
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 161deg, 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 and 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 led to the M drive 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 wiring diagrams this morning to clean up things and make them a bit easier to read.

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

We did a little testing with the wrong endian testing today; which led 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 following order:

dark shutter

cal diffuser

cal polarizer

The new order is:

cal pol

cal diffuser

dark shutter.

This change was motivated by noticing that almost all of our kcor images have small fringes except the one that appear right after the end of the calibrations.

1/2 of the theories of why we think we aren't seeing 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 theories 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 related to the motion of the foreoptics we won't see any frames without small fringes. If the fringes come from some sort of heating in the back we will continue to see them.

____end____

****GONG PROBLEM COMMENT BY berkey**** : Thu Oct 26 00:27:23 GMT 2017

Gong turret still stowed.

____end____