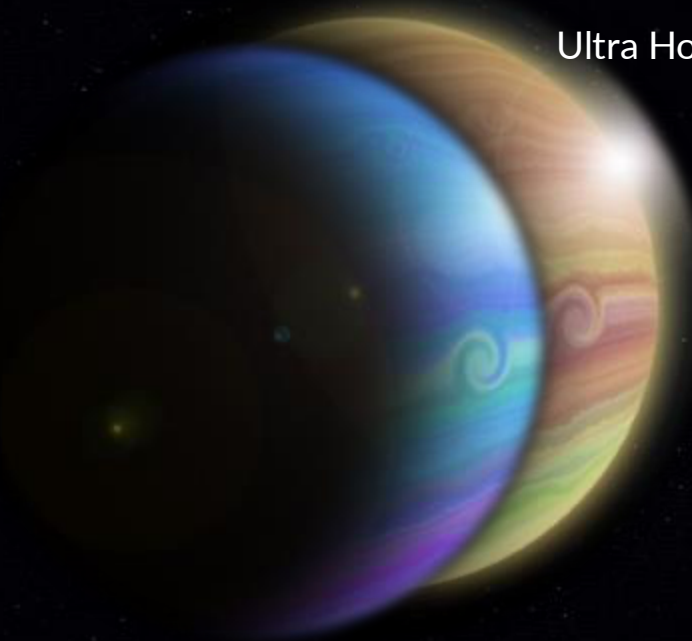
Sub-Neptunes



Super-Earths

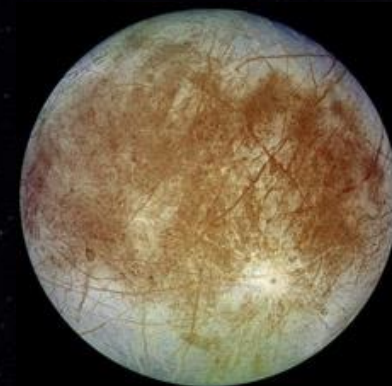


Protoplanetary Disks



Cool Jupiters

Ultra Hot Jupiters



Solar system planets and moons



Comets



Asteroids

Twinkle Science Themes

Suggested New Theme: Giant Exoplanets Around M-Dwarf Stars

2 Members

Suggested New Theme: Ground Support and Very Young Exoplanets

2 Members

Stellar characterisation

10 Members

Phase-curves: Atmospheric circulation and 3D distribution of P-T profiles and chemical composition.

14 Members

Brown dwarf characterisation

5 Members

Spectroscopic survey of flares on nearby M-dwarfs

7 Members

Measuring transit timing variations and building new ephemeris

9 Members

Spectroscopy of externally irradiated protoplanetary discs

3 Members

Observation of PAHs in the atmospheres of protoplanetary discs and exoplanets

6 Members

Legacy survey of minor species

9 Members

Biosignature detection in super-Earths and sub-Neptunes

13 Members

Atmospheric variability of exoplanets over stellar cycles

9 Members

Characterising a population of cool Jupiter atmospheres

11 Members

Characterising a population of sub-Saturn atmospheres

12 Members



Stardrive



Access Mauve Data

Parul Janagal

Collaboration Tools Data Policies



Welcome Back, Parul

High-quality scientific data and an active community awaits.

Payload Simulator Updates

The Payload simulator tool has been updated to version 0.12.0. In this latest version:

- The spectrum for the zodiacal background is from a G2V star, in the previous version the zodiacal background was from a G8 star.
- We are now using updated values for fibre transmission from our last round of testing.

You can read more about the [Mauve simulator in the paper on Arxiv.](#)



People

Recently Active Users

Science Themes

Collaborate with other members on Mauve's core science themes

All Working Groups My Working Groups

Calibration 3 Members	Young Planet Hosts 3 Members	Characterising Future Habitable Worlds Observatory Targets 3 Members
Probing Stellar CMEs in G-type Sun-like Stars: Possible UV Dimming Signatures Following Flares 2 Members	Binaries in exotic stellar populations with MAUVE 3 Members	Emission Mechanism for Super-flares on Young Sun-like Stars 4 Members
Unveiling the Nature of Near-ultraviolet and Optical Continuum Radiation from Stellar Flares on M-dwarfs 4 Members	Accretion Variability of Herbig Ae/Be Stars 3 Members	The Mauve Classical Be Star Survey 2 Members

Tools

Tools to support mission planning and performance predictions



Orbital Tool

The orbital tool calculates the periods during which a given portion of the sky can be observed by Mauve.

[Get started with the Orbital Tool >](#)



Payload Simulator Tool

The Payload Simulator models the signal data for a given stellar spectrum using Mauve's latest payload assessment.

[Get started with the Payload Simulator Tool >](#)





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