
Mauna Loa Solar Observatory Observer's Log

Wed Jun 10 17:06:37 GMT 2015

Year: 15 Doy: 161

Observer: berkey

WEATHER COMMENT: berkey: Wed Jun 10 17:06:47 GMT 2015

Temp: 41.3f, Humidity: 26%, Pressure: 28.623in, Wind: no wind, Skies: clear

____end____

Wed Jun 10 19:49:36 GMT 2015 KCOR End Patrol

Wed Jun 10 19:50:00 GMT 2015 CoMP Paused for clouds

GENERAL COMMENT BY berkey: Wed Jun 10 20:05:07 GMT 2015

Both domes closed for clouds.

____end____

Wed Jun 10 20:05:11 GMT 2015 CoMP Restarted from pause

Wed Jun 10 20:05:11 GMT 2015 COMP End Patrol

GENERAL COMMENT BY berkey: Thu Jun 11 00:16:06 GMT 2015

Still pretty cloudy. At a couple points it looked like it might clear but so far it hasn't happened.

____end____

PSPT COMMENT BY berkey: Thu Jun 11 02:24:11 GMT 2015

Poked around PSPT through out the day, still no solution. The hanging/stopping happens after the sun machine asks for a image.

The dos machine sees this command and processes it, and appears to move on to the next tasks so it must believe it finished the command.

I am not sure if the camera hardware sees a trigger.

But the Sun machine either misses a signal that a new image is ready, or the new image is never made ready.

Since this problem seemed to begin with a cable routing issue we had on Monday in which the water ended up blocking PSPT's RA motion via binding on some of the south side connectors. I assume this is entirely a hardware problem in either on the connectors, or the fiber optics cable that is co-run with the water lines. However the connectors were pulled apart for the 3rd day in the row and inspections found no issues, and the camera would not read out with the spare fiber. Not sure where to go next...

____end____

GENERAL COMMENT BY berkey: Thu Jun 11 02:24:37 GMT 2015

Clouds turned to fog, fog lifted to give us rain. Hopefully we get more data tomorrow.

____end____

KCOR COMMENT BY berkey: Thu Jun 11 02:52:02 GMT 2015

I made some progress on a kcor tip/tilt differential focus alignment tool. The tool is based off the differential focus code Alfred worth for the kcor deploy. That code used the an image sharpness algorithm on the image of the field stop as seen in the 4 corners of the camera. Instead of running the camera focus motors through discrete steps and using the field stop to find the best focus, this code just runs continuously calculating the image sharpness in the 8 sub regions. When we pull out a X and Y tip/tilt signal from the cameras by looking at the $((\text{top left} + \text{top right}) - (\text{bottom left} + \text{bottom right})) / (\text{top left} + \text{top right} + \text{bottom left} + \text{bottom right})$ for Y and a similar calculation for X. These X and Y values are plotted out on a strip chart so we can watch by as as the tip/tilt converge/diverge as adjustments are made.

Since this was all done with the domes closed, I was not able to get a very good test of the code. Only that I could read out images and do some math without throwing errors. Next time I have some light on the detectors I will make sure i got

the array indexes correct such that what I think is top left really is top left in the code. I will also try to see if the tip/tilt results seem to make sense. (During this testing I will not move any of the camera stages.)

This new code also removes any references to the T and R cam focus motors.

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