
Mauna Loa Solar Observatory Observer's Log

Wed Oct 25 16:34:23 GMT 2017
Year: 17 Doy: 298
Observer: berkey
WEATHER COMMENT: berkey: Wed Oct 25 16:35:36 GMT 2017
Temp: 44.8f, Humidity: 89%, Pressure: 28.609in, Wind: 2mph from 161degs, Skies: heavy overcast
___end___
Wed Oct 25 22:49:20 GMT 2017 Kcor Focus/alignment program exited
CoMP COMMENT BY berkey: Wed Oct 25 23:43:25 GMT 2017
CoMP Diffuser is back up an running and ready to use for focus. daily.menu updated to run the programs with diffuser calibrations.

Looks like the issue was a series of problems.

Initially, the set screw on the "Position Sensor Flag Ring" slipped backward (anti-solar) enough to allow the flag to strike one of the prox mounting nuts. This lead to the Mdrive crashing (may not have crashed but at least got into a mode where it wasn't accepting new moves in either direction).
In troubleshooting the system the mdrive was reset via the IMS console, which I assumed meant reboot; but in fact, means reload default programs (cleaning the HAO drive program). I also assumed that programs loaded on the mdrive were persistent across rebooting the drive, this is not correct the system requires an explicit saving the code.

It also appears that the HAO motion program requires an mDrive reboot to take effect the program is only triggered on startup.
To get the motor back up and running I used the following procedure.
Open the mxt file(found in subversion) in SEM Terminal
Connect "terminal1" to the mDrive serial port
reboot the mDrive with "ctrl+c"
Download the Mxt program into terminal1
Save the program to non-volatile memory with "S"
reboot the mdrive with "ctrl+c"
Check that we see the printout "Cal Diffuser"
Test that the program loaded
Print out the N0 and N1 move locations are current position
PR N0
PR N1
PR P
Test some motion
MV N0
PR P
MV N1
If the? appears in the console instead of the normal > check the error message with
PR ER
And clear it with
ER 0
If all seems well
Disconnect from the terminal

Then test the motion with the labview VI’s. (May require running the reset cal diff motor vi to get homing right)
Then test the motion with the Cal diff in /Cal diff out VIs.
___end___
KCOR COMMENT BY berkey: Wed Oct 25 23:54:23 GMT 2017
Made some changes to the Kcor VI wireing diagrams this morning to cleanup up things and make them a bit easier to read.

I also found that the Parc C-thread to fits.vi was coping the bin to fits file twice. The first time we copied the fts fi le with the BIN byte order; we the overwrote the file with (the proper) big-endian byte order. The inital copy has now been removed from the code.

We did a little testing with the wrong endian testing today; which lead to fun "static snow" in the quick look gifs.
___end___
GENERAL COMMENT BY berkey: Thu Oct 26 00:02:59 GMT 2017
Kcor calibration file was updated to change the order we remove optics from the beam at the end of the cal run.
Previously we took things out in the folllowing order:
dark shutter
cal diffuser
cal polarizer
The new order is:
cal pol
cal diffuser
dark shutter.

This chnage was motivated by noticing that almost all of our kcor images have small fringes expect the one that appear rig ht after the end of the calibrations.

1/2 of the theories of why we think we aren’t seening fringes in the first image; are related to motion of the fore-optics (either optical reflections while moving or some kind of bending/flexing related to the moving mass).

The other set of theroies are related to some sort of heating issue in the back end.

By making dark shutter to the last move we expect that if the change in fringes are releated to the motion of the foreopti cs we wont see any frames without small fringes. If the fringes come from some sort of heating in the back we will contin ue to see them.
___end___
GONG PROBLEM COMMENT BY berkey : Thu Oct 26 00:27:23 GMT 2017
Gong turret still stowed.
___end___