



Remote Observatory: From Ireland to Spain

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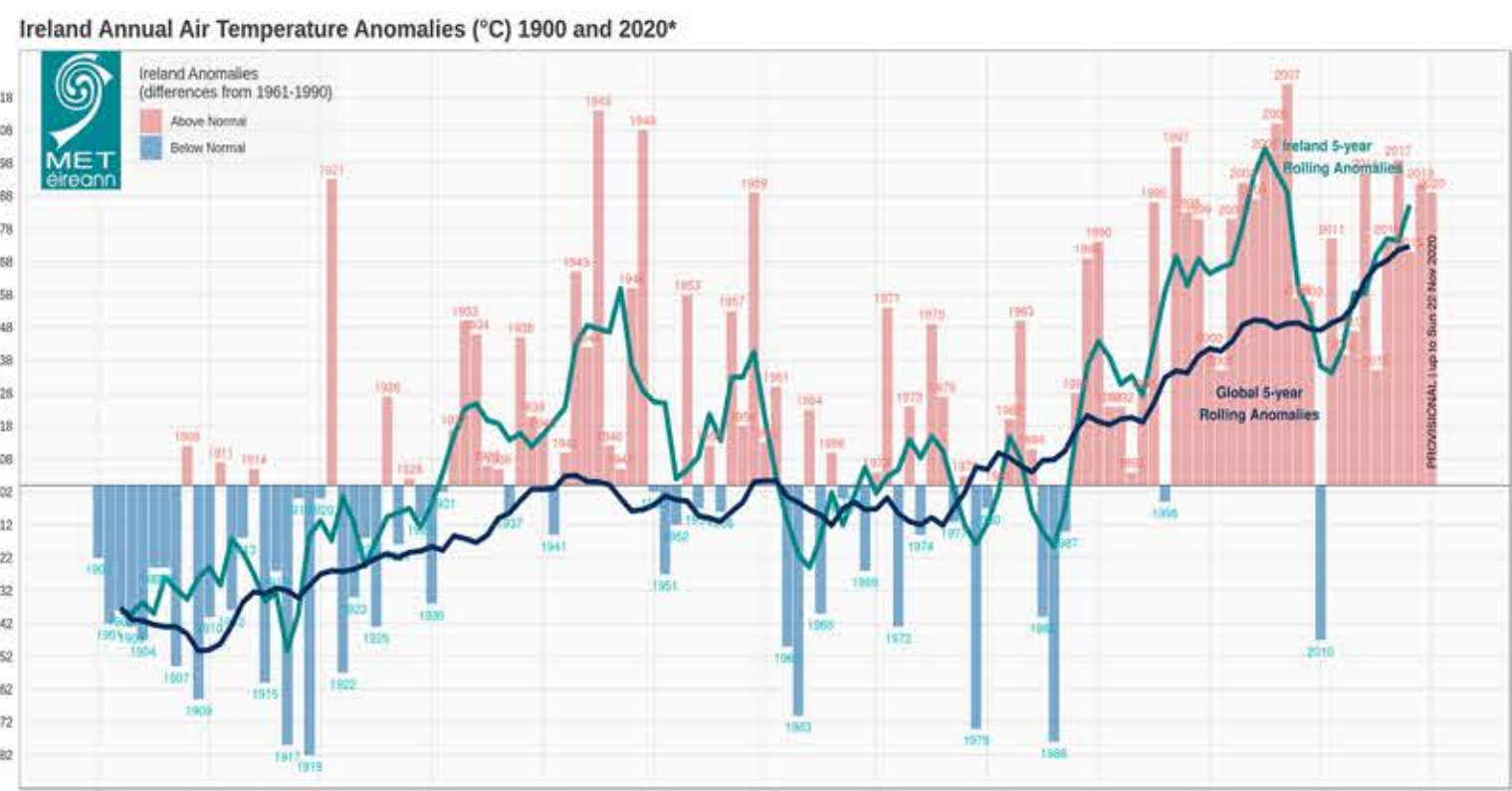
Problem Statement

- Increasing cloud cover in Ireland (climate change)
- Limited time available for late night real-time occultation observations due to work commitments

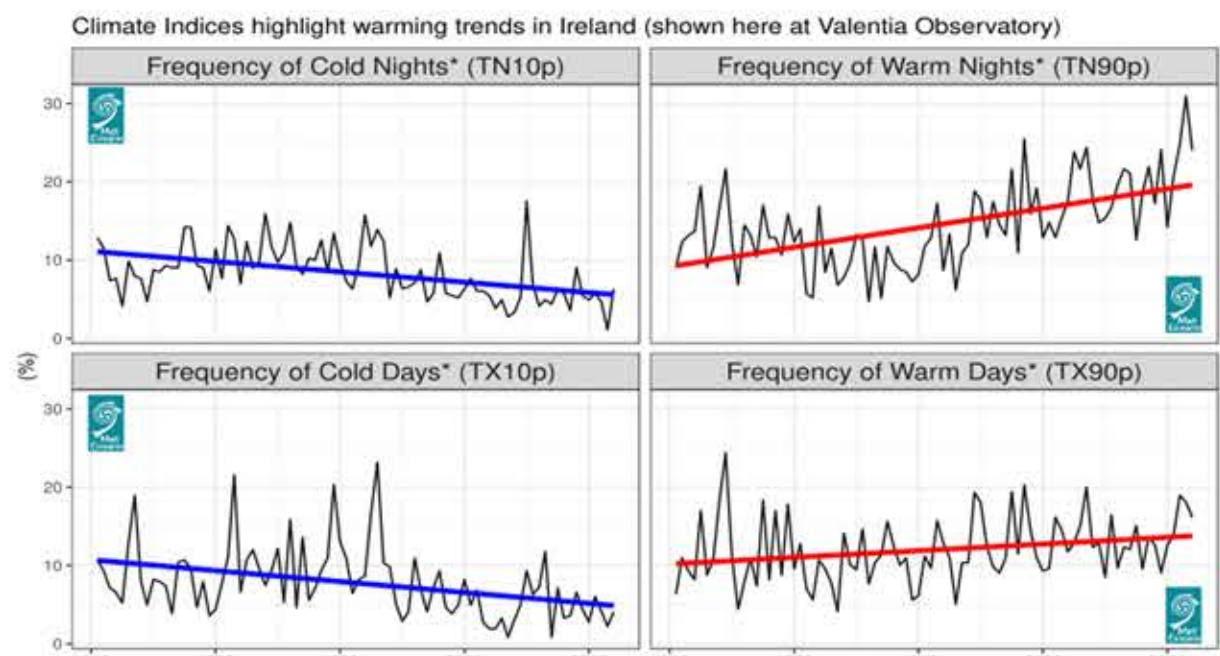
Solution: Remote observatory with automated setup

Timeline

- Sept 2024: Purchased setup
- Winter 2024/25: Tested equipment and researched remote observatories
- March 2025: Took ferry to Spain and installed setup in remote observatory



Source: Met Éireann (Irish Meteorological Service)

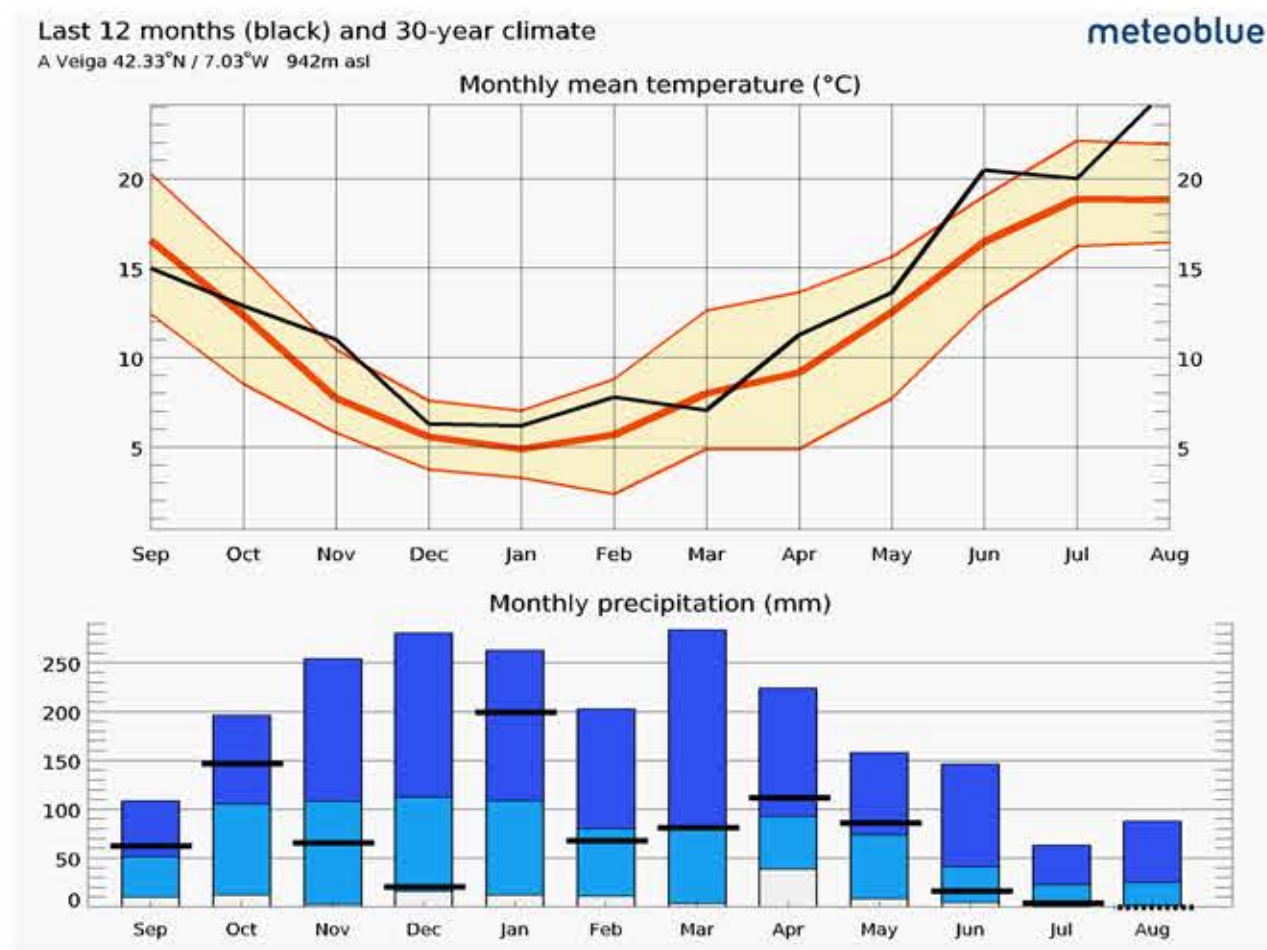


Source: Met Éireann (Irish Meteorological Service)



Map of Observatory Location

Source: Google Maps



12-month Weather Stats

Source: Meteoblue

Location

- Spain:
 - Favourable climate
 - Extensive network of remote observatories
 - Active asteroid occultation community
 - Good travel access from Ireland

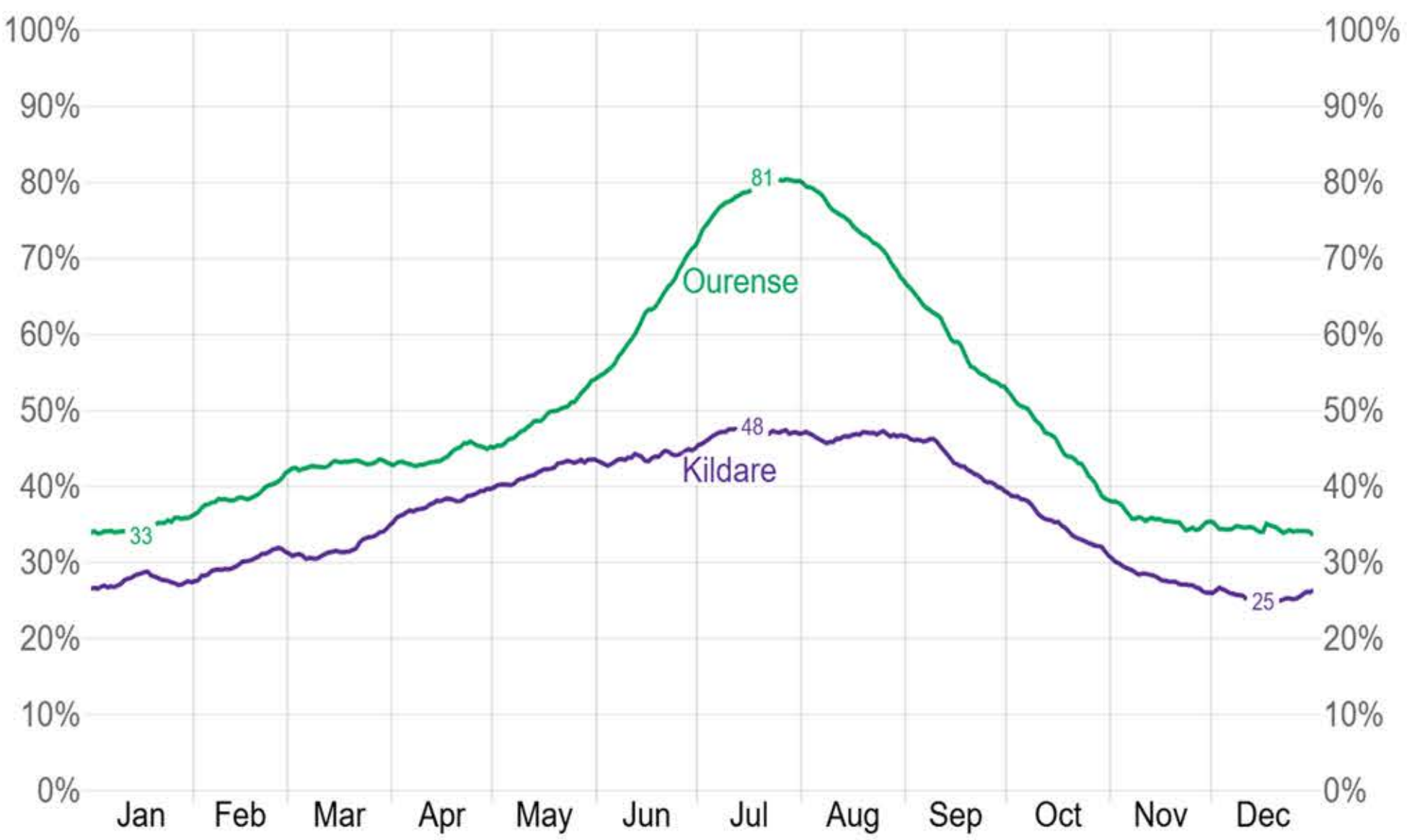
Location Selected: Trevinca Skies, Ourense

- Remote observatory in NW Spain
- Hosted facility with on-site technical support
- No active occultation observers in the area (To avoid unnecessary duplicate observations)
- Lower price than other facilities
- Accessible via ferry from Ireland (via Bilbao)



Photo of Observatory Site

Source: Michael O'Connell



Chance of Clear Skies (Spain vs Ireland)

Source: weatherspark.com

Equipment

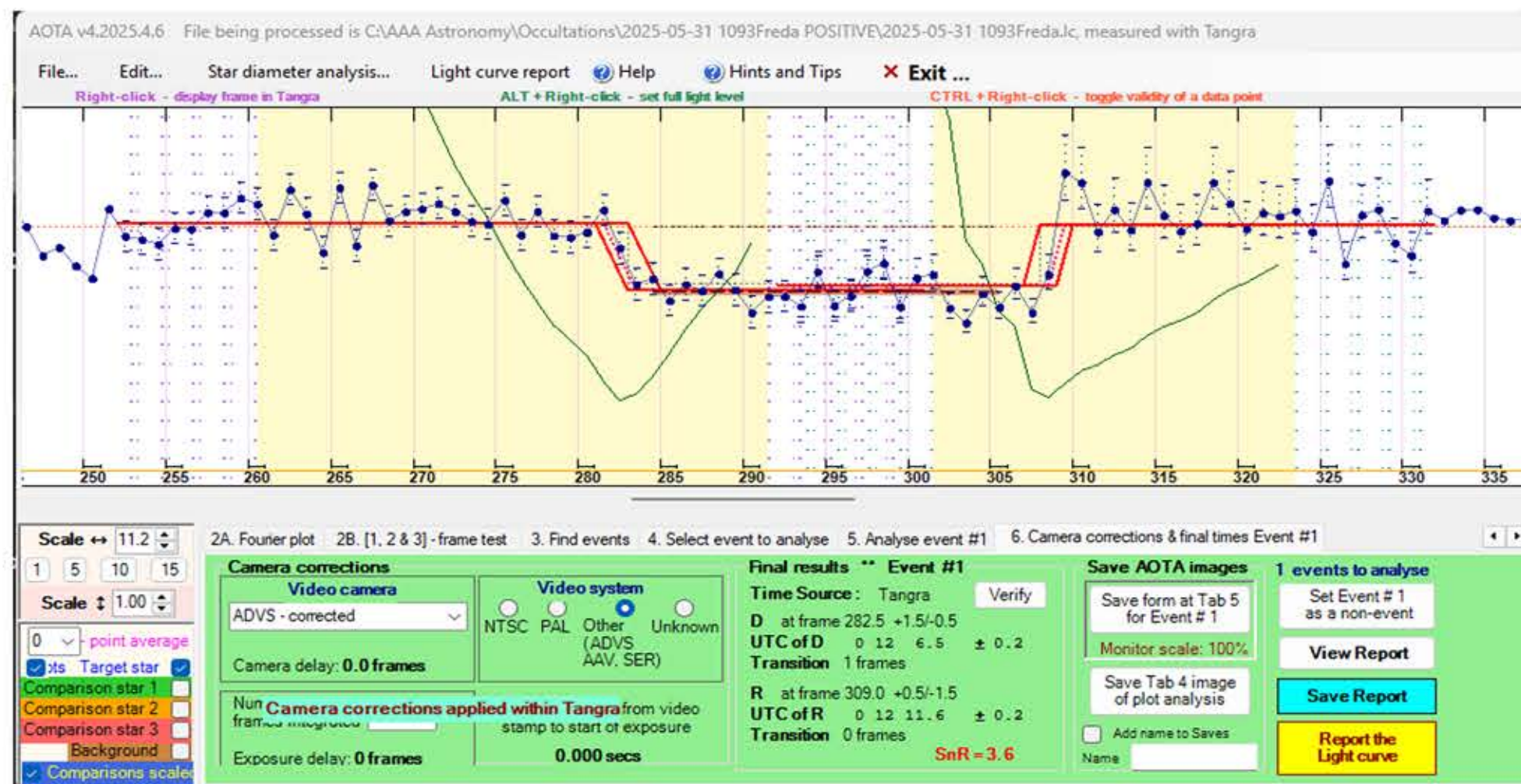
- Celestron C14
- Optec 0.7x focal reducer
=>FL = 2230 mm F/6.27
- Astro-Physics AP1200 mount
- Player One Apollo-M Pro Max (IMX432 chip)
Pixel size: 9 um QE=79%
Resolution: 0.83"/pixel
Chip Size: 1608 x 1104 pixels
14.5 mm x 9.9 mm
0.37 deg x 0.26 deg
- Pegasus Astro Control Hub
- Wanderer Empire Motorised Telescope Cover
- Meile Quieter 4c fanless PC



Photo of Equipment
Source: Michael O'Connell

Results

- March 2025: Recorded my first positive occultation from Spain (541 Deborah / UCAC4 507-047057 Dur:29.6 secs)
- May 2025: Recorded my first fully automated positive occultation (1093 Freda / UCAC4 346-074259 Dur:5.1 secs)
- August 2025: Assigned Observatory Code from the Minor Planet Center (MPC) R44 Metis Trevinca Skies



AOTA Tab 6 Chart of 1093 Freda Occultation Light Curve

Source: Michael O'Connell

Next Step:

- Refine scripting and resolve last remaining hardware tweaks