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          Mauna Loa Solar Observatory Observer's Log
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          Sat Mar 30 18:21:32 GMT 2024
Year: 24  Doy: 090
Observer: cotter, berkey
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We had a fairly productive day at MLSO today, but one issue that hasn't been resolved yet is getting the day log system back online, so we don't have a timestamp log.

Marc and Ben arrived on site at about 8:00am and stayed until 1pm.
The facility was inspected, and no issues were found.
The generator was started within a few minutes of arrival.

Marc started working on the Kcor o1. The first contact was applied yesterday to remove difficult material that didn't want to come off with soap and water. The first contact did not completely cure around the O-ring (outer diameter of the lens) and did not peel off easily. Marc spent the next ~3 hours working with the O1 to remove the first contact and wash the remaining residue. On completion, the O1 looked to be in good shape.

Based on the charging that was done to the batteries on April 29th, we were able to turn the Kcor and UCoMP heaters on yesterday, so the instruments were warmed up and ready on arrival.

Ben first worked to bring all the systems online and start taking data. We are still waiting for the firewall to be shipped to Hawaii, so we have no internet access on-site today. This caused a few issues and slowdowns. It looks like all the system mounts use DNS names and not IP addresses, so none of the systems would talk to each other.

Once all the computers were booted up at about 19UT, an attempt was made to capture a new UCoMP distortion grid. Some of this effort was hindered because the laptop was unable to remote into the UCoMP computer (maybe the DNS issue maybe something else). Using the real-time resources, it was difficult to determine the focus of the dots. A best effort was made to square up the distortion grid to the occulter plane visually. Distortion data were recorded in 20240330.190754.08.ucomp.1074.l0.fts with just RCAM onband in 20240330.190814.92.ucomp.1074.l0.fts (it looks like the recording was stopped before the TCAM onband data were taken).

Around 19:20, we moved on to finding the lyot filter drift. Here we found a bug in the recipe writing code that put the data collection recipe columns in the wrong order, which causes the observing code to throw and error. It took ~20 minutes to find this problem and correct it.

Once we took the 1074 data, the corona was easily seen in the raw data :) If you haven't placed your bets for how much the lyot filter drifted, go do that now before reading forward.

With a wavoff of 2.45, peak emission was found at 1075.06 ~.3nm off the desired point. To correct this, the wavoff was changed to 2.75, at which point the peak emission was not found in the scan, but a limited signal was seen in 1075.18 (wrong offset applied). Wavoff was reverted to the Nov 2022 value of 2.15 and peak signal was found in the 1074.7 image. We have a data point when you turn off the LCVRs or heaters or..... something, the Lyot filter tuning doesn't drift (much we still need to make sure it is exactly the same in Nov 2022).

Next, we moved on to the fine scans for all for the older filters. This ran uninterrupted unit ~21:33UT when we paused UCoMP observations between the 706 data and flats. To install the Kcor O1. Post-install of the Kcor O1, Kcor was focused SGS offsets were applied to align the guider to KCor, and UCoMP occulter was moved to compensate.

On completing the older filters, UCoMP observing code got an error that suggested communication was lost to the cameras. Eventually, it seemed prudent to reboot the ucomp computer to address the camera issues. On rebooting, Labview gave an error; that it was unlicensed and needed to be activated via the web. There were some options that could be done offline, but navigating to the webpage on the phone did not prove fruitful. This will have to be sorted out before the next trip to MLSO, or we won't be able to take

UCoMP Data.

It seemed like data were taken on the new lines, but none were recorded on the transfer
disk. It is not clear if the problem was that we didn't take it or that it failed to c
opy; based on the timestamps of the existing data, it looks like it wasn't taken.

The Polarmetic calibrations and new line data are missing from the prep plan.

Kcor took data from 21:33Ut->22:49UT.   O1 was first contacted and washed. Field lens
was visually inspected and blown off.
Occutler was swapped from OC-1017.0" TAPERED to OC-T2-19.702 at 22:30UT.
Cals were started at 21:58 and finished at 22:12.

After a lot of troubleshooting Kcor files were manually copied to Kodiak; but it looks
like the pipeline rejected most due to CLD (clouds). It is not clear to me why this ha
ppened. The data looked quality pretty good. However, there was a large active region
on the limb that was easily seen in L0 data. Could this trigger CLD?

As I am writing we are about 30 minutes to the transfer to today's data to dawn. About
~1/4 of the UCoMP data (file number, not sure about disk usage) has been copied to daw
n.hao.ucar.edu:/hao/dawn/Data/UCoMP/incoming/20240330/

Most of the kcor data have been transferred to:
dawn.hao.ucar.edu:/hao/dawn/Data/KCor/raw/20240330

UCoMP O1 was last washed with the normal soap and water method on March 16, 2024. The p
rimary mission of this flight was for Dave and Tom to do some electrical inspections wh
ile they were out; the trip was supposed to align with powering up the observer, but th
e panels/generator slipped until after their visit. This changed the nature of the visi
t to become more of a scoping/planning meeting and gave us some spare time to perform o
ther tasks, including an O1 wash/cleaning. I apologize to the team that this has not be
en better documented/captured in logs but my excuse is that all of our normal systems w
ere offline, and this was weekend work. It was reported to the team at our Monday meeti
ng (and realistically, we probably talked about it again at the UCoMP meeting). I belie
ve (but have no record) that at the March 18th meeting, this group decided that the ini
tial Saturday cleaning should be good enough to remove it from the eclipse prep (pendin
g discovery of some issue with the data when we finally go some).