

A composite image of the Moon and the Sun in space. The Moon is on the left, showing its cratered surface. The Sun is on the right, appearing as a bright, glowing orb. The background is a dark, starry sky.

Solar Imaging

CAA
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by
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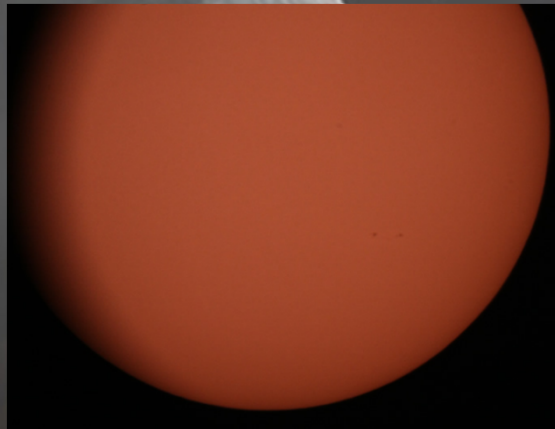
Solar Imaging

Astronomy in the daytime !!

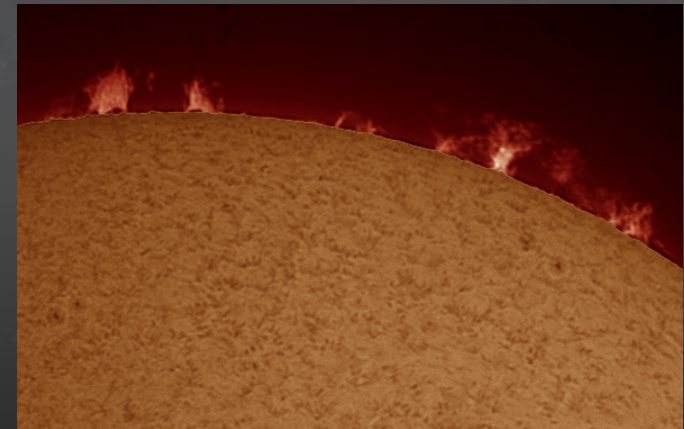


**White Light
AstroSolar/Mylar
Film**

**Sunspots,
Faculae and
Granulation**



**White Light
Glass Filter**



Hydrogen Alpha

**Prominences -
luminous hot
hydrogen gas**

White Light Solar Imaging

AstroSolar Film

- £20 an A4 sheet (Baader) or buy pre-made filters
- Easy to damage with fingerprints, rips, tears, pinholes etc
- Many uses, use it with Telescopes, DSLR, Glasses, Binoculars, etc.



White Light Solar Imaging

Glass Filters

- More costly than AstroSolar film
- Gives an orange hue when imaging
- Does not bring out the solar filaments as well as AstroSolar film



White Light Solar Imaging

Herschel Wedge

Optical prism used in solar observation to refract most of the light out of the optical path (95%), allowing safe visual observation, a secondary neutral density filter is used to further dim the light to a safe level.

- Better contrast and sharpness than AstroSolar film
- More expensive than AstroSolar film and Glass filters.

Herschel wedges
cost around £200-£400

- For refractor telescopes



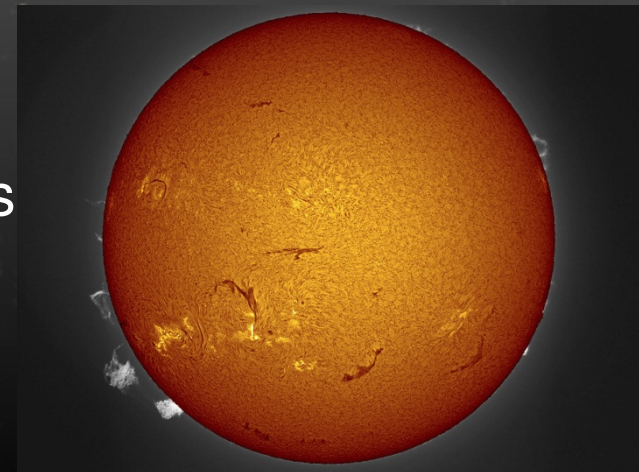
White Light Solar Imaging

Hydrogen Alpha (Ha)

Hydrogen Alpha is the name of the visible red part of the spectrum at wave length of 656 angstroms. It is also the line of atomic hydrogen.

To observe in H-alpha you need a special type of telescope with Etalon and blocking filters these filter only allow light to pass at 656.3nm

- View Sunspots, Filaments and Prominences
- Most expensive (£600-£££)
- Lunt or Coronado



Solar Imaging Tips

Why not do both white light and Ha imaging at the same time, with 2 telescopes and 2 imaging cameras/webcams?



A background image of space featuring a large, detailed view of the Moon on the left side, and a bright sun in the upper right corner, surrounded by a field of stars.

Solar Imaging Tips

Mono or Colour?

- High frame rate cameras come in Mono and Colour versions
- You can use either a colour or a mono camera
- Best captured with a mono device due to the narrow bandwidth of colours, and the mono camera should be more sensitive
- The mono image can have a false colour added later

Solar Imaging Tips

- Set your mount to the 'Solar' tracking rate
- Use webcam software (AmCap/SharpCap)
- Use solar finder or GoTo to help locate the Sun.
- Play with the focus and get it as precise as possible
- When imaging in white light, lower the gain and exposure as much as possible to enhance the surface detail
- In Ha you may need to get one video of the surface and one of the edge of the solar disc
- Save video as an uncompressed AVI file type. Use Registax to create the final image



A space-themed background featuring a large, detailed view of the moon's surface on the left side. In the upper right corner, a bright sun is visible, casting a soft glow. The rest of the background is a dark, starry space.

Demo Time

Processing a white light video

Play the solar video!



The End

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