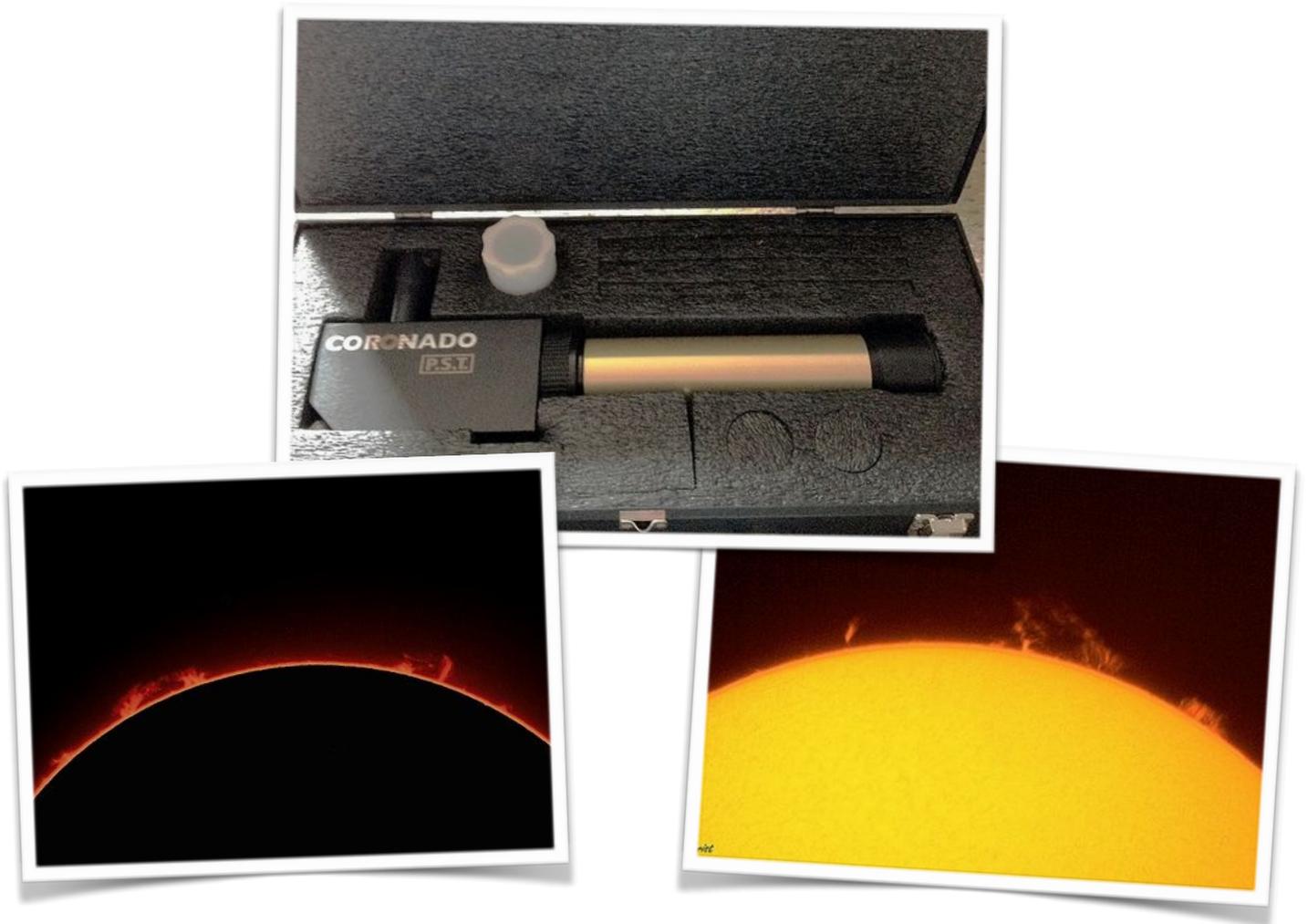


Hydrogen Alpha

Coronado PST + DSLR

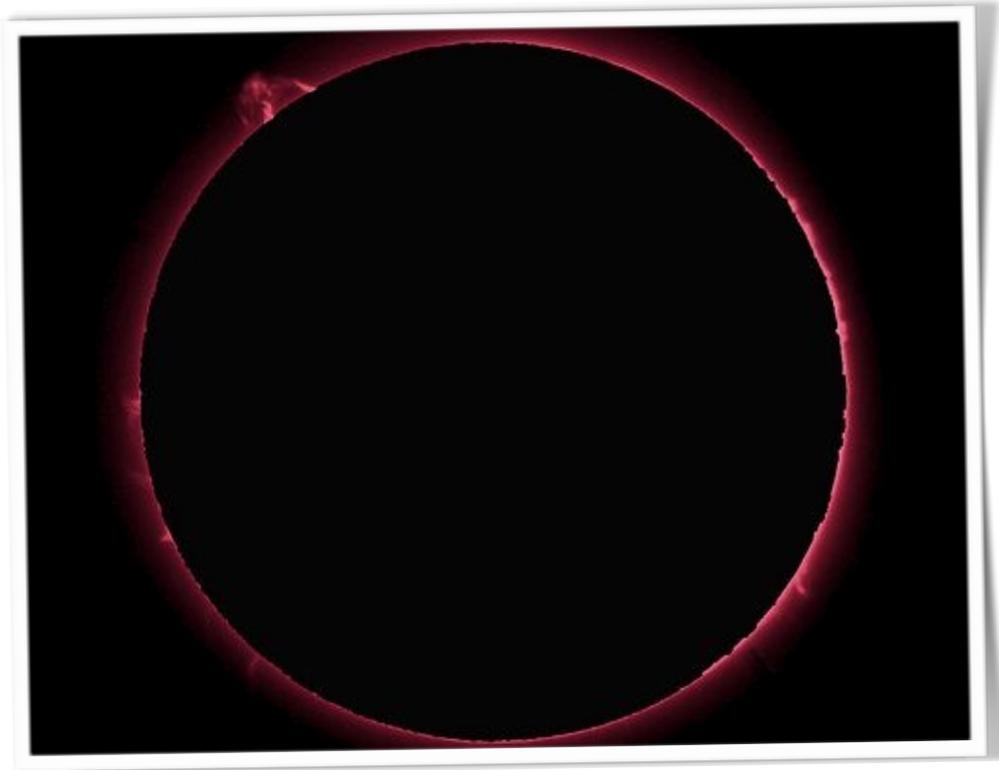


How I image with the Coronado PST

Hydrogen Alpha + Canon 350D

Single exposures (no Stacking)

Artificial Solar Eclipse



As I am new to imaging with the Coronado PST in Hydrogen Alpha and having had a few successes and people are asking how do I actually image using just a DSLR, I have decided to share my initial findings.

This is the Set up at present.

EQ5 Mount fitted with Synscan tracking (select Solar from the menu)

Coronado Hydrogen Alpha Personal Solar Scope

Baadar Hyperion Zoom Eyepiece Mk-III

Baadar Uv/Ir Filter (Helps with contrast)

Canon 350D - Shooting in Raw Mode

Skywatcher x2 Barlow (Nice for Close up)

Right Angle Viewfinder x2 or x3.5 (helps with focus when zoomed)

Blackout Photographers Cover to shade observer and camera viewfinder - really helps with focus.



I will start with the tripod (EQ5), whichever tripod you end up using must be very sturdy, I use the EQ5 simply because I already owned one from my normal astronomy imaging. The tripod has got to be really solid and make sure it does not shake, and it must be capable of tracking the sun, solar tracking is essential even though the exposures are very short, any movement and you will lose the detail of the prominences and most of the surface detail. You need to bear in mind that the Earth rotates and the Sun rotates so your tracking needs to take this into account and most mounts now have a menu system to choose Solar or Luna tracking.



The next item of use is the Baadar Hyperion Zoom - Clickstop eyepiece Mk-III. The 20mm eyepiece that came with Coronado PST in my opinion is just a standard eyepiece, and is the same as most eyepieces that come with scopes, like the SkyWatcher line. The Baadar zoom on the other hand is outstanding visually and with a simple turn can go from 24mm to 8mm giving fabulous views of surface detail and prominences. 16mm setting is fine for a full disk image and 8mm is best for prominences. With the addition of the Baadar UV/IR filter giving good contrast over the whole disk and allowing smaller, wispy prominences to be imaged.

I can highly recommend this eyepiece not just for solar but for all astronomy in general, with the addition of the screw thread adaptor and t-ring it makes a great imaging tool.



The Camera, any DSLR shooting in Raw mode and with the histogram showing, you can work out the right settings, I have found ISO200 gives best results and exposure times from 1/60th to 1/4 for prominences and 1/60th - 1/300th for disk detail. Shooting early in the morning seems best for me, as once the day and surroundings warm up, the images tend to degrade, the later in the day the worse my images tend to be.

This brings me to a couple of hints and tips for focussing.

A right angle viewfinder at 1.5 magnification or better still is the 1x-3.5 magnification, this allows you too view a prominence and get correct focus, it really does help, along with mirror lookup so cuts down on camera shake when the shutter is closed. A x2 barlow lens is also a benefit because it helps keep the overexposure under better control.

There is one accessory worth getting is the blackout photographers cover, this fits over the scope and hangs down like a cape, I get under



and wrap as much as possible around the camera area and this gives you a higher contrast view without any sunlight creeping in, this really does help especially on wispy prominences and filaments.



My images are checked over in the Canon RAW editor then transferred to Photoshop for finishing off. My images are not perfect by any standard but it's a start in the right direction, and with time and experience in not only imaging techniques but also software techniques they will improve. I have had a brilliant time experimenting with different eyepieces and filters and software techniques, one other great help has been the book "Observing the sun with Coronado Telescopes" by Philip Pugh, this book gives you realistic images of what can be achieved and the pitfalls of imaging with the PST. The imaging section by Nick Howes has been a great help and pointed onto the right path on many occasions.

I hope this helps?

Please feel free to contact me on Twitter @RayGil I would love to see how you get on and perhaps we can travel down this path together. My Flickr Page is : <http://www.flickr.com/photos/raygil/>

Ray Gilchrist