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        Mauna Loa Solar Observatory Observer's Log
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        Mon May 30 16:41:59 GMT 2022
Year: 22  Doy: 150
Observer: mlso
WEATHER COMMENT: mcotter: Mon May 30 16:47:28 GMT 2022
Temp: 52.8f, Humidity: 11%, Pressure: 28.529in, Wind: 5mph from 123degs, Skies: The Sky
 to the east is scattered with Cirrus, Cirrostratus and Cirrocumulus clouds. The clouds
 stretch all across the eastern sky going toward to the south. There are additional Cir
rocumulus in patches across various parts of the sky from Zenith stretching westward. T
he inversion layer is a blue gray color and is well below Haleakala on the horizon but
above it the sky is a bit hazy. The sky is also a bit hazy at lower elevations with VOG
, but not nearly as bad as it has been for the last coupe of weeks. Light wind blowing
from the east.
___end___
GENERAL COMMENT BY mcotter: Mon May 30 16:47:39 GMT 2022
Opened windows upstairs
___end___
GENERAL COMMENT BY mcotter: Mon May 30 16:47:46 GMT 2022
PM Blew off UCoMP O1
___end___
GENERAL COMMENT BY mcotter: Mon May 30 16:47:52 GMT 2022
PM Blew off Kcor O1
___end___
GENERAL COMMENT BY mcotter: Mon May 30 16:49:35 GMT 2022
There are currentky too many clouds stretched across the sky toward the east to observe
 at this time. I am hoping that some of the clouds may burn off and dissipate as the mo
rning progresses.
___end___
Mon May 30 17:36:01 GMT 2022 Kcor Focus/alignment program exited
Mon May 30 17:54:45 GMT 2022 Kcor Focus/alignment program exited
KCOR COMMENT BY mcotter: Mon May 30 18:03:47 GMT 2022
Some of the clouds to the east have burned off and the sky appears to be "Bluer" in col
or, though I continue to see some clouds on the fringes of the Yawcam Preview image. I
tried running Kcor a couple of times,  but the sky remains much too bright. The first t
ime I ran the Kcor Focus Routine the image for the parabola came out as straight line,
top right to bottom left. I put the lens cover in and waited twenty minutes or so and t
ried again. I was able to get a parabola the second time I ran the focus routine, thoug
h not a great one. I tried running the Kcor Stand Alone Acquisition Controller but the
Synoptic images came out much too bright to proceed. I'll give it another twenty minute
s or so and try again.
___end___
KCOR COMMENT BY mcotter: Mon May 30 18:22:53 GMT 2022
I tried running Kcor again and though the Synoptic Images are a bit bright I am going t
o let it run and see how the Kcor NRGF Images turn out.
Kcor now observing.
___end___
Mon May 30 18:23:45 GMT 2022 Running UCOMP Cookbook all_wavelength_coronal_flat.cbk lin
e 0
Mon May 30 18:25:31 GMT 2022 Running UCOMP Cookbook all_wavelength_coronal_flat.cbk lin
e 2
UCoMP COMMENT BY mcotter: Mon May 30 18:25:12 GMT 2022
Ucomp now observing.
___end___
GENERAL COMMENT BY mcotter: Mon May 30 18:26:06 GMT 2022
The sky has improved from when I first started the instrument observing.
___end___
Mon May 30 18:39:39 GMT 2022 Running UCOMP Cookbook all_wavelength_coronal.cbk line 0
Mon May 30 19:07:34 GMT 2022 Running UCOMP Cookbook all_wavelength_coronal.cbk line 0
WEATHER COMMENT: mcotter: Mon May 30 19:12:01 GMT 2022
The sky is brightening a bit at this time. I'll keep an eye on it and if it does get wo
rse I will need to pause.
___end___
Mon May 30 19:13:28 GMT 2022 UCoMP Paused for clouds
UCoMP COMMENT BY mcotter: Mon May 30 19:14:36 GMT 2022
Ucomp has been paused due to brightening skies.
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___end___
KCOR COMMENT BY mcotter: Mon May 30 19:15:07 GMT 2022
Kcor has been stopped due to brightening skies.
___end___
WEATHER COMMENT: mcotter: Mon May 30 19:24:09 GMT 2022
I just went outside and long wisps of high altitude Cirrus is beginning to stretch acro
ss the sky from southeast going westward. Our observation may have been short lived if
the Cirrus gets thicker.
I will continue to monitor the skies closely.
___end___
GENERAL COMMENT BY mcotter: Mon May 30 22:22:14 GMT 2022
Today has started out with scattered upper level clouds on the eastern horizon with sma
ll infrequent gaps in the cloud coverage. I have attempted to observe several times, st
arting and then stopping, as sky conditions develop and change. I want to take this op
portunity to explain and note the different sky conditions I typically encounter and th
e criteria I apply and use in order to make a judgment call on when to observe, pause,
or stop.

Typically, I start my day by visually scanning the skies to see if there are any clouds
 present in the vicinity of the Sun (as well as general sky conditions). I will attempt
 to mask the Sun, with my hand out at arms length in front of my eyes, and determine if
 the sky appears overly bright around the Sun, or in general. When I start the Kcor Fo
cus Routine program I am presented with two images on the GUI screen. They are mirror i
mages of each other and there is a round dark (black) circle in the center of the image
 showing the Occulter disk shadow. Ideally, the background behind the Occulter disk wil
l be very dark (almost black) with a bright thin ring circling around the Occulter disk
, which is the Corona of the Sun. The background is not always dark and can appear an i
nfinite amount of shades of gray until the background is bright and white. There are ti
mes when the background appears a bright gray in color but the Coronal ring is still pr
esent and appears bright and well defined. If the background image in the focus routine
 appears a little bright, but a coronal ring is still observable, I consider this to be
 an acceptable threshold to go forward. I will initiate an Auto-focus command and try t
o obtain an image of a parabola, which shows the averages of the automatic focus. Somet
ime when the sky is bright as described the parabola will not come out very well shaped
, but as long as the shape is somewhat of a parabola (even a "V" shape is acceptable)
I will continue onto the Kcor-Stand Alone Image Acquisition Controller program and see
what the Synoptic Images look like. There are eight images, two rows of four images sid
e by side together and they are mirror image of each other. These images will typically
 come up within ten to fifteen seconds and show a round dark (black) circle in the cent
er of the Occulter disk. Again, like the focus routine images, ideally a nice clear, cr
isp and bright Corona ring should be around the Occulter disk, with the back ground bei
ng very dark up to many shades of gray from dark to light with eventually a white backg
round. If the Synoptic Images appear acceptable (a well defined Coronal ring around th
e Occulter disk with a background between dark (black) and somewhere in the light gray
color I will allow the Kcor-Stand Alone Image Acquisition Controller program to continu
e to run until The Kcor NRGF Images begin to appear (after approximately ten minutes or
 so). The quality of Kcor NRGF images, I feel, are the ultimate arbiter of wether to p
roceed with observing . If these images appear relatively well defined, not too much gr
aininess and shadows then I continue to observe with the Kcor Instrument.

There are several steps in order to observe and each step is accomplished with a level
of objective tolerance. There are times when running the focus routine that the backgro
und may appear a gray-white color and the Coronal ring is not distinguishable, but the
brightness of the background is not overly bright and is not saturating the Occulter di
sk with light. At these times I will check the image of the Yawcam Preview Camera (the
 Yawcam Preview Camera is mounted on the Spar and looks out toward the sky allowing the
 operator to see what the instrument(s) see). If the sky appears blue(ish), without th
e presence of clouds, I will run the focus routine, obtain the best parabola I can obta
in and go onto Kcor-Stand Alone Acquisition Controller program so that I may observe ho
w the synoptic images appear. I find the synoptic images to be the best indicator wheth
er observations can take place. If the synoptic images look acceptable I know with a fa
ir degree of certainty that the Kcor NRGF images will be acceptable.

While I am observing I pay most attention to the synoptic images and the Yawcam Preview
 images as I scan across the various monitor. Additionally I periodically go outside an
d scan the sky by eye. The first indicator that seeing conditions are getting poorer wi
ll be the Yawcam image, followed within seconds by the Synoptic Images. A brightening o

f the sky, or incoming clouds, can be immediately observed in the Yawcam image. When th
is happens the Synoptic images typically react in one of two ways.
1) The Synoptic images may begin to brighten in the background, going from a dark backg
round, through many shades of gray, to eventually becoming white or bright white, where
 the background brightness saturates into the Occulter disk shadow. If the background b
egins to lighten I will focus on the coronal ring and observe if the coronal ring is st
aying intact and relatively sharp, well defined and is not bleeding out away from the O
cculter disk shadow. As long as the coronal ring remains relatively well defined and is
 not getting distorted I will continue to observe with the instrument. If the backgroun
d continues to brighten, eventually I find it does affect the integrity of the Coronal
ring and the ring will become less define and will fade into the background. At this ti
me observations are paused and the Kcor-Stand Alone Acquisition Controller is stopped a
nd the Lens Cover is put into the Beam.

2) The other reaction I find when the sky begins to look bright in the Yawcam Preview I
mage (or by eye) is that the brightening affect of the Synoptic Images begins with the
Coronal ring itself. The general background may stay consistent or brighten a little bi
t, but the Coronal ring will begin to grow brighter and brighter until it eventually it
 begins to grow in size and it becomes wider as it saturates outward away from the Occu
lter disk shadow. When this happens I will continue to observe only if the Coronal ring
 stays relatively well defined and maintains a relatively tight ring appearance around
the Occulter disk shadow. As it grows bigger in diameter the Kcor NRGF images will late
r show less definition in the Corona region and the images will tend to look out of foc
us, flat looking, fuzzy and less defined. If the Synoptic Images show the appearance th
at the Coronal ring is brightening, widening, becoming less defined and growing larger,
 I pause observations. The Kcor-Stand Alone Acquisition Controller is stopped and the L
ens Cover is put into the Beam.

For all observation that I make with the Ucomp Instrument I rely upon and use the Kcor
 instrument as my lead indicator. If condition are determined to be good and I am obser
ving with the Kcor Instrument I observe with the Ucomp Instrument. If, by means of usin
g the Kcor Instrument, as described, I determine that conditions are questionable or po
or, I pause the Ucomp Instrument until I am satisfied that conditions are again accepta
ble by means of the Kcor Instrument.

I write this out so that Ben, Joan, Lisa and all others within our team understand how
I am performing observation, operating the instruments and the criteria I have develope
d in order to best collect data. I want to ensure that I am performing the best observa
tions possible and that my methods are in parallel with other observations being perfor
med.

Operating the instruments and assessing the data images lends itself to be subjective t
o interpretation. After reading how I perform observation and accessing the final data
I generate please let me know if there is anything that I may do to improve my methods
for making observations. I would appreciate any feedback anyone may provide.
___end___
GENERAL COMMENT BY mcotter: Mon May 30 22:28:06 GMT 2022
The day started out somewhat clear but there were some upper level Cirrus clouds presen
t on the eastern horizon that delayed observations. There were also some upper level Ci
rrostratus clouds in the southern sky that stretched off to the west. I was hoping that
 the cloud coverage would burn off as the Sun rose, and it did for a while, but the clo
uds that were present to the south and west continued to increase and now the sky is co
mpletely overcast with Cirrostratus clouds.
Other than a brief period of observations this morning when some of the cloud coverage
burned off, no further observations today.
___end___
ONSITE STAFF: mcotter