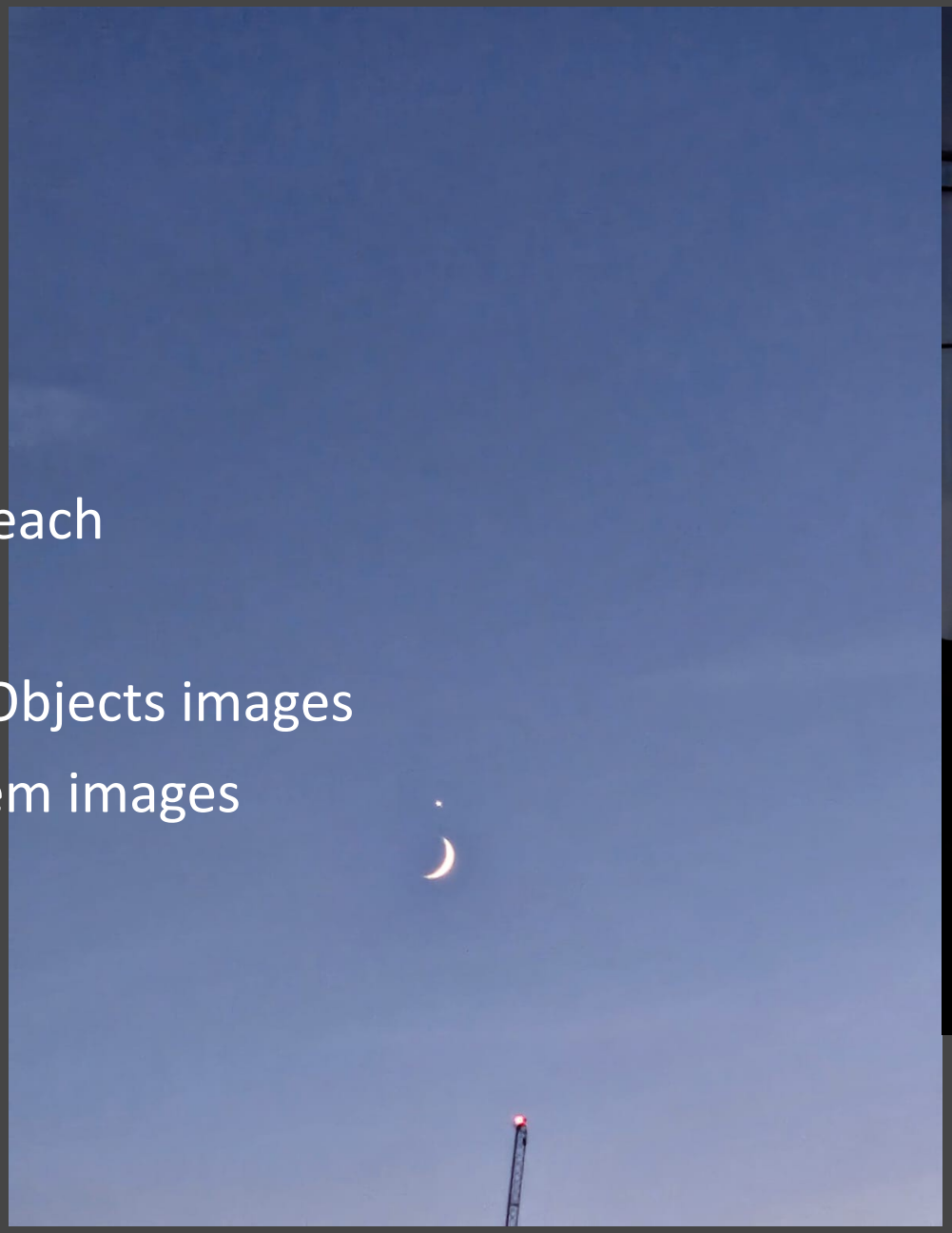
The Night Sky

June - July

Contents

- Astro News and Outreach
- The month ahead
- Members' Deep Sky Objects images
- Members' Solar System images
- Photometry
- Equipment





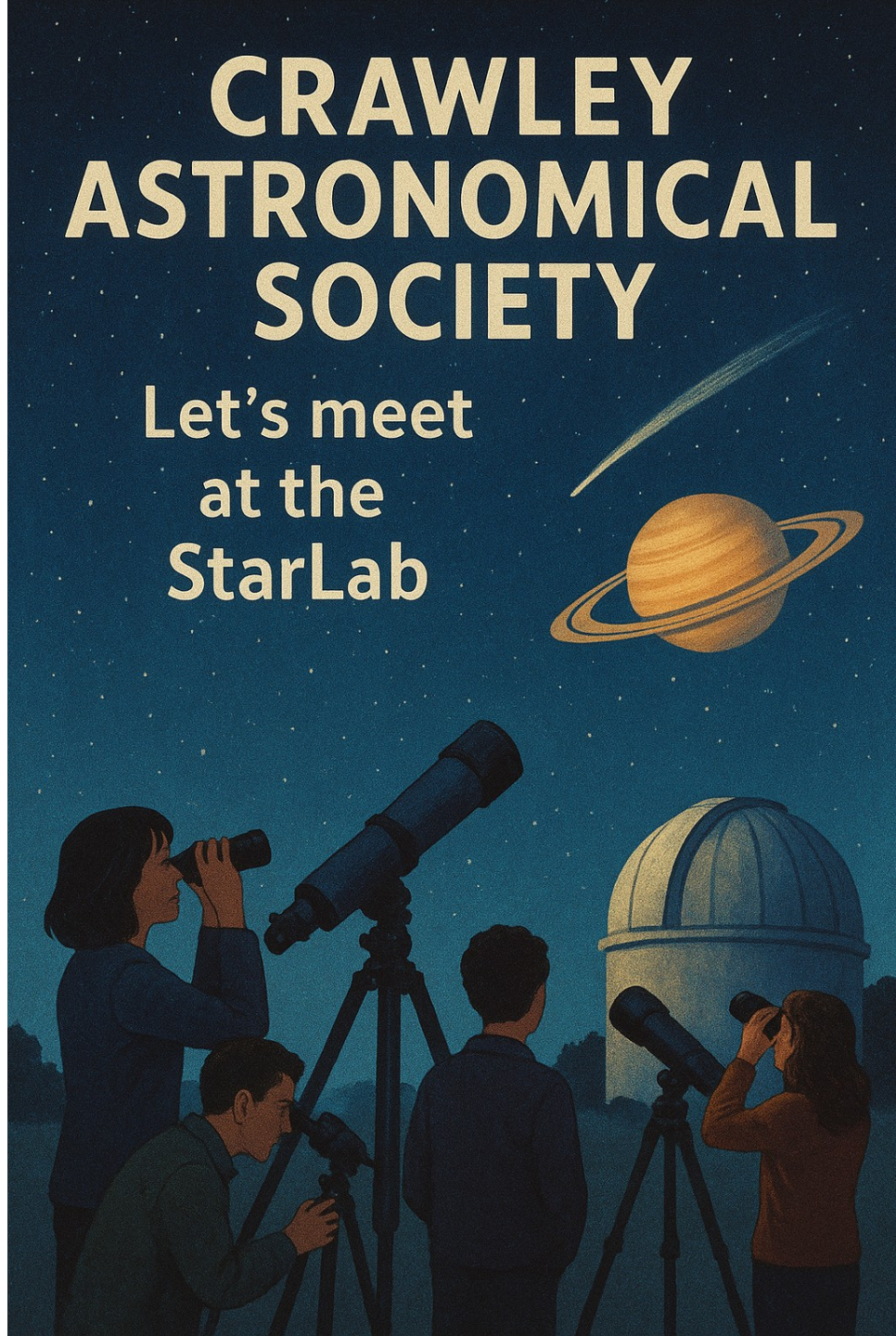


CAS Workshops

- ✓ 9th January: image processing with Siril
- servicing a mount: -> will be replaced by a Video from Kevin
- ✓ 24th April: using masks in image processing
- ✓ 22nd May: Using GIMP to process images
- ✓ 12th June: different types of reflectors, pros and cons (SCT, RASA, RC, Mak, Newton)
- 10th July: Focus on Stretching – from the basics to new methodology
- 14th August: NINA acquisition software
- Choosing an astro camera
- Mono cameras

Outreach – 2026 plan

- ✓ 24th January – Science Festival at the Caterham school
- x 27th February – in collaboration with the Caterham school – Cancelled due to the weather
- x 6th March – Observation night at the StarLab – Cancelled due to the weather
- ✓ 16th March – Science Day at the Copthorne Prep School
- x 27th March – Let's observe the night sky – Outreach at the StarLab – 7.30pm
- ✓ 24th April – Outreach at the StarLab
- ✓ 16th May – STEM in the Park – Crawley
- 12th August – Solar Eclipse – Tillgate park TBC





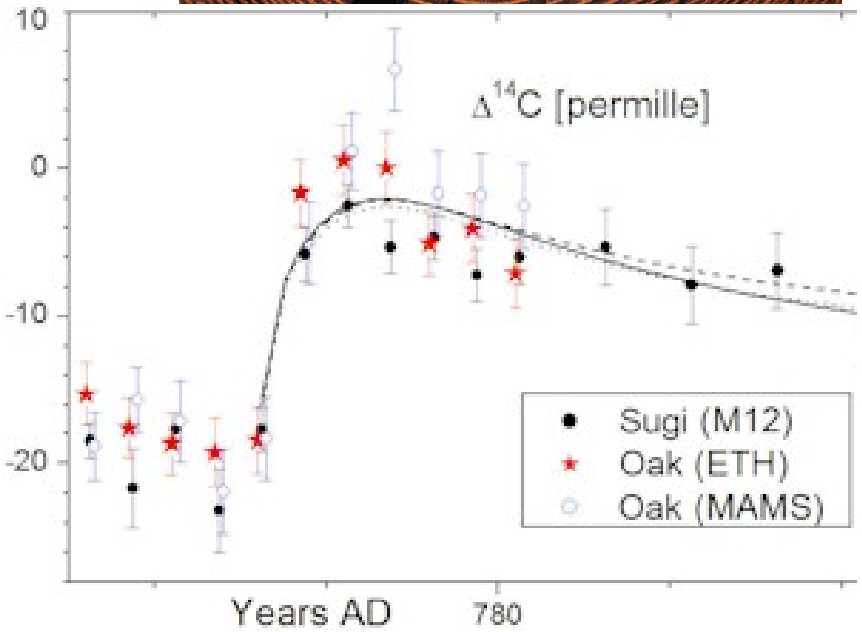
Astro News - Focus on SNe

Supernova	Discovery Date	Host Galaxy	Constellation	Magnitude (June 2026)
SN 2026fvx	March 17, 2026	NGC 4205	**Draco**	~13.0 – 13.1
SN 2026kid	April 22, 2026	NGC 5907	**Draco**	~15.7
SN 2026kie	April 22, 2026	NGC 3437	**Leo**	~15.7
AT2026obf	June 2, 2026	MCG -03-07-007	**Eridanus**	~16.9

Astro News – Miyake Events RAS AGM



- The 774-75 AD solar storm was at least 10 times stronger than the Carrington Event of 1859
- If it happened today, it would floor modern technology.
- Since Miyake's initial discovery, she and others have confirmed five more examples:
  - 12,450 BC,
  - 7176 BC,
  - 5259 BC,
  - 664-663 BC,
  - 993 AD
- About 2,000 years apart on average.



Astro News – Ozone Layers From ISO institute

- The orbital decay and burn-up LEO satellites generates large quantities of AlO and Al_2O_3.
- The Aluminium products are created in the upper mesosphere and then descend to the stratosphere and troposphere.
- These pollutants are projected to increase, even by the early 2030s, to levels that are predicted to increase stratospheric ozone loss very substantially.
- This might well re-create the Polar Ozone Holes that are still in the process of recovery from the “Aerosol Issue” of the 1970’s and 1980s.



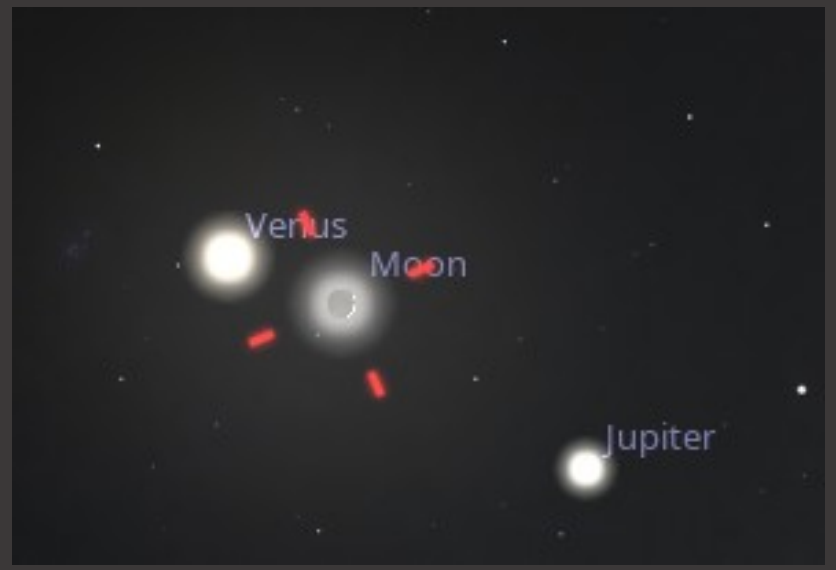
June Highlights Sky Diary

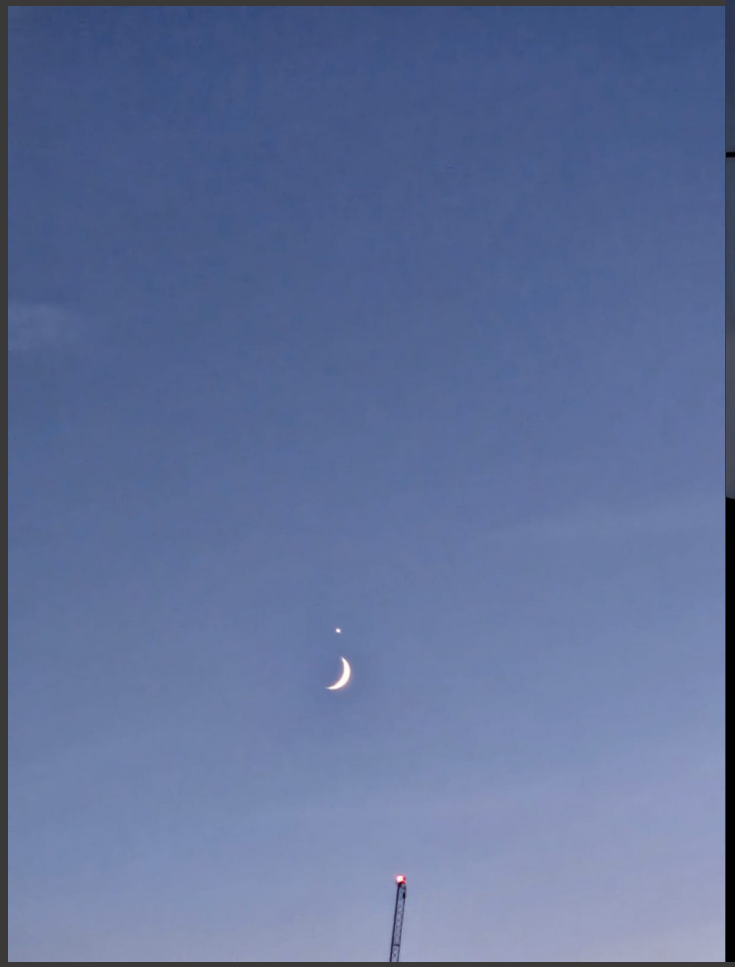
- Summer Triangle - Vega (in Lyra), Deneb (in Cygnus), and Altair (in Aquila)
- M13 - The Great Globular Cluster in Hercules
- M57 - The Ring Nebula in Lyra
- The Milky Way is overhead
- June 29/30 – Full Moon @ 23.57
- Solstice in 2 days time - June 21st
- Planets:
  - Jupiter visible in the evening sky, next opposition 13th February 2027
  - Saturn, next opposition 5th October 2026
  - Mars, next opposition 19th Feb 2027
- **12th August: Total solar eclipse, 91% partial in the UK!**

19th June, 10.15pm

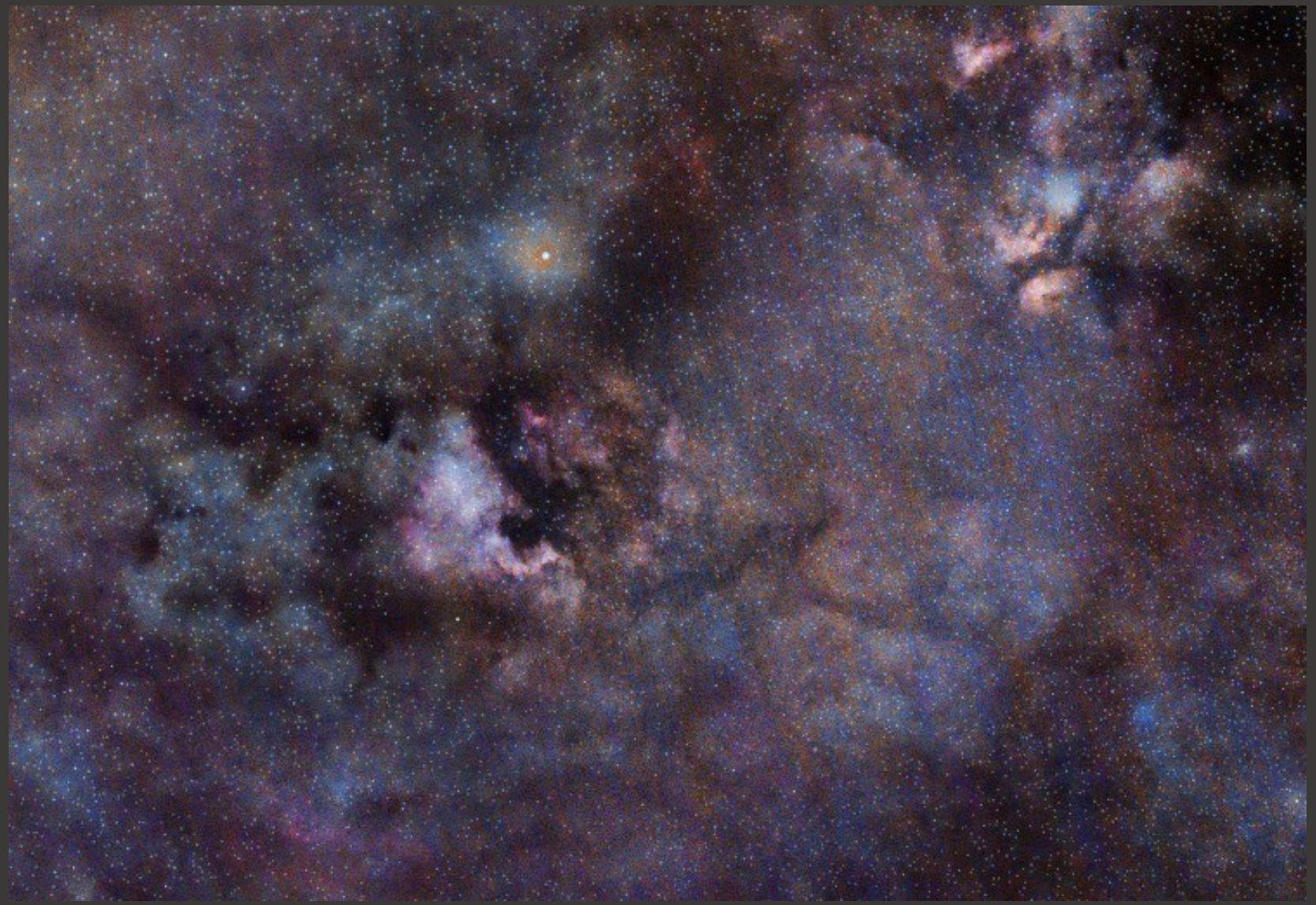
Focus on member's photos: Rod and Dean

- The Moon and Venus







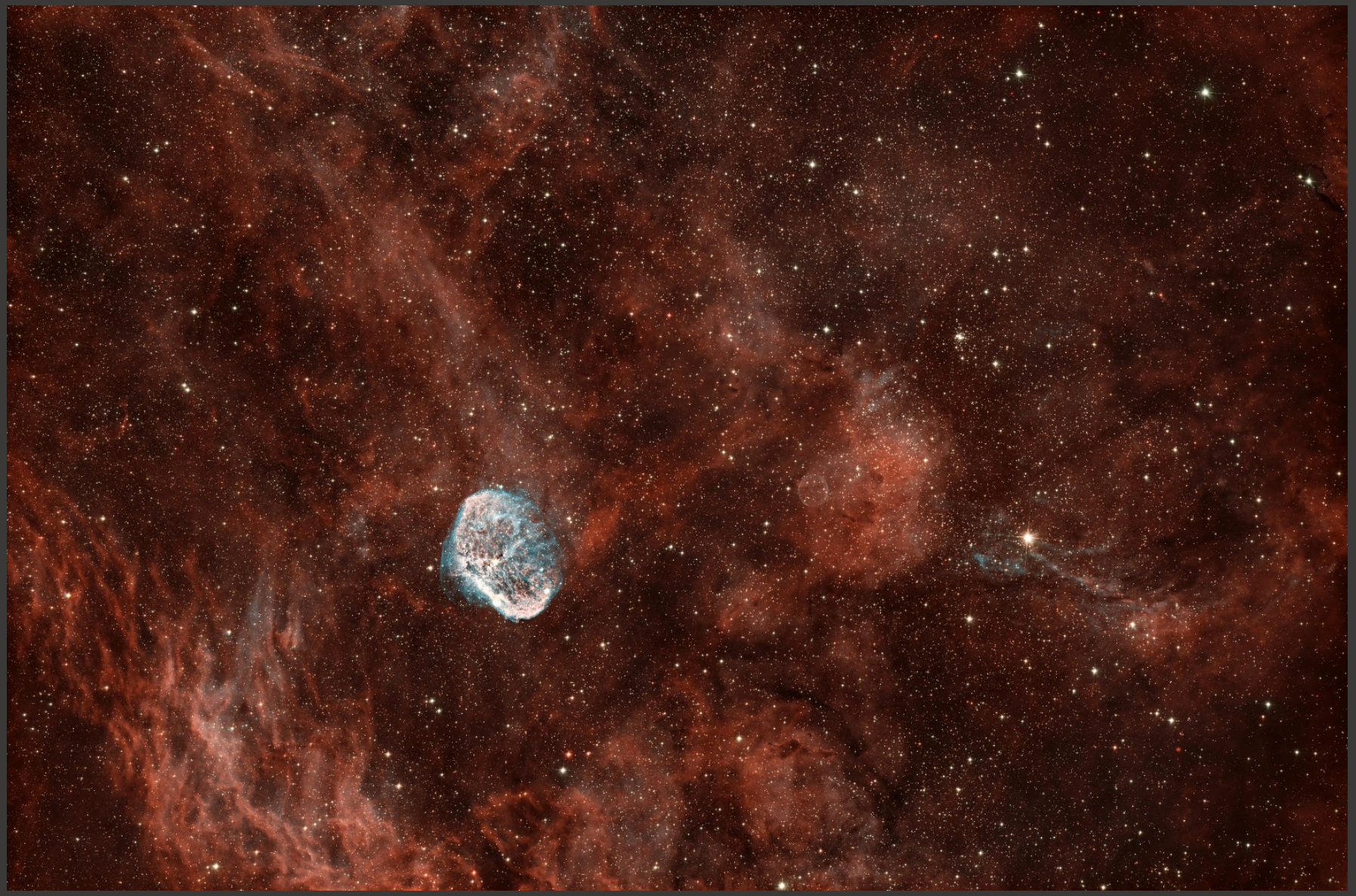


Steve F

- NGC 7000 - Cygnus
- 1.5hrs integration using Olympus mirrorless camera with 40 to 150mm f2.8 zoom lens @40mm. 20deg FOV.
- Star Adventurer tracker.
- 900 images, 5sec Iso1600.
- 14hours processing in SIRIL with GraxPert background removal

Axel

- NGC 6888 (Crescent Nebula)
- Newton over 3 nights.
- Approx 7 hours
- IDAS NBZ II filter + Ha





Kabir

- NGC 7048 in Cygnus
- 100 mins
- Celestron Edge HD8
- ZWO ASI2600MM



Chris

- NGC7000
- Seestar S30 Pro Alt-Az mode
- 15.2 GB of raw data (914 * 16.6MB 10sec FITS images, each 2160 * 3840 pixels)
- 3,589 interim Siril files were created by Siril's "Seestar_Preprocessing.ssf" script for an ADDITIONAL 176.9 GB.
- Final stacked image was 99.5 MB.
- Total script execution time: 3h 04m.



Brian

- M51
- WO 61
- 30 mins @ 120 secs.
- Gain 200
- ZWO ASI 585MC

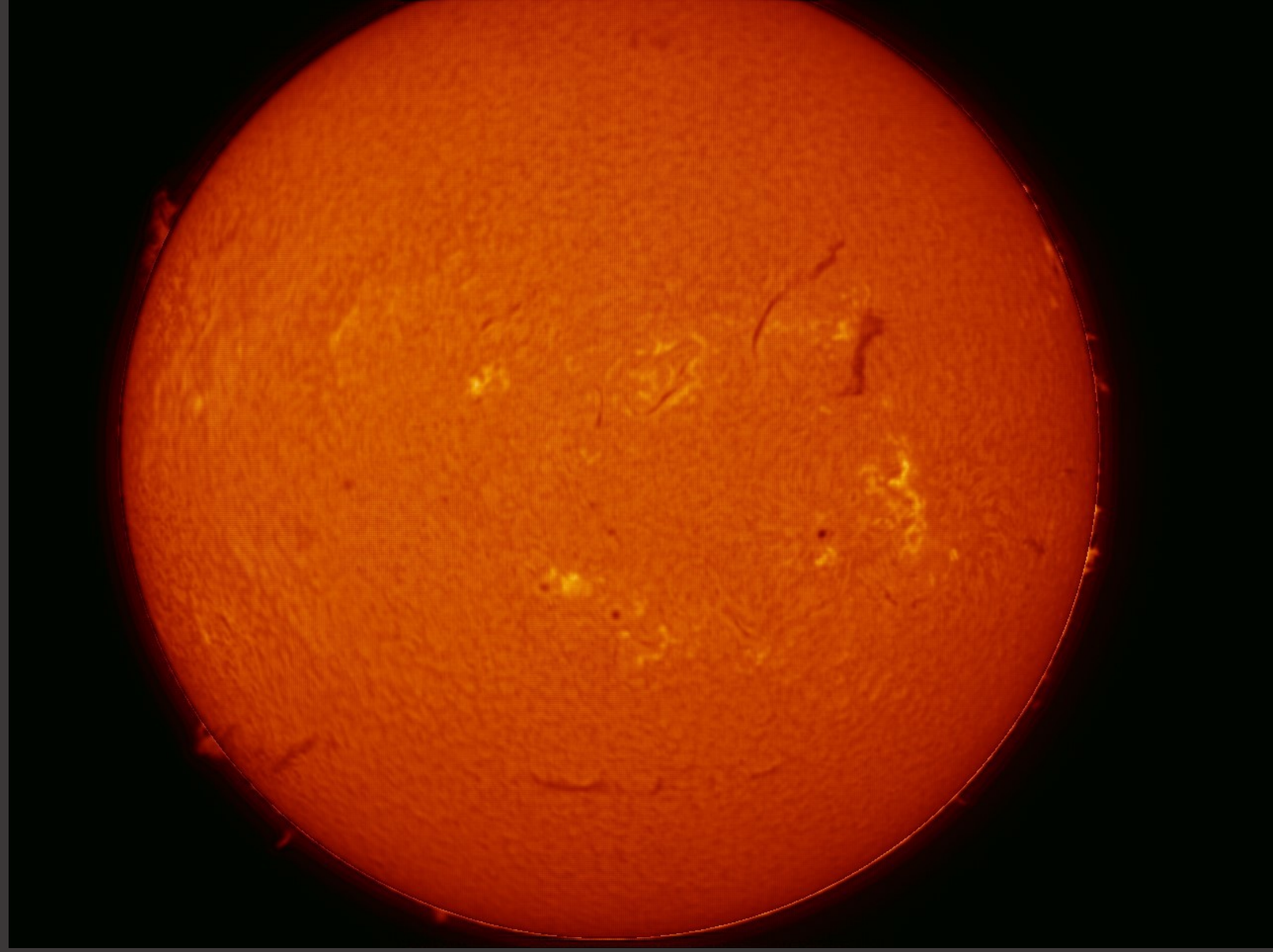
Dean

- Jupiter
- Maksutov 127 & EQ5
- ZWO ASI120 mc-s
- Sharpcap
- 2000 frames
- Autostackert! & Registax.



Gareth

- Sol
- CAS solarscope,
- ZWO ASI120MC-S,
- Sharpcap live planetary stacking,
- best 20% (1000 subs).



Project “Adopt a star!” – a simple workflow

Step 1 - Capture images

- Point towards the star
- Take 10 short exposures
- Seestar: save individual raw files
- Subframe duration: around 10 sec

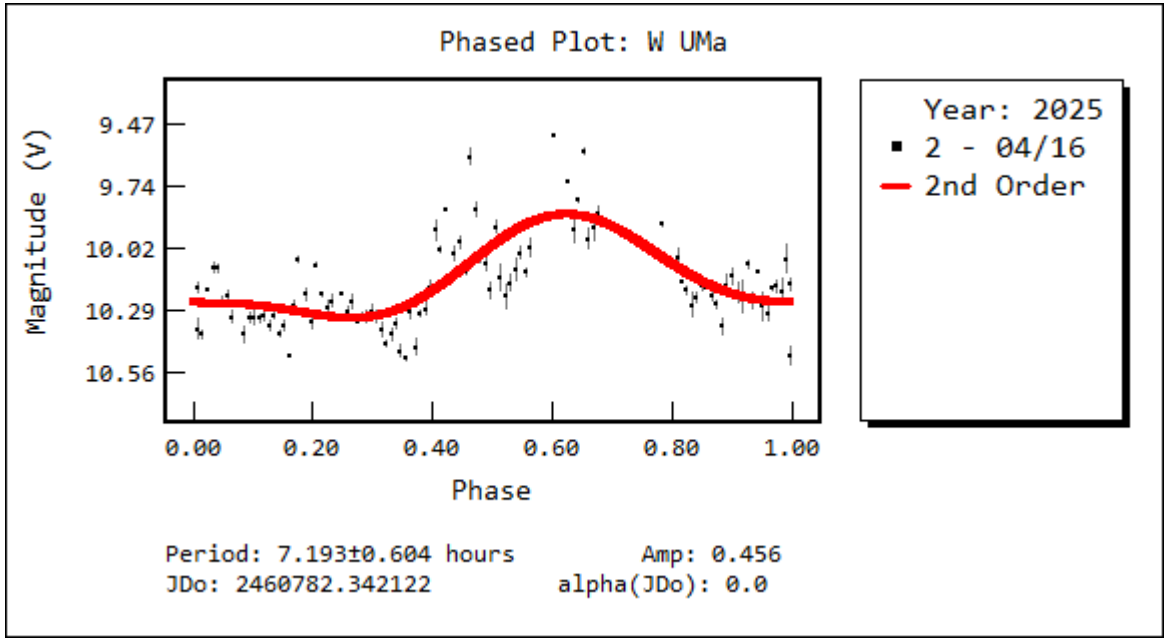
Step 2 – Measure brightness

- Using differential photometry, comparing to well known stars in the field
- It removes any effect from thin clouds, sky brightness, …

Step 3 – Process with Software

- Tycho Tracker
- ASTAP (calibrate, align and plate-solve) and Muniwin (free software)

Step 4 – Submit your results!



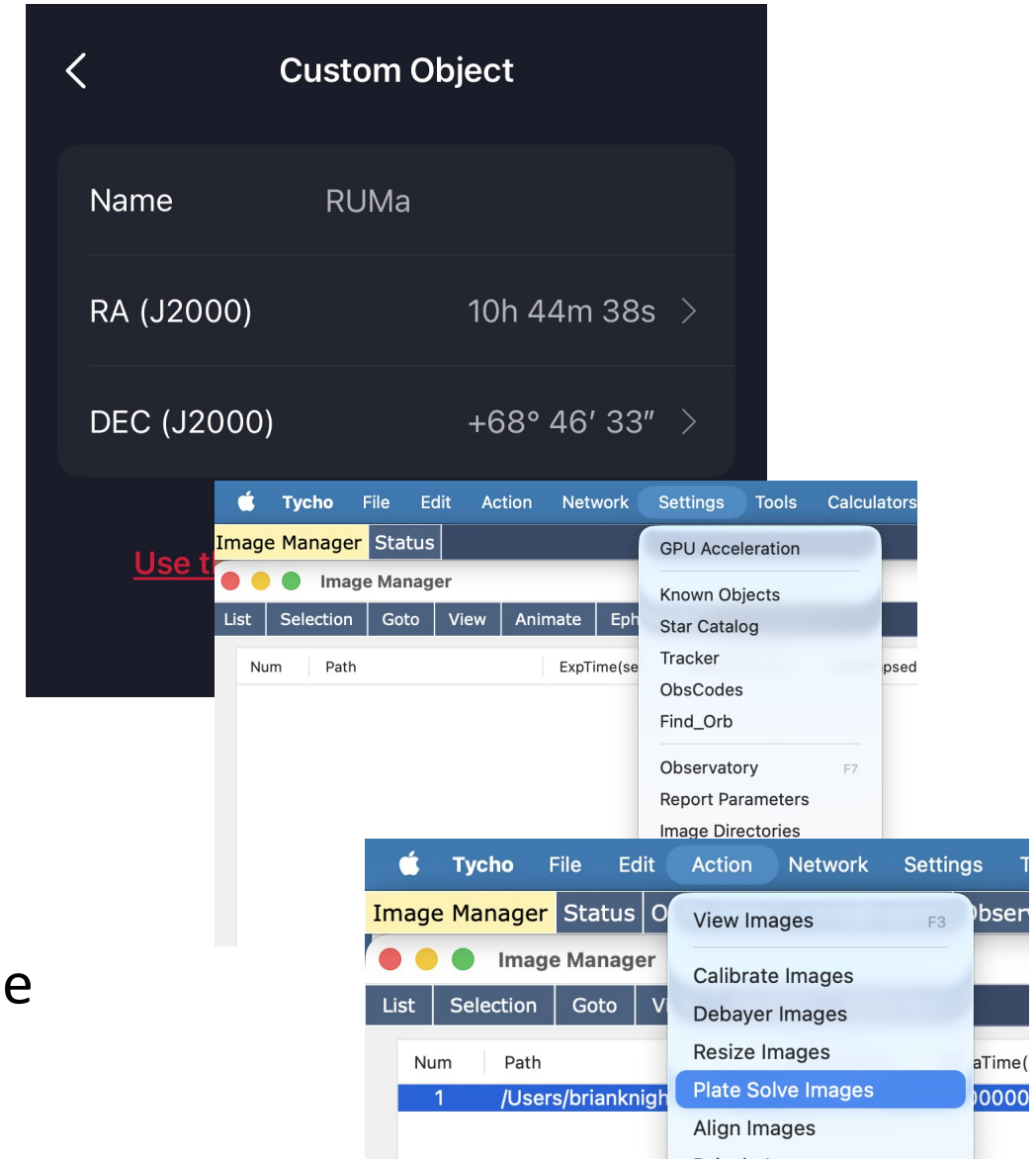
‘Adopt A Star’
Variable Star Photometry

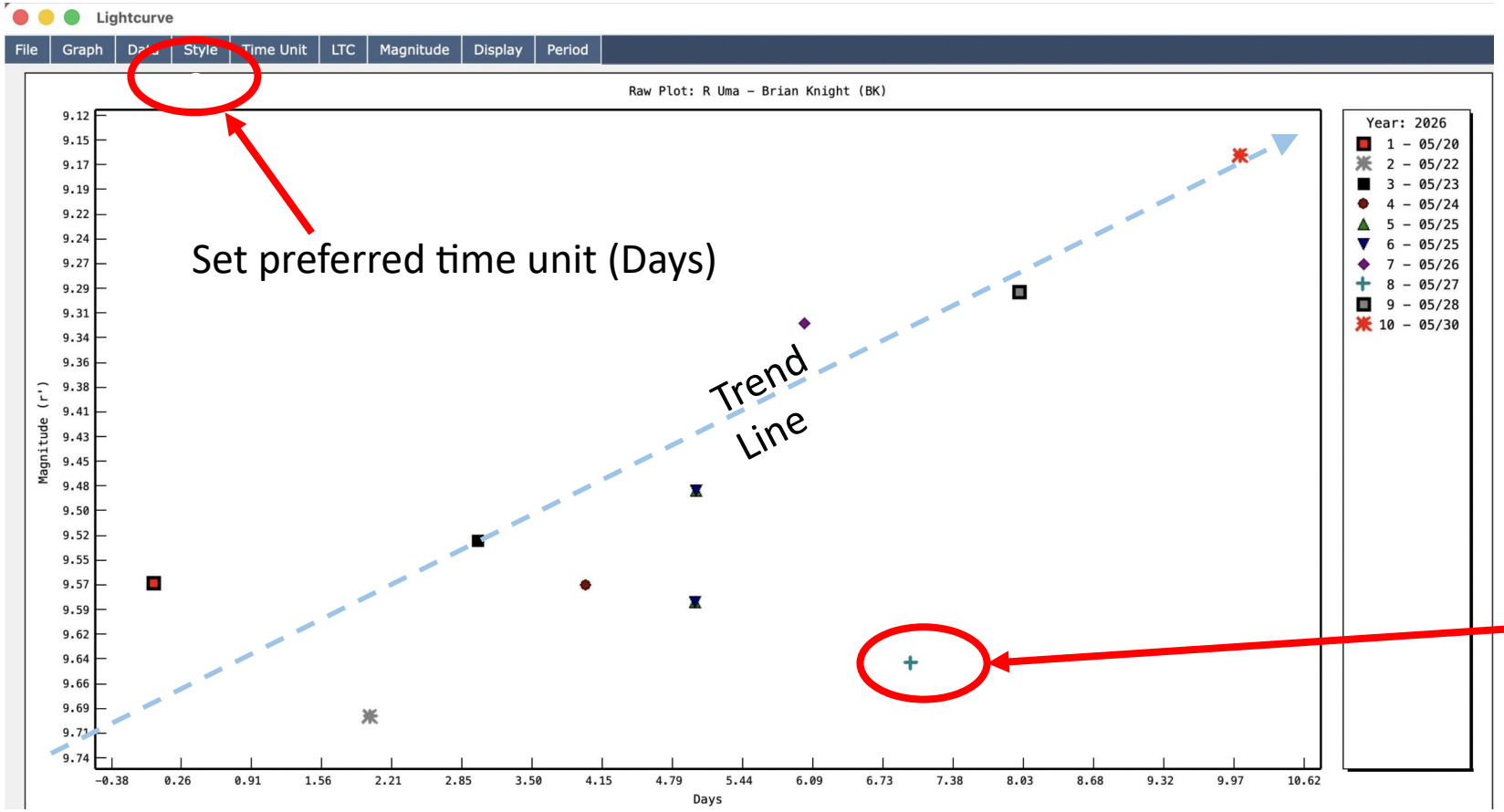
For Seestar

(R Ursa Major)

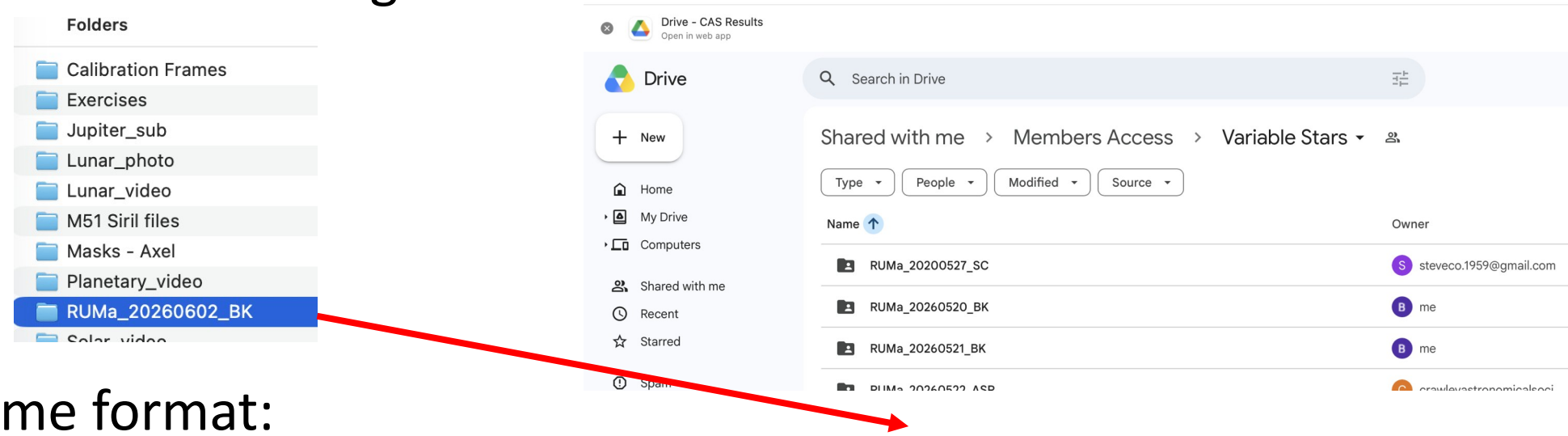


1. Set up Seestar target custom object
2. Imaging: Shoot x10-20 usable frames & export
3. Download, install buy & register Tycho
4. Configure Tycho settings & Star Catalogue
5. Process images in Tycho for Debayering, Alignment, Merging & Plate Solving
6. Process for Photometry, compare variable stars
7. Generate Photometry/Magnitude results
8. Graph resulting Magnitude records over time
9. Record results on CAS database




Lightcurve
File
Graph
Data
Style
Time Unit
LTC
Magnitude
Display
Period
Raw Plot: R Uma – Brian Knight (BK)
Magnitude (r')
Days
Year: 2026
1 – 05/20
2 – 05/22
3 – 05/23
4 – 05/24
5 – 05/25
6 – 05/25
7 – 05/26
8 – 05/27
9 – 05/28
10 – 05/30
Trend Line
Set preferred time unit (Days)
Dodgy data !

- http://tiny.cc/casvariable
- Drag saved folder to Google Drive

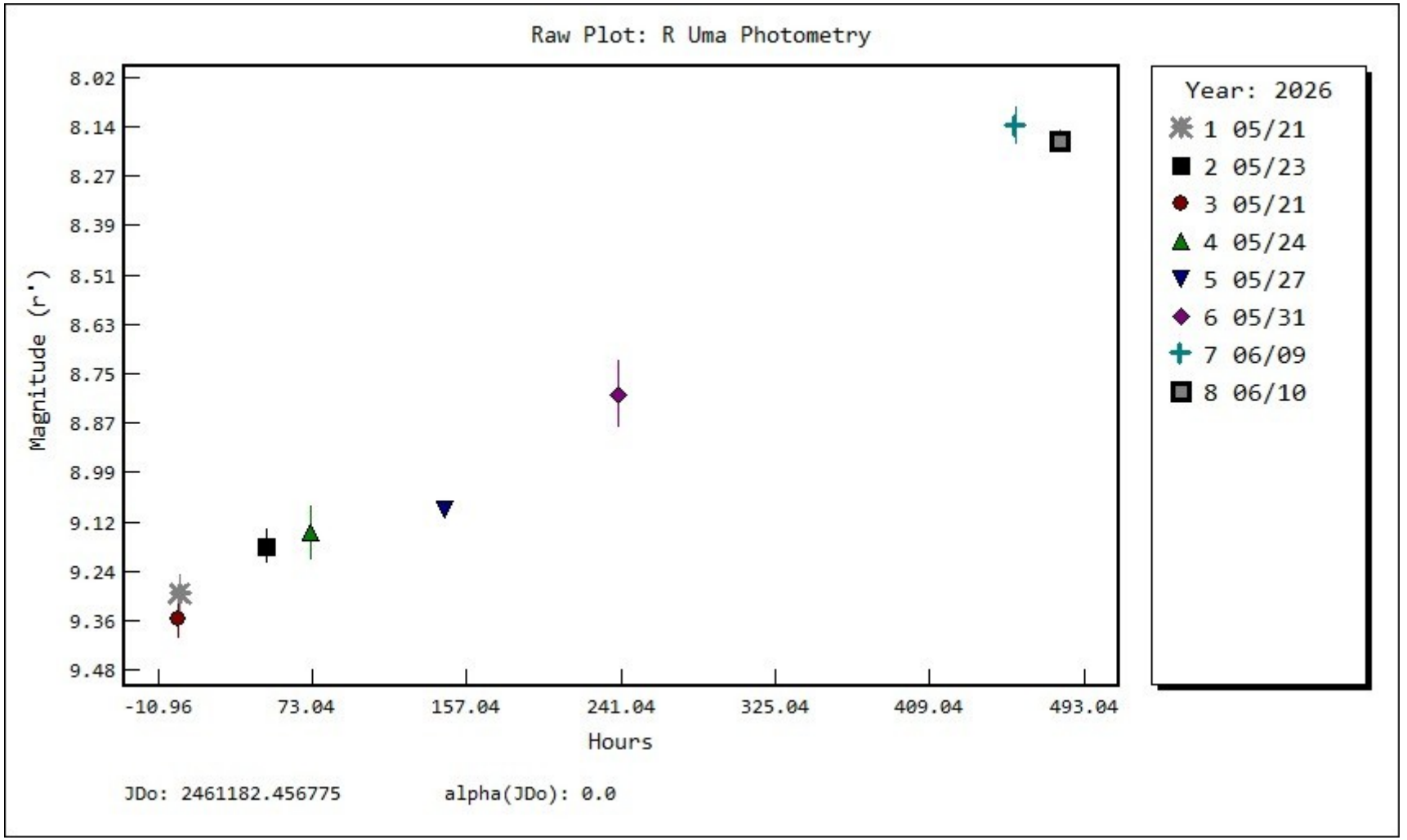


- Folder Name format: RMUa_yyyymmdd_name initials

Project “Adopt a star!”- Photometry

Gareth

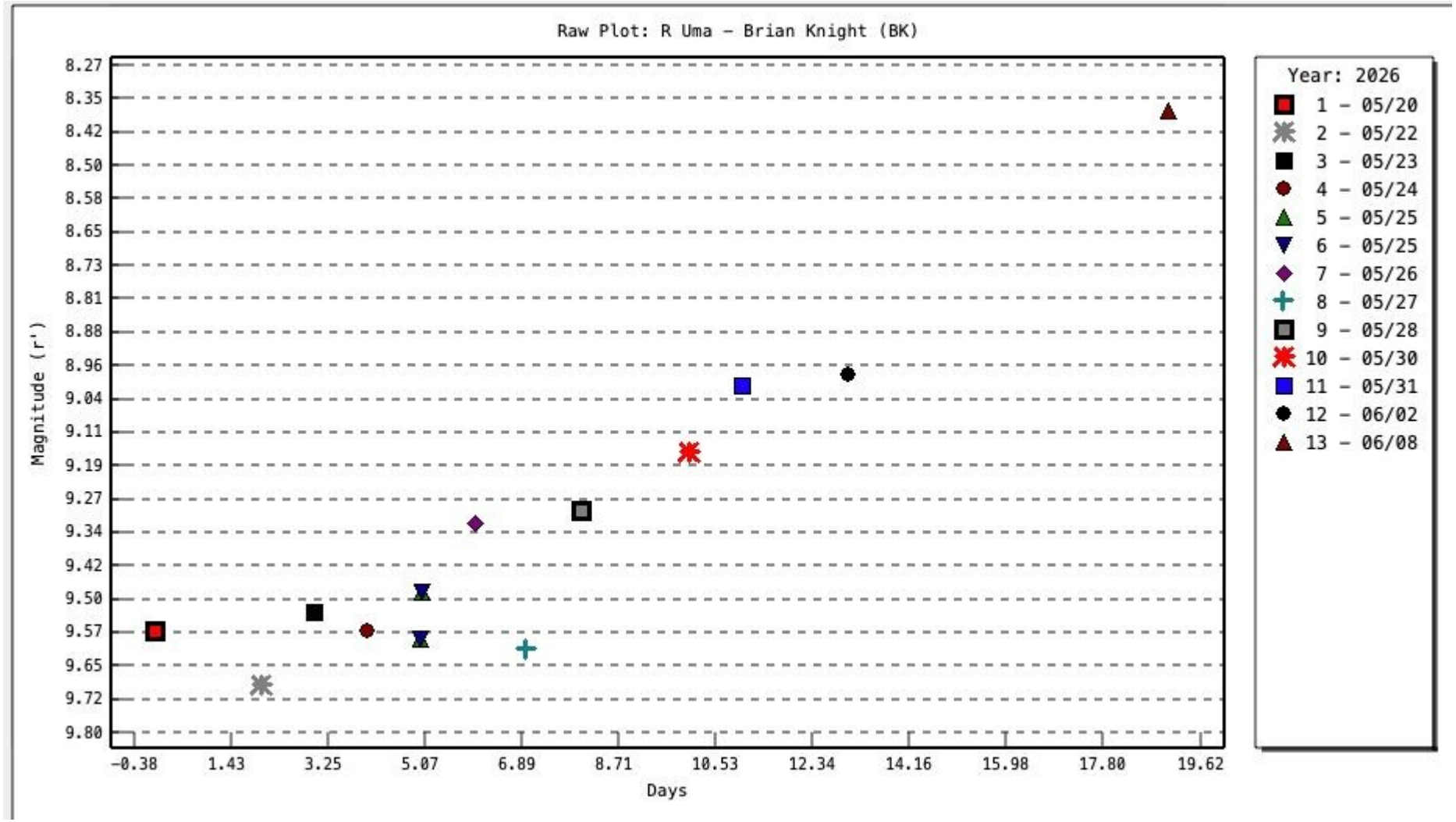
R UMa



Project “Adopt a star!”- Photometry

Brian

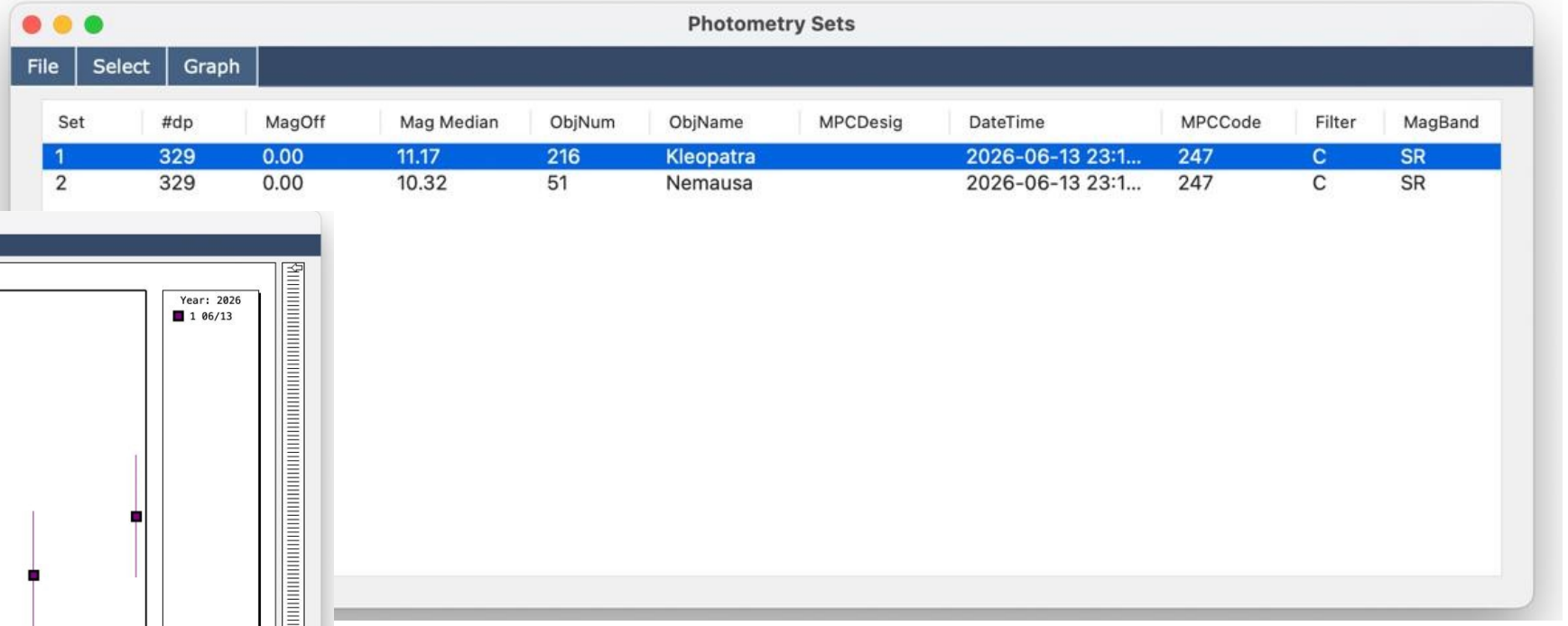
R UMa

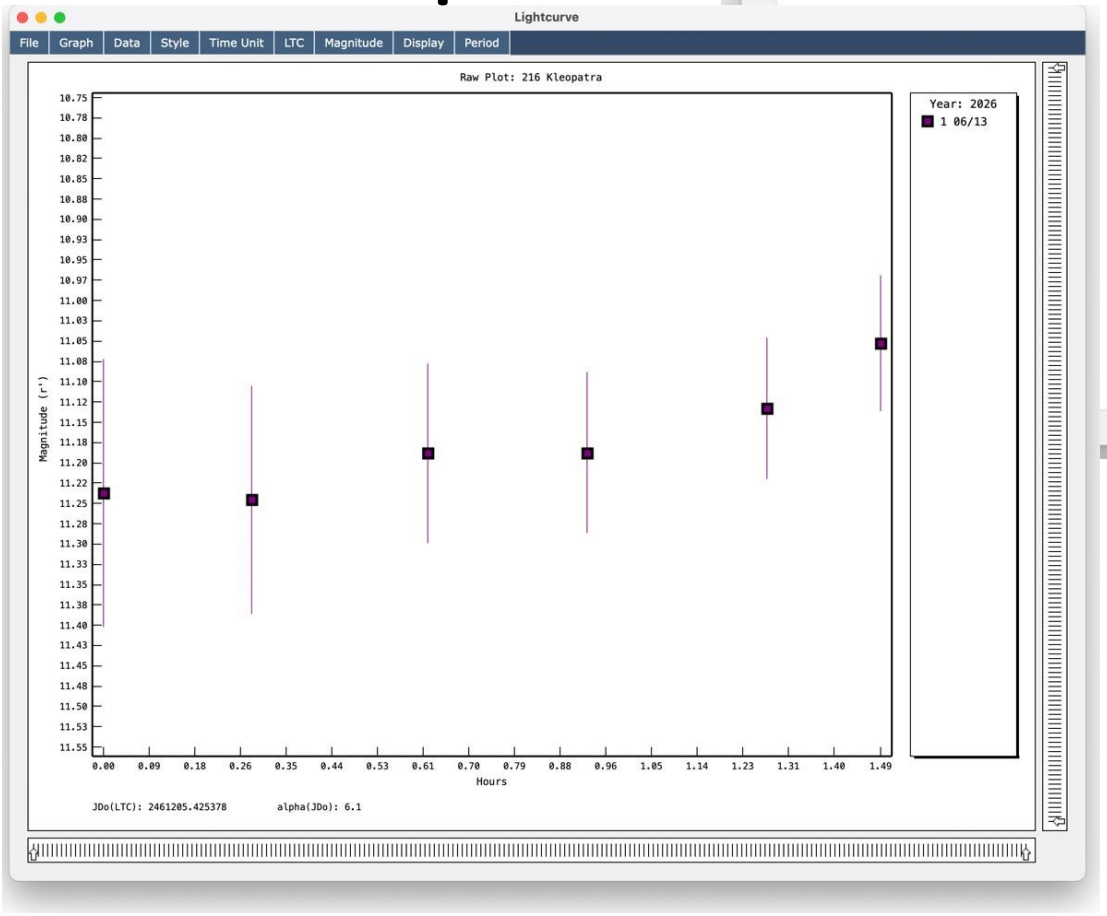


Project “Adopt a star!”- Photometry

Chris

216 Kleopatra





Equipment





Thanks!