
Mauna Loa Solar Observatory Observer's Log

Thu Apr 7 17:23:25 GMT 2022
Year: 22 Doy: 097
Observer: berkey
WEATHER COMMENT: berkey: Thu Apr 07 17:23:48 GMT 2022
Temp: 39.5f, Humidity: 58%, Pressure: 28.731in, Wind: 2mph from 214degs, Skies: clear a
bove, roads and surfaces icy above ~10,000ft.
___end___
Thu Apr 07 17:29:50 GMT 2022 Running UCOMP Cookbook all_wavelenght_coronal_flat.cbk lin
e 0
GENERAL COMMENT BY berkey: Thu Apr 07 17:30:00 GMT 2022
PM Blew off Kcor O1
___end___
GENERAL COMMENT BY berkey: Thu Apr 07 17:30:04 GMT 2022
PM Blew off UCoMP O1
___end___
Thu Apr 07 17:33:31 GMT 2022 Kcor Focus/alignment program exited
GENERAL COMMENT BY berkey: Thu Apr 07 17:39:39 GMT 2022
Skies are a little bright.
___end___
Thu Apr 07 17:47:22 GMT 2022 Running UCOMP Cookbook all_wavelenght_coronal_flat.cbk lin
e 11
Thu Apr 07 17:47:31 GMT 2022 KCOR Start Synoptic Patrol
Thu Apr 07 17:50:08 GMT 2022 Running UCOMP Cookbook all_wavelenght_coronal.cbk line 0
Thu Apr 07 18:18:16 GMT 2022 Running UCOMP Cookbook all_wavelenght_coronal.cbk line 0
Thu Apr 07 18:45:55 GMT 2022 Running UCOMP Cookbook all_wavelenght_coronal.cbk line 0
Thu Apr 07 19:13:34 GMT 2022 Running UCOMP Cookbook all_wavelenght_coronal_flat.cbk lin
e 0
Thu Apr 07 19:28:52 GMT 2022 Running UCOMP Cookbook waves_1074_1hour.cbk line 0
Thu Apr 07 19:37:59 GMT 2022 KCOR End Patrol
Thu Apr 07 19:38:02 GMT 2022 UCoMP Paused for clouds
Thu Apr 07 19:38:07 GMT 2022 KCOR End Patrol
GENERAL COMMENT BY berkey: Thu Apr 07 19:38:42 GMT 2022
Clouds showing up. Might need to shut down soon.
___end___
GENERAL COMMENT BY berkey: Thu Apr 07 19:41:35 GMT 2022
Trying out some new guider code.
___end___
GENERAL COMMENT BY berkey: Thu Apr 07 20:30:06 GMT 2022
New guider mode looks ok/good from what I can tell between clouds, more testing is need
ed before we can roll it out.

Perviously Kcor calculated new SGS targets based on an offset calulation of how bad the
occulter spill was in kcor + the current SGS position. And sent that result to SGS on
ce ever 15.1 seconds.
So if the SGS had a position of RA=40 and Kcor wanted it to move +1 . Kcor would send
a target of 41 to the guider. On receiving this update the guider would instantly chan
ge its pointing target to 41 and start guiding to that location. If the move was big l
ike Old+10 (or something) there could be some jitter in as the guider settled to its ne
w target. (A similar calculation was also sent for the DEC when the RA was sent)

In the new algorithm. Kcor calculates how far it wants to move in RA and Dec based on
the same occulter spill algorithm. And then it sends those to vlaues plus its update r
ate to the guider.

So if it wanted to move the RA+1 and the Dec 0. It would send RA=1, DEC=0, Update=15.1
7.

The guider on receiving these targets calculates how many pointing updates it would dur
ing a kcor update period. Update loop currently opperating at 21.27 Hz *15.17 seconds
= ~323 guider updates per kcor update. It then divides the Kcor RA/DEC error signal
s from kcor by this update ratio. So we now a Kcor RA error of 1 is applied as 1/322
or .003 arcsecond pointing updates, updating ~21 times per second.

Note: This 21Hz rate is about twice as fast as the 80ms UCoMP image rage

Based on testing so far this appears to keep the pointing relatively close; and we have no obvious sign errors that are driving the guider away from target. Updates appear to get applied smoothly in the guider feed back windows. No obvious jumps in the SGS traces. And the NRGF images look ok. With the current clouds getting thicker we might not be able to get any more testing in today.
___end___
Thu Apr 07 22:50:25 GMT 2022 UCoMP Restarted from pause
GENERAL COMMENT BY berkey: Fri Apr 08 01:21:47 GMT 2022
Reverting kcor and sgs communication to send signals every 15 seconds.
___end___
ONSITE STAFF: berkey