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Mauna Loa Solar Observatory Observer's Log  
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Tue Apr 12 16:31:11 GMT 2022

Year: 22 Doy: 102

Observer: mcotter

WEATHER COMMENT: mcotter: Tue Apr 12 16:36:41 GMT 2022

Temp: 37.2f, Humidity: 59%, Pressure: 28.769in, Wind: 5mph from 246degs, Skies: Heavily overcast skies with fog, rain and drizzle from Hilo to approximately the 7500' elevation level. Clear but somewhat hazy skies from approximately 7500' elevation level upward with clear skies overhead and in all directions. A light pink gray inversion layer visible on the horizon well above Haleakala.

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

GENERAL COMMENT BY mcotter: Tue Apr 12 16:48:09 GMT 2022

Opened windows upstairs

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

GENERAL COMMENT BY mcotter: Tue Apr 12 16:48:16 GMT 2022

PM Blew off UCOMP 01

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

GENERAL COMMENT BY mcotter: Tue Apr 12 16:48:20 GMT 2022

PM Blew off Kcor 01

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

\*\*KCOR PROBLEM COMMENT BY mcotter\*\* : Tue Apr 12 16:54:49 GMT 2022

When I started the Kcor focus routine an error GUI came up. I have observed this before in the past and I typically would restart the Labview program to get it to start fresh

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

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

KCOR COMMENT BY mcotter: Tue Apr 12 17:00:45 GMT 2022

I closed out the Labview program but I also found that the "Socketcam" program was still running and not exited from yesterday, so I believe that was why the Error GUI came up. I have "quit" the Socketcam program and have restarted the Labview program. Now the Focus routine is coming up normally.

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

Tue Apr 12 17:05:25 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal\_flat.cbk line 0

Tue Apr 12 17:09:28 GMT 2022 Kcor Focus/alignment program exited

KCOR COMMENT BY mcotter: Tue Apr 12 17:14:02 GMT 2022

Though the sky is bright the Kcor instrument is up and running.

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

Tue Apr 12 17:14:13 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal\_flat.cbk line 0

\*\*UCOMP PROBLEM COMMENT BY mcotter\*\* : Tue Apr 12 17:22:33 GMT 2022

I started the Ucomp program but it seemed to hang up, so I closed out the Labview software and restarted it. The program restarted normally, but when I engaged the center occulter command the GUI came up and showed the occulter with the background completely saturated with light with no discernible coronal ring. I was unsure why it did this, because I was fairly sure I always opened this program in this manner. I exited the center occulter screen and have left the program running with the Run Cookbook engaged. I will watch the program and keep track of how it performs.

Though the sky is bright the Ucomp instrument is up and running.

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

UCOMP COMMENT BY berkey: Tue Apr 12 19:38:21 GMT 2022

Fixed a bug in the ucomp mechanism controller that caused the software to wait forever when running "get position" on the filter wheel.

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

Tue Apr 12 18:28:01 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal\_flat.cbk line 0

Tue Apr 12 18:43:18 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal.cbk line 0

Tue Apr 12 19:01:05 GMT 2022 KCOR Start Calibration script: c:\kcor\mlso-calibration22deg-20171025.ini

Tue Apr 12 19:11:16 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal.cbk line 0

Tue Apr 12 19:16:19 GMT 2022 KCOR End Calibration Script

Tue Apr 12 19:34:37 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal.cbk line 15

\*\*UCOMP PROBLEM COMMENT BY mcotter\*\* : Tue Apr 12 19:35:40 GMT 2022

The ucomp controller program has not updated in over ten minutes, but the background did not turn Red and stayed gray. The dialogue box in the bottom of the Ucomp-controller GUI reads "Center Occulter". I have engaged the "Center Occulter" and have been waiting

several minutes for the Center Occulter GUI to come up but so far the program appears to be hung up again. It has been approximately ten minutes since I engaged the Center Occulter command and the program is frozen. The mech controller GUI also states "NaN" in the "Filter Pos" field.

I am going to try restarting the Ucomp-controller software again.

This time I exited the Ucomp\_controller program and also restarted the computer. Ben and I were going over different aspects of the Ucomp instrument software yesterday and maybe something in the computer became corrupted and was left in an unstable state, so that when I came in and started the software this morning it may have been confused and would not start up properly.

The computer appeared to restart normally, though it did take longer than expected. I have restarted the Ucomp\_controller Labview program and it restarted normally.

I started the Ucomp\_controller program and again there is an issue with over saturation when trying to center the occulter. I took a photo and messaged Ben to call me. Ben called me back immediately and we started to trouble shoot the Ucomp problem.

The over saturated center occulter image prompted us to think that the O1 was mechanically in the wrong position; possibly the wrong focal length. With Ben on the phone I inspected and verified the Ucomp O1 was seated properly. While inspecting the O1, I found that the ND filter was accidentally left on the front of the O1 housing yesterday; I removed it and returned it to its storage compartment. We then determined that the physical location of the O1 (front to back of its travel) was not the same being displayed in the mech-controller GUI; for unknown reason(s) the Ucomp O1 focus control forgot where it was. Ben was able to reset the O1 motion actuator while I watched and verified the O1 mechanisms physical position. Finally the O1 was returned to the known normal focal range. After that we were able to center the occulter properly and the instrument is now running normally.

Ben indicated that he will write up a corrective action procedure in the event the Ucomp O1 loses it's position again and needs to be reinitialized.

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

Tue Apr 12 19:39:46 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal.cbk line 17  
Tue Apr 12 19:42:19 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal.cbk line 0  
Tue Apr 12 20:09:58 GMT 2022 Running UCOMP Cookbook all\_wavelength\_coronal\_flat.cbk line 0

Tue Apr 12 20:25:15 GMT 2022 Running UCOMP Cookbook waves\_1074\_1hour.cbk line 0

WEATHER COMMENT: mcotter: Tue Apr 12 20:41:30 GMT 2022

Though there was some lower altitude clouds scattered around when I came in this morning, the sky above was very clear in all directions. I have been watching the satellite images all morning and to the west there is a large weather system heading toward the Hawaiian Islands. I have also been watching the western sky all morning and finally a few minutes ago I saw the first Cirrus clouds of the approaching weather system on the horizon. The weather system appears to be moving fairly fast, so I expect it to reach the Big Island by late morning and enter the viewing area by early afternoon. It's too bad, because this was the best morning that we have had in at least a week. Most of the approaching weather system is to the northwest of the Hawaiian Islands, so if we are lucky perhaps it will blow to the north of the Big Island.

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

Tue Apr 12 20:43:38 GMT 2022 Running UCOMP Cookbook waves\_1074\_1hour.cbk line 33

Tue Apr 12 21:17:17 GMT 2022 Running UCOMP Cookbook waves\_1074\_1hour.cbk line 92

Tue Apr 12 21:17:18 GMT 2022 UCOMP Paused for clouds

UCOMP COMMENT BY mcotter: Tue Apr 12 21:28:18 GMT 2022

When I look over at the Ucomp-controller image frequently I see a bit of yellow light breaking out from behind the occulter, which typically indicates that the "Center Occulter" command should be initialized and then manually center the Ucomp occulter. But I am in a bit of a quandary, as I believe the reason the Ucomp occulter is calling for the occulter to be centered is because the SGS Auto Guider Zero-Point offset is either not centering the Kcor Occulter or it is lagging in its updates; I am not sure. A couple of times when the Ucomp occulter looked like it needed to be centered I manually centered the Kcor occulter and then the Kcor Synoptic image of the occulter position looked better, and the Ucomp occulter position looked better. It would only last for a brief time because the Auto Guider Zero Offset would update the position and it would move again.

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

KCOR COMMENT BY mcotter: Tue Apr 12 21:29:50 GMT 2022

I don't know if it is my imagination, but the Kcor NRGF image appears a bit shaky at times. I will bring this up in our next meeting.

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

WEATHER COMMENT: mcotter: Tue Apr 12 21:31:35 GMT 2022

High altitude Cirrus clouds have entered into the viewing area.

Kcor and Ucomp have both been paused at this time due to overly bright sky conditions.  
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Tue Apr 12 21:34:28 GMT 2022 UCoMP Restarted from pause  
WEATHER COMMENT: mcotter: Tue Apr 12 21:35:36 GMT 2022  
The band of Cirrus has passed.  
Both Kcor and Ucomp are back on sky observing.

\_\_end\_\_  
Tue Apr 12 21:38:23 GMT 2022 Running UCOMP Cookbook waves\_1074\_1hour.cbk line 97  
Tue Apr 12 21:39:36 GMT 2022 UCoMP Paused for clouds  
WEATHER COMMENT: mcotter: Tue Apr 12 21:40:36 GMT 2022  
The sky is again starting to get brighter.  
Both Kcor and Ucomp have been paused due to bright sky conditions.

\_\_end\_\_  
WEATHER COMMENT: mcotter: Tue Apr 12 21:48:57 GMT 2022  
The sky is continuing to get brighter from high altitude Cirrus clouds that have come into the viewing area from the west. Also, Orographic clouds are moving up from the Saddle Valley, with additional clouds forming then dissipating over the observatory.

\_\_end\_\_  
Tue Apr 12 21:51:13 GMT 2022 UCoMP Restarted from pause  
Tue Apr 12 21:51:53 GMT 2022 UCoMP Paused for clouds  
Tue Apr 12 22:22:46 GMT 2022 UCoMP Restarted from pause  
Tue Apr 12 22:23:09 GMT 2022 UCoMP Paused for clouds  
Tue Apr 12 22:44:58 GMT 2022 UCoMP Restarted from pause  
Tue Apr 12 22:49:44 GMT 2022 Running UCOMP Cookbook waves\_1074\_1hour.cbk line 107  
Tue Apr 12 22:51:31 GMT 2022 UCoMP Paused for clouds  
GENERAL COMMENT BY mcotter: Tue Apr 12 22:59:29 GMT 2022  
I have tried several time to restart the instruments but the sky remains much too bright to observe at this time.

\_\_end\_\_  
WEATHER COMMENT: mcotter: Tue Apr 12 23:29:11 GMT 2022  
The sky is now completely overcast with Cirrostratus clouds and there is a translucent ring around the Sun.

\_\_end\_\_  
WEATHER COMMENT: mcotter: Wed Apr 13 01:03:12 GMT 2022  
The sky is completely overcast with high altitude Cirrus clouds, Cirrostratus clouds and Orographic clouds.  
The dome shutter doors and windows have been closed.

\_\_end\_\_  
GENERAL COMMENT BY mcotter: Wed Apr 13 01:05:01 GMT 2022  
Changed the tact mats in the dome vestibule and clean room.  
The trash containers in the control room and the clean room have been emptied.

\_\_end\_\_  
GENERAL COMMENT BY mcotter: Wed Apr 13 02:00:43 GMT 2022  
Aside from a little haziness, the sky was fairly clear when I came in this morning. In the late morning bits of high altitude Cirrus made its way into the viewing area from the west (ahead of a large weather system) and by early afternoon the sky was completely covered in Cirrostratus with Orographic clouds moving into the science area.  
Some data was taken with both instruments this morning, though the sky was a bit bright

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\_\_end\_\_  
ONSITE STAFF: