

-----  
Mauna Loa Solar Observatory Observer's Log  
-----

Mon Sep 7 17:24:01 GMT 2020

Year: 20 Doy: 251

Observer: mlso

WEATHER COMMENT: mcotter: Mon Sep 07 17:25:25 GMT 2020

Temp: 49.4f, Humidity: 27%, Pressure: 28.606in, Wind: 8mph from 146degs, Skies:Clear skies, but oh so very bright. Inversi  
on layer observed below Haleakala.

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

GENERAL COMMENT BY mcotter: Mon Sep 07 17:25:33 GMT 2020

PM Blew off Kcor 01

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

GENERAL COMMENT BY mcotter: Mon Sep 07 17:25:43 GMT 2020

Opened windows upstairs

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

GENERAL COMMENT BY mcotter: Mon Sep 07 17:26:54 GMT 2020

Very noticeable dust artifact clearly seen at 10 o'clock position, approximately 2" from edge of lens.

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

GENERAL COMMENT BY mcotter: Mon Sep 07 17:28:56 GMT 2020

Sky is bright, as seen in Yawcam-preview, but K-cor images look pretty decent.

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

GENERAL COMMENT BY mcotter: Mon Sep 07 17:29:13 GMT 2020

GONG shack door open.

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

Mon Sep 07 17:29:48 GMT 2020 KCOR Start Synoptic Patrol

Mon Sep 07 18:44:37 GMT 2020 KCOR End Patrol

Mon Sep 07 18:44:38 GMT 2020 KCOR Start Calibration script: c:\kcor\mlso-calibration22deg-20171025.ini

Mon Sep 07 18:59:54 GMT 2020 KCOR End Calibration Script

Mon Sep 07 19:00:10 GMT 2020 KCOR Start Synoptic Patrol

Mon Sep 07 19:00:11 GMT 2020 KCOR Start Synoptic Patrol

GENERAL COMMENT BY mcotter: Mon Sep 07 19:07:45 GMT 2020

\*PLEASE NOTE\*: I can clearly see in the K-cor blue screen image something that does not seem correct. There is an aberrati  
on in the image area between approximately 20deg and 95deg, that extends from the occulter edge outward for approximately  
one quarter of the display area. At the outer edge of this aberration there is clearly seen a demarcation line in the imag  
e, with the area closest to the occulter appearing slightly blurry. Also note that at the bottom of this aberration, at ap  
proximately 110deg, there is a perpendicular line emanating from the occulter to the outer edge of the display (another li  
ne is faintly seen at approximately 155deg). The blurry area of this aberration appears to extend past both extents (20deg  
-95deg) that I have described, but is not as clearly identified as the area that has the demarcation line at the outer edg  
e. Additionally, there is a dot (a pixel?) at the upper end (approximately 20deg) of the aberration outer edge. It is wort  
h noting that I thought I may have seen this aberration when I was working this past Saturday, but the day was so bright I  
could not tell for sure. Highly recommend determining the root cause of this image disparity.

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

GENERAL COMMENT BY mcotter: Mon Sep 07 20:26:28 GMT 2020

Wind is picking up and beginning to get gusty.

Skies are beautifully clear and blue!

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

GENERAL COMMENT BY mcotter: Mon Sep 07 20:55:16 GMT 2020

The K-cor image makes a sudden change toward the end of the video stream (time stamp: approximately 20:30 UT). The wind is beginning to gust so it may be some vibration with the Spar, but I am not sure. I am going to pause K-cor, recenter the occulter and run another auto-focus routine and see if it make a difference.

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

GENERAL COMMENT BY mcotter: Mon Sep 07 21:22:02 GMT 2020

There are lots of particles and aerosols visible on the monitor during the focus routine. I had to run the auto-focus routine four times before a decent shaped parabola was displayed.

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

GENERAL COMMENT BY mcotter: Mon Sep 07 21:22:32 GMT 2020

K-cor up and running.

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

Mon Sep 07 21:36:40 GMT 2020 KCOR Start Calibration script: c:\kcor\mlso-calibration22deg-20171025.ini

GPS COMMENT by MLSO: Mon Sep 07 21:45:09 GMT 2020

Successfully logged in to system

Good disk mount

GPS software running

Last 5 GPS data files are:

/mnt/usb/dataoutiq\_2020\_246\_2145.bin 2147483647

/mnt/usb/dataoutiq\_2020\_247\_2145.bin 2147483647

/mnt/usb/dataoutiq\_2020\_248\_2145.bin 2147483647

/mnt/usb/dataoutiq\_2020\_249\_2145.bin 2147483647

/mnt/usb/dataoutiq\_2020\_250\_2145.bin 2147483647

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

Mon Sep 07 21:51:55 GMT 2020 KCOR End Calibration Script

GENERAL COMMENT BY mcotter: Mon Sep 07 22:10:17 GMT 2020

The K-cor image still does not look right. I am going to try stopping K-cor, re-centering the occulter, re-running the auto-focus and re-running the calibration again.

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

Mon Sep 07 22:23:38 GMT 2020 KCOR Start Calibration script: c:\kcor\mlso-calibration22deg-20171025.ini

Mon Sep 07 22:38:53 GMT 2020 KCOR End Calibration Script

WEATHER COMMENT: mcotter: Mon Sep 07 23:15:16 GMT 2020

The sky is rapidly filling with clouds.

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

Mon Sep 07 23:24:16 GMT 2020 Kcor Focus/alignment program exited

WEATHER COMMENT: mcotter: Mon Sep 07 23:35:03 GMT 2020

The sky has quickly become overcast. Clouds coming from the north east, north and north west. Clouds also forming over summit. Stopped K-cor, put lens cover in beam. Closed dome shutter doors and windows.

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

GENERAL COMMENT BY mcotter: Mon Sep 07 23:40:49 GMT 2020

Closed GONG shack door.

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

GENERAL COMMENT BY mcotter: Tue Sep 08 01:04:28 GMT 2020

\*PLEASE NOTE\*: Following up on the comment I made at 20:55:16 GMT.

I have reviewed the K-cor video stream several times, and using the play/pause/step sequence I was able to frame by frame observe the following:

20:26:12 UT Frame: Looks like a normal image that I am familiar with.

20:28:13 UT Frame: The image appears to be slightly blurry, lacking crisp detail in the image.

20:32:01 UT Frame: The image continues to become more blurry, with dark blue shading along the edge of the display image at approx 200deg to 250deg. Blue shading is also beginning between 10deg and 50deg. A small "Bullet Hole" (BH) can be seen at approx 35deg, 1/3 from the edge of display area. Note the beginning of a larger darker blue BH forming at approx 20deg in the same area as the smaller BH. Two white spots can be seen at 10 & 20deg, 1/4 to 1/3 from edge of image display.

20:34:02 UT Frame: Image continues to lose definition. Both blue shading areas continue to get darker. Larger dark blue BH gains more definition. Small BH stays approx the same in image. Additionally several small, but discernible, BH's can be faintly seen in the image adjacent to the blue shading at approx 200deg. One white spot still visible at 10deg, 1/3 from edge of display.

20:36:04 UT Frame: Image fairly consistent, except second white dot is again visible at 20deg, 1/4 from edge of display.

20:38:05 UT Frame: Image definition about the same. Large blue BH at 20deg appears to get a secondary blue ring and multiple small BH's can be seen approx 200deg adjacent to blue shading.

20:40:06 UT Frame: Display consistent. Additional small BH can be seen in the center of the large dark blue BH. Another small BH is forming at 180deg near edge of image display.

20:50:13 UT Frame: Small BH noted earlier within large dark blue BH clearly defined.

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

WEATHER COMMENT: mcotter: Tue Sep 08 01:32:29 GMT 2020

The day started out well but rapidly went down hill with lots of clouds coming early in the afternoon. The K-cor image changed drastically while observing. I am unsure why the image changed, but I attempted to correct the situation several times by quitting K-cor, readjusting the occulter, re-running the auto focus and calibration without success. I put together a time stamp frame by frame diagnostic of the image change I observed and noted it in the log.

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

ONSITE STAFF: mcotter