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Mauna Loa Solar Observatory Observer's Log  
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Fri Mar 28 16:57:52 GMT 2003

Year: 03 Doy: 087

Observer: yasukawa

WEATHER COMMENT: Fri Mar 28 16:58:05 GMT 2003

Cool, in broken cirrus, thin to moderate cirrostratus overcast to west,  
southwest wind.

Fri Mar 28 17:03:37 GMT 2003 CHIP Start Patrol

Fri Mar 28 17:03:53 GMT 2003 PICS Start Patrol

MKIV COMMENT: Fri Mar 28 17:03:55 GMT 2003

Preset O1 steppers.

Fri Mar 28 17:13:11 GMT 2003 MKIV Start Patrol

MKIV COMMENT: Fri Mar 28 17:14:55 GMT 2003

mk4 scanning in clouds, testing barrel behavior.

PSPT COMMENT: Fri Mar 28 17:21:18 GMT 2003

Observing.

Fri Mar 28 18:01:00 GMT 2003 CHIP LSD

Fri Mar 28 18:02:46 GMT 2003 CHIP End LSD

Fri Mar 28 18:03:01 GMT 2003 CHIP BiasLSD

Fri Mar 28 18:03:14 GMT 2003 PICS Flat

Fri Mar 28 18:03:59 GMT 2003 CHIP End BiasLSD

Fri Mar 28 18:04:12 GMT 2003 CHIP Bias

Fri Mar 28 18:05:08 GMT 2003 CHIP End Bias

Fri Mar 28 18:05:40 GMT 2003 PICS End Flat

WEATHER COMMENT: Fri Mar 28 18:49:49 GMT 2003

In hole of thin to no cirrostratus.

MKIV COMMENT: Fri Mar 28 18:52:14 GMT 2003

Centered O1.

Fri Mar 28 19:56:55 GMT 2003 CHIP End Patrol

COMMENT: Fri Mar 28 19:57:08 GMT 2003

Stopping to reconfigure dome shutter.

Fri Mar 28 19:57:27 GMT 2003 PICS End Patrol

Fri Mar 28 20:00:02 GMT 2003 MKIV End Patrol

Fri Mar 28 20:02:58 GMT 2003 MKIV Start Patrol

Fri Mar 28 20:03:20 GMT 2003 CHIP Start Patrol

Fri Mar 28 20:03:31 GMT 2003 PICS Start Patrol

WEATHER COMMENT: Fri Mar 28 20:34:48 GMT 2003

In cirrus overcast and orographic clouds.

COMMENT: Fri Mar 28 21:16:58 GMT 2003

PICS was domed out, ADR was disabled by thick clouds.

Fri Mar 28 22:09:49 GMT 2003 CHIP End Patrol

WEATHER COMMENT: Fri Mar 28 22:09:47 GMT 2003

In solid orographic clouds. Stopping observations.

Fri Mar 28 22:13:53 GMT 2003 MKIV End Patrol

\*\*MKIV PROBLEM\*\* Fri Mar 28 22:13:19 GMT 2003

MK4 barrel behaved nicely all morning. Idled OK and restarted OK.

Fri Mar 28 22:13:55 GMT 2003 PICS End Patrol

COMMENT: Fri Mar 28 22:14:39 GMT 2003

While instruments are paused, I am going to stop kaiee and oopu to hook up and test the KVM MasterView switch.

COMMENT: Fri Mar 28 23:50:14 GMT 2003

The cable for the KVM switch/ooopu connection does not have USB connectors so it cannot be plugged into the oopu keyboard and mouse ports. Tested KVM switch with the kaiee mouse/keyboard plugged into the switch and with the mouse/keyboard plugged into the CPU directly. Switch works OK either way. Final configuration unless Peter finds a USB adapter has both keyboard/mice plugged into their individual CPUs and both CPUs sharing one monitor. With the switch configured this way, only the RED selected indicator goes on. The GREEN online indicator does not--this goes on if the keyboard/mouse is connected.

At this time, oopu's display is set at the wrong resolution--something less than VGA??. Screen characters are very large and gui windows are large and overlap one another. I have alerted Bunny to check the display settings.

WEATHER COMMENT: Sat Mar 29 00:17:18 GMT 2003

Started to rain suddenly while I was restarting kaiee and oopu.

**\*\*MKIV PROBLEM\*\***: Sat Mar 29 00:23:27 GMT 2003

MK4 O1 got rained on. Other O1s were protected due to the disabling of the ADR when it got cloudy but MK4 was still out in the slot when the rain came in unexpectedly and suddenly.

MK4 O1 received a non-SOP cleaning.

SOP would be: good data/calibrate/clean/calibrate/good data.

I did an in-situ wipe down and then ethyl alcohol cleaning of the front surface, wipe dry/remove any smudges, then air dusting. No before and after good data and calibrations due to the bad weather.

**\*\*MKIV PROBLEM\*\***: Sat Mar 29 00:43:16 GMT 2003

Thoughts on barrel....

Greg card suggested barrel stepper motor might have burnt windings when pervious stalls occurred. If this were the case barrel would fail more consistently. It ran quite smoothly today. Besides, the stepper motor makes multiple rotations for each rotation of the barrel so the stall points would not be repeatable as in the 41-45 degree stallpoints that Darryl and Allen saw yesterday.

STM101 card could be getting flaky. We can try a swap with the First Objective Rotation STM101 driver card when the barrel starts to misbehave again.

Barrel Drive card in KCC could be flaky, I will swap it with a spare. If it is not the drive card, barrel misbehavior will resume sometime soon. Darryl and Allen's test yesterday ruled out akamai and the program on it by cycling the power to only akamai.

MKIV COMMENT: Sat Mar 29 01:00:56 GMT 2003

Testing barrel after swapping Spare #1 driver card for Barrel driver card in KCC.

Sat Mar 29 01:01:37 GMT 2003 MKIV Start Patrol

\*\*MKIV PROBLEM\*\* : Sat Mar 29 01:05:43 GMT 2003

This time on first CCW scan I saw the barrel stop at PA 41 and then resume scanning to CCW turnaround. The scan speed did not slow, just went to stop and then back to 240 when scanning resumed. At the scan turnaround point, barrel stopped then resumed scanning in the CW direction normally.

Sat Mar 29 01:09:33 GMT 2003 MKIV End Patrol

Sat Mar 29 01:12:49 GMT 2003 MKIV Start Patrol

\*\*MKIV PROBLEM\*\* : Sat Mar 29 01:12:57 GMT 2003

Idled barrel after one scan set. Restarted Patrol.

\*\*MKIV PROBLEM\*\* : Sat Mar 29 01:17:03 GMT 2003

Barrel stopped at 40.49 degrees akamai beeped and scan in CCW direction resumed. This stall point is generally repeatable. Since drivers and the motor (which makes multiple turns per barrel rotation) doesn't really know where it is at, makes me doubt drivers or motor are bad. Barrel stopped at turnaround point and waited. Scan speed was at 30 but barrel wasn't turning. Clicked on CW 240 and the barrel began turning in CW direction. Akamai did not beep, didn't write usual message that it writes at turnaround. Record numbers are also strange. Barrel just paused briefly at PA 313 in the CW direction, akamai beeped, a couple of lines were written out, and barrel continued CW to turnaround where I enabled another idle. No akamai beep nor message when barrel got there. here are the akamai messages from first start up, idle, startup and idle, should be for 4 scans, CCW, CW, idle, CCW, CW, idle:

```
fixOffset 1534.3 1543.1 7190.1 7009.5
Configuring mechanisms : look for 'done' ... done
t_scan 1 records done
fixOffset -3.8 -2.7 8724.1 8552.5
Configuring mechanisms : look for 'done' ... done
t_scan 982 records done
fixOffset -3.2 -3.5 8720.1 8549.5
Configuring mechanisms : look for 'done' ... done
t_scan 0 records done
fixOffset 3.8 2.4 8716.1 8545.5
Configuring mechanisms : look for 'done' ... done
t_scan 0 records done
fixOffset -0.1 -4.3 8719.1 8547.5
Configuring mechanisms : look for 'done' ... done
```

After around a minute or two, after I cut and paste the akamai messages, akamai beeped and these lines were added:

```
t_scan 0 records done
fixOffset 2.3 1.2 8718.1 8542.5
Configuring mechanisms : look for 'done' ... done
t_drive barrel glitch
```

**\*\*MKIV PROBLEM\*\***: Sat Mar 29 01:31:46 GMT 2003  
Not the barrel drive card. Replacing the original barrel drive card into KCC.

**\*\*MKIV PROBLEM\*\***: Sat Mar 29 01:32:34 GMT 2003  
Just noticed that Spare #1 card still has the CW drive and request LEDs lit and Patrol is still green on VCP. Other monitor screen shows CW still at 30, not at Stop.  
Hmmm.

**\*\*MKIV PROBLEM\*\***: Sat Mar 29 01:35:23 GMT 2003  
Doing that, selecting Stop, turned off the status LEDs on the KCC cards, Patrol still Green, Idle still queued up (White).

**\*\*MKIV PROBLEM\*\***: Sat Mar 29 01:51:11 GMT 2003  
Turned main power off and swapped Spare #1 and Barrel drive cards back. While power turned off, I swapped Barrel STM101 (A1) with FO Rotation STM101 (A3) cards upstairs.

WEATHER COMMENT: Sat Mar 29 01:53:53 GMT 2003  
Still in dense fog. Shutting down rest of instruments. Still testing MK4.

Sat Mar 29 01:55:15 GMT 2003 MKIV Start Patrol

**\*\*MKIV PROBLEM\*\***: Sat Mar 29 01:57:13 GMT 2003  
Barrel scanned past 40-45 degree PA stall points this time on first CCW scan. Akamai text after first successful CCW scan:  
Done executing startup script /opt/alakai/mech  
akamai-> fixOffset 1542.1 1557.3 7190.1 7009.5  
Configuring mechanisms : look for 'done' ... done  
t\_scan 982 records done  
fixOffset -9.2 -10.5 8732.1 8566.5  
Configuring mechanisms : look for 'done' ... done

Sat Mar 29 02:01:35 GMT 2003 MKIV End Patrol

**\*\*MKIV PROBLEM\*\***: Sat Mar 29 02:01:54 GMT 2003  
CW scan ran non-stop to successful completion and to idle. Additional akamai text:  
t\_scan 983 records done  
Starting Patrol again and letting it run a few more scans.

Sat Mar 29 02:03:55 GMT 2003 MKIV Start Patrol

Sat Mar 29 02:16:00 GMT 2003 MKIV End Patrol

**\*\*MKIV PROBLEM\*\***: Sat Mar 29 02:15:36 GMT 2003  
Ran thru two CCW/CW cycles to idle successfully, all akamai messages looked OK with "t\_scan 983 (or 982) records done" messages indicating things were working downstream, too. Barrel behaved albeit I did turn main power off while swapping cards. I'll leave the Barrel and First Objective Rotation STM101 cards swapped for the time being so that we can fully test the swap in the next couple of days.

WEATHER COMMENT: Sat Mar 29 02:22:21 GMT 2003  
Still in fog and light drizzle.  
Shutting down for the day.

Sat Mar 29 02:22:58 GMT 2003  
MkIV

01_01.rawmk4	17_53.rawmk4	18_58.rawmk4	20_05.rawmk4	21_10.rawmk4
01_05.rawmk4	17_56.rawmk4	19_00.rawmk4	20_08.rawmk4	21_13.rawmk4
01_12.rawmk4	17_59.rawmk4	19_03.rawmk4	20_11.rawmk4	21_19.rawmk4
01_16.rawmk4	18_02.rawmk4	19_06.rawmk4	20_14.rawmk4	21_23.rawmk4
01_23.rawmk4	18_05.rawmk4	19_09.rawmk4	20_17.rawmk4	21_26.rawmk4
01_35.rawmk4	18_07.rawmk4	19_12.rawmk4	20_20.rawmk4	21_29.rawmk4
01_55.rawmk4	18_10.rawmk4	19_15.rawmk4	20_23.rawmk4	21_32.rawmk4
01_58.rawmk4	18_13.rawmk4	19_18.rawmk4	20_26.rawmk4	21_35.rawmk4
02_03.rawmk4	18_16.rawmk4	19_21.rawmk4	20_29.rawmk4	21_38.rawmk4
02_06.rawmk4	18_19.rawmk4	19_24.rawmk4	20_32.rawmk4	21_41.rawmk4
02_09.rawmk4	18_22.rawmk4	19_27.rawmk4	20_35.rawmk4	21_44.rawmk4
02_12.rawmk4	18_25.rawmk4	19_30.rawmk4	20_38.rawmk4	21_47.rawmk4
17_13.rawmk4	18_28.rawmk4	19_33.rawmk4	20_41.rawmk4	21_49.rawmk4
17_16.rawmk4	18_31.rawmk4	19_36.rawmk4	20_44.rawmk4	21_52.rawmk4
17_19.rawmk4	18_34.rawmk4	19_39.rawmk4	20_47.rawmk4	21_55.rawmk4
17_22.rawmk4	18_37.rawmk4	19_42.rawmk4	20_50.rawmk4	21_58.rawmk4
17_27.rawmk4	18_40.rawmk4	19_45.rawmk4	20_53.rawmk4	22_01.rawmk4
17_31.rawmk4	18_43.rawmk4	19_47.rawmk4	20_56.rawmk4	22_04.rawmk4
17_41.rawmk4	18_46.rawmk4	19_50.rawmk4	20_58.rawmk4	22_07.rawmk4
17_44.rawmk4	18_49.rawmk4	19_53.rawmk4	21_01.rawmk4	22_10.rawmk4
17_47.rawmk4	18_52.rawmk4	19_56.rawmk4	21_04.rawmk4	
17_50.rawmk4	18_55.rawmk4	20_02.rawmk4	21_07.rawmk4	