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My setup of N11GPS to get maximum clearance in zenith

Hello,

I received some questions on how to get the clearance using an electrical Crayford focuser at the N11GPS. Here is what I am using::

- 2" Maxbright Star Diagonal from Baader-Planetarium
- NGF-S electrical Crayford focuser from JMI
- 3" adapter ADPT3SCT from JMI

Here are some pictures of the devices:



3" Adapter for NGF-S giving minimum vignetting and minimum mechanical length. This is threaded directly on the 3" thread at the back of the N11GPS OTA. The NGF-S focuser is then attached onto this adapter and clamped. You can order this adapter as an accessory from JMI (part number is ADPT3SCT)

The picture on the right shows the motorized NGF-S Crayford focuser. It is attached with this orientation to the ADPT3SCT and in the 2" opening the zenith mirror can be attached.



This picture shows the NGF-S with the standard accessories it came with. As you can see the opening of the adapters towards the eyepiece are maximum 38mm (2" to SCT adapter). To avoid vignetting I decided not to use them but use the thinner 2" nosepiece which came with the Baader Maxbright Star diagonal. I thus got an opening of 46mm.

Baader 2" Maxbright Star Diagonal. This excellent 2" mirror provides minimum vignetting and excellent reflection of 98.5%. It is all-dielectrically coated with a planarity of $\lambda/10$. The coatings are highly durable and last lifetimes without losing reflectivity. They may be cleaned with normal care, without fear of scratches. The 2" eyepiece holder uses dual nickel plated clamp screws for maximum convenience and security, and incorporates a captive spring bronze lock ring to prevent any possibility of damage to your eyepieces.



Those of you who have ever attached heavy equipment like a filter wheel, binoculars or big 2" eyepieces to your diagonal have certainly noticed the strong torque such equipment is providing once it gets slightly out of balance. To avoid any damage from a loosened attachment of the Star diagonal to the NGF-S and thus a twisting diagonal / filter wheel / binocular combination I decided to drill 2 small holes in the nickel plated brass nosepiece. Thus the screws of the NGF-S, which are supposed to clamp the Star diagonal, are actually threaded partially into the nosepiece and unless the screws brake twisting of the diagonal cannot take place.

To define the right spots at the nosepiece where to drill the holes I simply inserted it into the NGF-S, tightened the 2 screws with a bit of power and after removing the nosepiece I had the marks ready available. Please make sure to remove any residual metal filings to avoid them scratching the optical surfaces.

Finally here are some pictures of my setup mounted at the N11GPS:



From left to right:
Baader Planetarium
Maxbright
diagonal,
NGF-S fully
moved in,
3" Adapter
ADPT3SCT

Clearance with NGF-S fully moved in, OTA moved to zenith. The clearance is more than 2" in this setup.



This picture shows the minimum clearance with the NGF-S focuser fully moved out. It is still approx. 1.5" when the OTA is pointing to zenith.

I hope this description of my setup helps others when choosing their optimum setup.
Have fun !

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