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Mauna Loa Solar Observatory Observer's Log  
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Thu Oct 21 16:52:56 GMT 2021

Year: 21 Doy: 294

Observer: mlso

WEATHER COMMENT: mcotter: Thu Oct 21 17:01:12 GMT 2021

Temp: 43.1f, Humidity: 8%, Pressure: 28.66lin, Wind: 9mph from 176degs, Skies: Clear skies across the entire sky. Inversion layer visible on the horizon at or just above Haleakala. Light steady wind blowing from the southeast.

\_\_\_\_end\_\_\_\_

GENERAL COMMENT BY mcotter: Thu Oct 21 17:01:20 GMT 2021

Opened windows upstairs

\_\_\_\_end\_\_\_\_

GENERAL COMMENT BY mcotter: Thu Oct 21 17:01:32 GMT 2021

PM Blew off Kcor O1

\_\_\_\_end\_\_\_\_

Thu Oct 21 17:28:59 GMT 2021 Kcor Focus/alignment program exited

Thu Oct 21 17:37:01 GMT 2021 Kcor Focus/alignment program exited

KCOR COMMENT BY mcotter: Thu Oct 21 17:40:50 GMT 2021

Kcor now running.

SGS offsets: X(RA): 45, Y(Dec): -8.

Polarization checked good: Mid, Bright, Dark, Mid.

\_\_\_\_end\_\_\_\_

WEATHER COMMENT: mcotter: Thu Oct 21 17:41:47 GMT 2021

The sky is a little bright but the Kcor Stand Alone Images look acceptable.

\_\_\_\_end\_\_\_\_

Thu Oct 21 19:57:10 GMT 2021 KCOR Start Synoptic Patrol

Thu Oct 21 20:01:03 GMT 2021 KCOR End Patrol

Thu Oct 21 20:01:04 GMT 2021 KCOR Start Calibration script: c:\kcor\mlso-calibration22deg-20171025.ini

Thu Oct 21 20:16:21 GMT 2021 KCOR End Calibration Script

Thu Oct 21 20:16:37 GMT 2021 KCOR Start Synoptic Patrol

Thu Oct 21 20:16:38 GMT 2021 KCOR Start Synoptic Patrol

Thu Oct 21 22:13:36 GMT 2021 KCOR End Patrol

Thu Oct 21 22:13:45 GMT 2021 KCOR End Patrol

GENERAL COMMENT BY mcotter: Thu Oct 21 22:14:31 GMT 2021

Lost guiding when the spar hit the ladder. Back on the sun now.

\_\_\_\_end\_\_\_\_

Thu Oct 21 23:37:23 GMT 2021 Running UCOMP Cookbook find\_focus.cbk line 0

Thu Oct 21 23:42:51 GMT 2021 Running UCOMP Cookbook find\_focus.cbk line 0

UCOMP COMMENT BY mcotter: Thu Oct 21 23:51:48 GMT 2021

Spare O1 installed in the telescope.

The new lens appears to have the same shape and has a good fit in the lens cell.

On cleaning we found a couple (2-3) areas of pitting. Some of this was a single apparent pit while at least one of these regions had multiple pits.

We also found a residue on the back side in a ring about 1/2" from the edge seem to go from the bottom (south) up to right (west) making an ~90 degree arch. We were unable to remove this material with soap or isopropyl (we had used the remainder of our acetone cleaning the lens cell).

We may try to use first contact to clean the back side of the lens later this afternoon or over the coming days.

\_\_\_\_end\_\_\_\_

Thu Oct 21 23:53:59 GMT 2021 Running UCOMP Cookbook find\_focus.cbk line 0

Thu Oct 21 23:58:37 GMT 2021 Running UCOMP Cookbook find\_focus.cbk line 0

GENERAL COMMENT BY mcotter: Fri Oct 22 00:00:53 GMT 2021

Guider giving a lot of issues today. Going into large oscillations at start up and after the ucomp O1 reinstall. We were able to mitigate the problem with trim weights hung on the spar; but this was only a temporary fix. We need to think about this more when we have more bandwidth to deal with the guider.

\_\_\_\_end\_\_\_\_

GENERAL COMMENT BY mcotter: Fri Oct 22 00:02:49 GMT 2021

In the region of spar rotation where the RA/DEC zeropoint offsets seem to change quickly

Y.  
\_\_\_\_end\_\_\_\_  
Fri Oct 22 00:05:17 GMT 2021 Running UCOMP Cookbook all\_wavelength\_coronal\_flat.cbk line 0  
GENERAL COMMENT BY mcotter: Fri Oct 22 00:05:09 GMT 2021  
Pending focus offset updates from Steve, going to take a set of flats and science images with the new O1 to see what we get.  
\_\_\_\_end\_\_\_\_  
Fri Oct 22 00:05:50 GMT 2021 UCoMP Paused for clouds  
Fri Oct 22 00:50:05 GMT 2021 UCoMP Restarted from pause  
Fri Oct 22 01:01:48 GMT 2021 UCoMP Paused for clouds  
Fri Oct 22 03:08:45 GMT 2021 UCoMP Restarted from pause  
UCoMP COMMENT BY mcotter: Fri Oct 22 03:17:35 GMT 2021  
Forgot to update the UCOMP O1ID until after we were done taking data.

It is now up to date in.  
c:\ucomp-configuration\config\header\_static\_data.ini  
Under the  
[HWIDS]  
O1ID entry.  
\_\_\_\_end\_\_\_\_

GENERAL COMMENT BY mcotter: Fri Oct 22 03:17:36 GMT 2021

\_\_\_\_end\_\_\_\_  
GENERAL COMMENT BY mcotter: Fri Oct 22 04:05:29 GMT 2021  
The RA mechanism had been oscillation at times to the extent where a clear saw tooth pattern could be observed in the SGS X(RA) error traces. Ben and I inspected the RA mechanism and could see that there was a lack of engagement between the upper positional blocks and the worm drive chassis. At one time shims had been installed at the top of the worm drive chassis and where it bolts to the dog house and it was these shims that were causing the lack of engagement between the upper positional blocks and the worm drive chassis. We removed the shims and found that we were able to better adjust the upper position of the worm drive chassis, which allowed us to better adjust the engagement between the worm drive rollers and the "barbell" cam roller. The barbell cam roller is the intermediate roller between the worm drive rollers and the large spar RA cam roller, so subsequently we were able to better adjust the engagement between the spar RA cam roller and the barbell roller. We ended up readjusting the tension pull rod which is the mechanism for engaging the worm cam to the barbell cam and the barbell cam to the spur RA cam. All the cam engagements aligned much better after these adjustment. We manually moved the spar and found that the cam rollers were slipping before the clutch plate, so we ended up backing out the clutch a decent amount until we reached an equilibrium where the clutch plate was slipping just before the cam rollers. Again we manually moved the spar in the RA direction and found the movement to be nice and smooth. We energized the spar and observed the movement; the spar tracked well with no oscillation. We purposely pushed against the spar while the spar was moving in an RA direction and the RA was able to recover itself within a couple of saw tooth cycles and then immediately settled out, which is what we would expect and want. We will need to keep an eye on the spar RA movement over the next few days to ensure that it continues to maintain the same consistent movement.

\_\_\_\_end\_\_\_\_  
ONSITE STAFF: berkey, mcotter