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Mauna Loa Solar Observatory Observer's Log  
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Mon Jan 31 17:25:05 GMT 2022

Year: 22 Doy: 031

Observer: mlso

WEATHER COMMENT: mcotter: Mon Jan 31 17:27:16 GMT 2022

Temp: 38.0f, Humidity: 10%, Pressure: 28.677in, Wind: 8mph from 201degs, Skies: Somewhat overcast skies with large bands of Altocumulus clouds covering large portions of the sky. Cold with a steady wind blowing from the south-southwest.

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

Mon Jan 31 20:11:20 GMT 2022 Kcor Focus/alignment program exited

Mon Jan 31 20:16:07 GMT 2022 Running UCOMP Cookbook dark\_80ms\_2beam\_16sums\_BOTH.cbk line 0

Mon Jan 31 20:16:47 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal\_flat.cbk line 0

WEATHER COMMENT: mcotter: Mon Jan 31 20:18:58 GMT 2022

The sky has cleared nicely and the clouds have diminished, though aerosols are a bit high.

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

GENERAL COMMENT BY mcotter: Mon Jan 31 20:19:10 GMT 2022

Opened windows upstairs

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

GENERAL COMMENT BY mcotter: Mon Jan 31 20:19:25 GMT 2022

PM Blew off Kcor 01

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

GENERAL COMMENT BY mcotter: Mon Jan 31 20:19:31 GMT 2022

PM Blew off UCOMP 01

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

KCOR COMMENT BY mcotter: Mon Jan 31 20:21:18 GMT 2022

Kcor instrument now running.

SGS offsets: X (RA): 40, Y (Dec): 30.

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

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

UCOMP COMMENT BY mcotter: Mon Jan 31 20:21:37 GMT 2022

Ucomp instrument now running.

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

UCOMP COMMENT BY mlso: Mon Jan 31 20:23:15 GMT 2022

Spent the last 2.5 hours mostly in clouds; but also trying to look at the location of the field lens w.r.t. the lyot stop by using a new lens sent out from Steve. Testing is done for now and the original field lens is in place.

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

Mon Jan 31 20:35:16 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal.cbk line 0

WEATHER COMMENT: mcotter: Mon Jan 31 20:53:00 GMT 2022

High altitude Cirrocumulus has formed and is now spreading across the sky from the north. So far it has not encroached into the field of view but aerosols are beginning to increase.

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

Mon Jan 31 20:58:36 GMT 2022 UCOMP Paused for clouds

UCOMP COMMENT BY mcotter: Mon Jan 31 20:59:43 GMT 2022

The Ucomp instrument has been paused due to sky conditions.

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

KCOR COMMENT BY mcotter: Mon Jan 31 21:00:22 GMT 2022

The Kcor instrument has been stopped due to sky conditions.

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

Mon Jan 31 21:03:52 GMT 2022 UCOMP Restarted from pause

WEATHER COMMENT: mcotter: Mon Jan 31 21:11:30 GMT 2022

Clouds that were obscuring the viewing have dissipated and the sky over the observatory is now clear.

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

UCOMP COMMENT BY mcotter: Mon Jan 31 21:11:52 GMT 2022

Ucomp instrument is back on sky.

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

KCOR COMMENT BY mcotter: Mon Jan 31 21:12:16 GMT 2022

Kcor instrument is back on sky.

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

GENERAL COMMENT BY mcotter: Mon Jan 31 21:14:08 GMT 2022

Because it was cloudy this morning and we were delayed getting on sky no calibration will be run today.

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

WEATHER COMMENT: mcotter: Mon Jan 31 21:18:31 GMT 2022

Aerosols have come down and are not nearly as prevalent as they were earlier this morning.

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

Mon Jan 31 21:23:47 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal.cbk line 22

Mon Jan 31 21:53:09 GMT 2022 Running UCOMP Cookbook no-occultor-flat.cbk line 0

Mon Jan 31 21:59:43 GMT 2022 Running UCOMP Cookbook dark\_80ms\_2beam\_16sums\_BOTH.cbk line 0

Mon Jan 31 22:01:00 GMT 2022 Running UCOMP Cookbook 637\_Pol\_Calibrate.cbk line 0

Mon Jan 31 22:05:19 GMT 2022 Running UCOMP Cookbook 656\_Pol\_Calibrate.cbk line 0

Mon Jan 31 22:09:23 GMT 2022 Running UCOMP Cookbook 789\_Pol\_Calibrate.cbk line 0

Mon Jan 31 22:13:14 GMT 2022 UCOMP Paused for clouds

WEATHER COMMENT: mcotter: Mon Jan 31 22:18:40 GMT 2022

High altitude Cirrostratus clouds have again started forming to the north-northwest and have moved into our viewing area.

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

UCOMP COMMENT BY mcotter: Mon Jan 31 22:19:05 GMT 2022

Ucomp instruments paused due to sky conditions.

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

KCOR COMMENT BY mcotter: Mon Jan 31 22:19:44 GMT 2022

Kcor instrument has been stopped due to sky conditions.

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

Mon Jan 31 22:27:44 GMT 2022 UCOMP Restarted from pause

Mon Jan 31 22:27:51 GMT 2022 Running UCOMP Cookbook 1074\_Pol\_Calibrate.cbk line 0

Mon Jan 31 22:30:02 GMT 2022 UCOMP Paused for clouds

Mon Jan 31 22:34:24 GMT 2022 UCOMP Restarted from pause

Mon Jan 31 22:36:04 GMT 2022 Running UCOMP Cookbook 1079\_Pol\_Calibrate.cbk line 0

Mon Jan 31 22:40:08 GMT 2022 Running UCOMP Cookbook waves\_1074\_1hour.cbk line 0

Mon Jan 31 23:04:05 GMT 2022 Running UCOMP Cookbook waves\_1074\_1hour.cbk line 0

Mon Jan 31 23:07:37 GMT 2022 Running UCOMP Cookbook waves\_1074\_1hour.cbk line 5

\*\*\*\*Possible CME in Progress mcotter\*\*\*\* : Mon Jan 31 23:56:54 GMT 2022

Observers report with High confidence a CME seeing launching near PA 240 deg, with a minimum width of 15 deg, at UT time 23:32:10.

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

Tue Feb 01 00:11:26 GMT 2022 UCOMP Paused for clouds

WEATHER COMMENT: mcotter: Tue Feb 01 00:16:09 GMT 2022

Unfortunately clouds have begun to form in the viewing area again and the images have gotten extremely bright.

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

UCOMP COMMENT BY mcotter: Tue Feb 01 00:16:57 GMT 2022

The Ucomp instrument has been paused due to worsening sky conditions.

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

KCOR COMMENT BY mcotter: Tue Feb 01 00:17:24 GMT 2022

The Kcor instrument has been paused due to worsening sky conditions.

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

Tue Feb 01 00:45:01 GMT 2022 UCOMP Restarted from pause

GENERAL COMMENT BY mcotter: Tue Feb 01 00:46:40 GMT 2022

Both Kcor and Ucomp are again observing on sky, but there is a lot of aerosols present in the images.

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

UCOMP COMMENT BY mlso: Tue Feb 1 00:47:22 GMT 2022

Details from this morning ucomp field lens work:

With the occultor aligned to the sun, the O1 set to 25mm (656nm) and a piece of paper set in front of the lyot stop as an imaging screen/light blocker for the instrument.

With the original field lens in the beam, we see a dark spot (looking like the occultor) occupying 18% of the inner field, a bright ring at 76% of the field a second bright ring at 93% of the field, and a dimmer region outside the bright ring.

There is also a bright image of what looks like the occultor off to one edge of the spot. This might be light passing thru the paper reflecting off the polarizers in the modulator (which are tilted) and back up to the paper, although the opacity of the paper makes this suspect.

With the new field lens in the beam cranked as far forward as possible we see an image of the occulter 10% of the beam and an outer bright ring 92% of the field with another bright ring 96% of the field of view. In this field lens position, the bright occulter image near the edge of the fov is also greatly redacted in size and intensity; so even if this is not coming off the modulator moving the field lens forward is helping.

The images of the dust spots on the occulter remain out of focus even at the field lens position. So it seems like either the field lens needs to move closer to the occulter (which will need different hardware) and/or the screen needs to move toward the lyot spot leaves.

At the extreme-forward position, the field lens comes in contact with the back of the occulter stage about the same time we run out of threads on the new adjustable field stop. So if we do need to move the lens further forward that this position we will need different lens spacers and to make some changes to the occulter stage (likely removing the cone at the back).

Tomorrow we will do another test with the lyot stop closed to prevent reflections off the polarizers to see if/how this affects the bright image of the occulter. We will also place a paper target on the leaves of the lyot stop iris (2-3mm behind today's target paper) to see what effect that has on bringing everything into the correct position. Hopefully, this will gain use the field lens range we need, so we don't need to change the adjustable mount or remove the occulter cone.

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

Tue Feb 01 00:47:58 GMT 2022 Running UCOMP Cookbook waves\_1074\_1hour.cbk line 123  
Tue Feb 01 00:50:46 GMT 2022 Running UCOMP Cookbook dark\_200\_1sums\_80ms.cbk line 0  
Tue Feb 01 00:55:49 GMT 2022 Running UCOMP Cookbook no-occulter-flat.cbk line 0  
Tue Feb 01 01:02:30 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal\_flat.cbk line 0  
Tue Feb 01 01:20:54 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal.cbk line 0  
GENERAL COMMENT BY mcotter: Tue Feb 01 01:25:45 GMT 2022

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

GENERAL COMMENT BY mcotter: Tue Feb 01 01:25:48 GMT 2022

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

Tue Feb 01 01:28:34 GMT 2022 UCOMP Paused for clouds  
GENERAL COMMENT BY mcotter: Tue Feb 01 01:30:25 GMT 2022  
Kcor and Ucomp are again paused due to poor sky conditions.

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

Tue Feb 01 01:42:11 GMT 2022 UCOMP Restarted from pause  
GENERAL COMMENT BY mcotter: Tue Feb 01 02:25:57 GMT 2022  
Clouds in the morning, but by mid morning they had broken enough to take data. After initially taking data this morning it was on and off with the clouds for the rest of the day. Surprisingly enough we got a pretty good CME in between clouds.

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

ONSITE STAFF: berkey, mcotter