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Mauna Loa Solar Observatory Observer's Log  
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Wed Feb 2 16:22:53 GMT 2022

Year: 22 Doy: 033

Observer: lisapg

WEATHER COMMENT: lisapg: Wed Feb 02 17:15:34 GMT 2022

Temp: 35.9f with wind speed at aobut 6-11mph from the Southeast. Sky looks clear.

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

GENERAL COMMENT BY lisapg: Wed Feb 02 17:32:20 GMT 2022

Opened windows upstairs

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

GENERAL COMMENT BY lisapg: Wed Feb 02 17:32:25 GMT 2022

PM Blew off Kcor 01

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

GENERAL COMMENT BY lisapg: Wed Feb 02 17:32:29 GMT 2022

PM Blew off UCOMP 01

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

Wed Feb 02 18:23:40 GMT 2022 Running UCOMP Cookbook dark\_80ms\_2beam\_16sums\_BOTH.cbk line 0

Wed Feb 02 18:24:57 GMT 2022 Running UCOMP Cookbook 637\_Scan.cbk line 0

Wed Feb 02 18:27:07 GMT 2022 Running UCOMP Cookbook 656\_Scan.cbk line 0

Wed Feb 02 18:28:57 GMT 2022 Running UCOMP Cookbook 789\_Scan.cbk line 0

Wed Feb 02 18:30:46 GMT 2022 Running UCOMP Cookbook 1074\_Scan.cbk line 0

Wed Feb 02 18:31:10 GMT 2022 Kcor Focus/alignment program exited

Wed Feb 02 18:32:35 GMT 2022 Running UCOMP Cookbook 1079\_Scan.cbk line 0

Wed Feb 02 18:35:27 GMT 2022 KCOR Start Synoptic Patrol

Wed Feb 02 18:36:28 GMT 2022 KCOR End Patrol

Wed Feb 02 18:36:42 GMT 2022 KCOR End Patrol

Wed Feb 02 18:42:01 GMT 2022 Running UCOMP Cookbook dark\_80ms\_2beam\_16sums\_BOTH.cbk line 0

Wed Feb 02 18:42:24 GMT 2022 KCOR Start Synoptic Patrol

Wed Feb 02 18:43:18 GMT 2022 Running UCOMP Cookbook 637\_Scan.cbk line 0

Wed Feb 02 18:45:28 GMT 2022 Running UCOMP Cookbook 656\_Scan.cbk line 0

Wed Feb 02 18:47:18 GMT 2022 Running UCOMP Cookbook 789\_Scan.cbk line 0

Wed Feb 02 18:49:07 GMT 2022 Running UCOMP Cookbook 1074\_Scan.cbk line 0

Wed Feb 02 18:50:56 GMT 2022 Running UCOMP Cookbook 1079\_Scan.cbk line 0

GENERAL OBSERVATORY COMMENT BY mlso: Wed Feb 2 18:50:58 GMT 2022

Running the guider this morning with the experimental SGS code that accepts pointing up dates from Kcor. So far it looks to be performing correctly. It even corrected after a 5-10 minute period with kcor lens cover closed for an adjustment on UCOMP. This mode still needs some more testing and documentation but I think it will soon become our default mode.

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

Wed Feb 02 18:52:46 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal\_flat.cbk line 0

Wed Feb 02 19:10:54 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal.cbk line 0

UComp COMMENT BY mlso: Wed Feb 2 19:11:13 GMT 2022

Installed the new field lens in UCOMP this morning.

With paper target placed on the leaves of the iris (instead of ~2-3mm) forward as we did during Monday's tests. We found a nice image of the O1 on the lyot stop forming with the lens adjusted as far back (toward the cameras) as possible. This actually places the field lens in front of where it was in the fixed lens holder. In the new mount, the glass is all the way to the front of the lens tube, and we have a ~3mm setscrew space r pushing the lens even further forward vs the old mount in which the lens was installed ~3mm back front of the mount. Altogether this gives us a shift of ~6mm sunward from the old to new mount which matches zeemax.

We then stopped down lyot stop iris to 12.5mm to block out the bright ring of the sun.

And refocus the camera stages to this new position.

Once the instrument was all buttoned up we ran the occulter centering as part of the normal observing sequence and found a bright region in the bottom (opposite of the occulter post)

of the image. This appeared to correspond to the bright circular feature we have been

seeing on the south edge of the pupil image during our work Monday and today. The iris was then stopped down a little further (diameter not remeasured but should be less than a 1mm change) to block this blob and get rid of the bright region in the images.

As noted above we are still seeing the bright blob at the edge of the pupil image even when completely blocked the modulator so the image is coming from the solar direction and is not a reflection off the polarizers. With our paper target at the lyot stop and the old field lens this feature has reduces in size slightly. And with the new field lens on the paper target, this feature comes to a sharp focus and is a tiny point along the bright lyot ring. So even though we still have the bright blob it will be easier to mitigate with the new lens. (And it appears we have blocked with the stopped down lyot stop)

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

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Wed Feb 02 19:31:45 GMT 2022 KCOR End Patrol
Wed Feb 02 19:31:46 GMT 2022 KCOR Start Calibration script: c:\kcor\mlso-calibration22deg-20171025.ini
Wed Feb 02 19:47:01 GMT 2022 KCOR End Calibration Script
Wed Feb 02 19:47:18 GMT 2022 KCOR Start Synoptic Patrol
Wed Feb 02 19:47:19 GMT 2022 KCOR Start Synoptic Patrol
Wed Feb 02 20:22:21 GMT 2022 Running UCOMP Cookbook no-occulter-flat.cbk line 0
Wed Feb 02 20:28:56 GMT 2022 Running UCOMP Cookbook dark_80ms_2beam_16sums_BOTH.cbk line 0
Wed Feb 02 20:30:13 GMT 2022 Running UCOMP Cookbook 637_Pol_Calibrate.cbk line 0
Wed Feb 02 20:34:33 GMT 2022 Running UCOMP Cookbook 656_Pol_Calibrate.cbk line 0
Wed Feb 02 20:38:37 GMT 2022 Running UCOMP Cookbook 789_Pol_Calibrate.cbk line 0
Wed Feb 02 20:42:41 GMT 2022 Running UCOMP Cookbook 1074_Pol_Calibrate.cbk line 0
Wed Feb 02 20:46:44 GMT 2022 Running UCOMP Cookbook 1079_Pol_Calibrate.cbk line 0
Wed Feb 02 20:50:48 GMT 2022 Running UCOMP Cookbook waves_1074_1hour.cbk line 0
GENERAL COMMENT BY lisapg: Wed Feb 02 21:04:35 GMT 2022
Added a small offset to the data kcor sends to the guider, to match the actual position of the kcor occulter in Cam0.
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\_\_\_\_end\_\_\_\_

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****EVENT COMMENT BY lisapg**** : Wed Feb 02 21:14:15 GMT 2022
Starting at 18:54:06 UT between PA 60-75, there seems to be a prominence twisting and expanding but not expanding away from the Sun.
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\_\_\_\_end\_\_\_\_

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Wed Feb 02 22:01:54 GMT 2022 KCOR End Patrol
Wed Feb 02 22:02:01 GMT 2022 KCOR End Patrol
Wed Feb 02 22:05:00 GMT 2022 Running UCOMP Cookbook find_focus.cbk line 0
Wed Feb 02 22:09:30 GMT 2022 Running UCOMP Cookbook find_focus.cbk line 0
Wed Feb 02 22:17:55 GMT 2022 Running UCOMP Cookbook dark_200_1sums_80ms.cbk line 0
Wed Feb 02 22:18:07 GMT 2022 KCOR Start Synoptic Patrol
UCoMP COMMENT BY lisapg: Wed Feb 02 22:22:30 GMT 2022
Ran the 789 focus test on UCoMP, with the badder film in beam.
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The focus cookbook didnt remove the shutter and occulter from the beam automatically and we got a few ol moves with the stages in the beam. The focus cookbook was re-run to get data in all of the positions.

It may be the scaling on the realtime gui but the two beams looked to have a relatively large differential focus and we saw no obvious change in the spot sizes as we ran thru focus.

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

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Wed Feb 02 22:23:02 GMT 2022 Running UCOMP Cookbook no-occulter-flat.cbk line 0
Wed Feb 02 22:29:36 GMT 2022 Running UCOMP Cookbook all_wavelength_coronal_flat.cbk line 0
****Possible CME in Progress lisapg**** : Wed Feb 02 22:44:45 GMT 2022
Observers report with medium confidence a CME seen between PA 60-75 at UT time 21:13:56
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\_\_\_\_end\_\_\_\_

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Wed Feb 02 22:47:59 GMT 2022 Running UCOMP Cookbook all_wavelength_coronal.cbk line 0
Wed Feb 02 23:28:26 GMT 2022 KCOR End Patrol
Wed Feb 02 23:28:25 GMT 2022 UCoMP Paused for clouds
Wed Feb 02 23:28:29 GMT 2022 KCOR End Patrol
GENERAL COMMENT BY lisapg: Wed Feb 02 23:29:46 GMT 2022
Dec for the spar hit its end of travel. Covers in and resetting the guider.
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\_\_\_\_end\_\_\_\_

Wed Feb 02 23:32:33 GMT 2022 UCoMP Restarted from pause

Wed Feb 02 23:33:08 GMT 2022 KCOR Start Synoptic Patrol

Wed Feb 02 23:46:10 GMT 2022 KCOR End Patrol

Wed Feb 02 23:46:07 GMT 2022 UCoMP Paused for clouds

GENERAL COMMENT BY lisapg: Wed Feb 02 23:47:37 GMT 2022

Cloud crossing, instruments idled for now.

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

GENERAL COMMENT BY lisapg: Thu Feb 03 00:24:24 GMT 2022

Based on seeing some jumps in the kcor to guider offset; it seemed like something might be loose on the guider.

Checked all the 80/20 mount fastners for the guider 2 were snug but not tight the rest were tight.

Found that the guider ac254-5000-b-ml f400 lens at the front of the guider was a couple threads loose. These threads are sloppy enough that with a couple threads backed off there was a bit of room for the lens to tip and tilt around the front of the guider tube. I think this may account for the jumps we were seeing in kcor-guidre pointing offsets.

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

Thu Feb 03 01:10:22 GMT 2022 Kcor Focus/alignment program exited

GENERAL COMMENT BY lisapg: Thu Feb 03 01:31:10 GMT 2022

Afternoon clouds are getting heavier.

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

ONSITE STAFF: berkey, lisapg