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Mauna Loa Solar Observatory Observer's Log  
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Mon Mar 17 16:47:29 GMT 2003

Year: 03 Doy: 076

Observer: stueben

WEATHER COMMENT: Mon Mar 17 16:53:26 GMT 2003

Clear, cool, light south wind.

Mon Mar 17 16:56:27 GMT 2003 CHIP Start Patrol

Mon Mar 17 16:56:39 GMT 2003 PICS Start Patrol

MKIV COMMENT: Mon Mar 17 17:00:46 GMT 2003

Preset O1 centering.

COMMENT: Mon Mar 17 17:05:51 GMT 2003

Kaiee rebooted as an SOP maintenance procedure just around 1700 UT by root (Bunny). Kaiee is now back up.

PSPT COMMENT: Mon Mar 17 17:07:41 GMT 2003

Observing.

COMMENT: Mon Mar 17 17:08:49 GMT 2003

Dec error, reset dec and spar resumed proper guiding.

\*\*PICS PROBLEM\*\*: Mon Mar 17 17:10:52 GMT 2003

PICS occulting was affected by declination excursions. Readjusted occulting.

Mon Mar 17 17:16:18 GMT 2003 MKIV Start Patrol

\*\*MKIV PROBLEM\*\*: Mon Mar 17 17:28:28 GMT 2003

First two scans had data dropouts, about 120 deg. Cycling power on KCC to attempt to clear problem.

Mon Mar 17 17:37:24 GMT 2003 MKIV Start Patrol

PSPT COMMENT: Mon Mar 17 17:40:41 GMT 2003

Turned off filter heater per Randy's instructions.

Mon Mar 17 17:41:49 GMT 2003 MKIV Start Patrol

\*\*MKIV PROBLEM\*\*: Mon Mar 17 17:44:26 GMT 2003

After cycling KCC power patrol would not start. Reset KCC. Patrol started, first scan normal.

\*\*\*\* EVENT COMMENT \*\*\*\*: Mon Mar 17 18:00:41 GMT 2003

Small limbflare at PA 100 from 1711 to 1741 UT.

MKIV COMMENT: Mon Mar 17 18:02:33 GMT 2003

Centered O1.

Mon Mar 17 18:02:40 GMT 2003 PICS Flat

Mon Mar 17 18:02:47 GMT 2003 CHIP LSD

Mon Mar 17 18:04:38 GMT 2003 CHIP End LSD

Mon Mar 17 18:04:48 GMT 2003 CHIP BiasLSD

Mon Mar 17 18:05:19 GMT 2003 PICS End Flat

Mon Mar 17 18:05:44 GMT 2003 CHIP End BiasLSD

Mon Mar 17 18:05:59 GMT 2003 CHIP Bias

Mon Mar 17 18:06:57 GMT 2003 CHIP End Bias

Mon Mar 17 18:17:21 GMT 2003 CHIP End Patrol

Mon Mar 17 18:21:39 GMT 2003 CHIP Start Patrol

\*\*CHIP PROBLEM\*\*: Mon Mar 17 18:21:05 GMT 2003

We were getting multiple images on CHIP display. This was probably due to CHIP centering its image while guider was displaced during one of the spar power-downs or guiding adjustments. Stopped CHIP and centered image manually using the micrometer controller. Restarted CHIP.

Mon Mar 17 18:29:23 GMT 2003 MKIV End Patrol  
Mon Mar 17 18:29:32 GMT 2003 MKIV Start Cal  
Mon Mar 17 18:48:52 GMT 2003 MKIV End Cal  
Mon Mar 17 18:48:57 GMT 2003 MKIV Start Patrol

MKIV COMMENT: Mon Mar 17 18:57:55 GMT 2003  
Centered Ol.

Mon Mar 17 19:33:50 GMT 2003 PICS End Patrol  
Mon Mar 17 19:34:19 GMT 2003 CHIP End Patrol

\*\*PICS PROBLEM\*\* Mon Mar 17 19:34:28 GMT 2003

Experiencing filter wheel failure to go to clear position.

Stopping observing to swap driver cards to convince ourselves that it is not a faulty card.

COMMENT: Mon Mar 17 19:35:42 GMT 2003

Reconfiguring dome shutter at the same time.

Mon Mar 17 19:36:12 GMT 2003 MKIV End Patrol  
Mon Mar 17 19:44:15 GMT 2003 MKIV Start Patrol  
Mon Mar 17 19:44:19 GMT 2003 CHIP Start Patrol  
Mon Mar 17 19:44:29 GMT 2003 PICS Start Patrol

\*\*PICS PROBLEM\*\* Mon Mar 17 19:45:32 GMT 2003

Filter wheel is still not homing in on clear station. It got far enough around to allow the beam to pass thru the large hole, but not far enough to enable the home switch. Wheel was not getting far enough around previously to allow any light thru the clear station.

GONG COMMENT: Mon Mar 17 19:48:36 GMT 2003

Did GONG PM for the week.

\*\*PICS PROBLEM\*\* Mon Mar 17 19:48:55 GMT 2003

We will be jarring the spar around to open up the optics box and removing the filter wheel. We will try replacing the 100 ohm resistor with a 50 ohm one as a band-aid fix unless inspection of the mechanism reveals a problem.

Mon Mar 17 20:07:18 GMT 2003 PICS End Patrol

\*\*PICS PROBLEM\*\* Mon Mar 17 20:08:02 GMT 2003

PICS did not respond to the End command so it took a bunch of images with the covers open. It is stopped now. Removing the filter wheel.

WEATHER COMMENT: Mon Mar 17 20:44:11 GMT 2003

In broken orographic clouds.

WEATHER COMMENT: Mon Mar 17 21:01:30 GMT 2003

In solid orographic clouds.

Mon Mar 17 21:01:33 GMT 2003 PICS Start Patrol  
Mon Mar 17 21:03:11 GMT 2003 MKIV End Patrol  
Mon Mar 17 21:05:53 GMT 2003 PICS End Patrol  
Mon Mar 17 21:06:09 GMT 2003 CHIP End Patrol

\*\*PICS PROBLEM\*\* Mon Mar 17 21:01:42 GMT 2003

Reinstalled filter wheel mechanism. Motor was turning very slowly

in one direction compared to the other direction. We believe that the drive software was timing out when driving between 6563 to CLEAR. The program now has the drive direction unchanged because of the previous drive problem. This is now the slow direction. CLEAR to 6563 does not time out because the stations are closer together in the current direction. As a band aid fix, we replaced the 100-ohm resistor with a 50-ohm resistor to speed up the motor. We believe the directional sluggishness is a problem in the planetary gearing on the motor since the motor body has been replaced and the old gearbox was not. We will be recommending that a new Globe motor p/n 5A2316 be purchased to replace the "Frankenstein" unit in there. We are in clouds now, but the filter wheel is working nicely for now.

Mon Mar 17 21:18:15 GMT 2003 MKIV Start Patrol  
Mon Mar 17 21:18:37 GMT 2003 CHIP Start Patrol

WEATHER COMMENT: Mon Mar 17 21:18:35 GMT 2003

In clear hole, restarting observations.

Mon Mar 17 21:18:50 GMT 2003 PICS Start Patrol

MKIV COMMENT: Mon Mar 17 21:21:13 GMT 2003

Centered O1.

WEATHER COMMENT: Mon Mar 17 21:51:13 GMT 2003

Broken orographic clouds passing thru.

MKIV COMMENT: Mon Mar 17 22:24:43 GMT 2003

Centered O1.

\*\*PICS PROBLEM\*\*: Mon Mar 17 23:31:57 GMT 2003

It looks like there is a piece of lint on the PICS CCD that might have fallen on the chip while the covers were open during the filter wheel repair. Patrol did not execute END and camera took a bunch of exposures while the covers were open exposing the CCD to dust and lint.

Stopping to attempt removal of the particle.

\*\*PSPT PROBLEM\*\*: Mon Mar 17 23:33:24 GMT 2003

PSPT crashed at 2310 UT making jpg images. killed and restarted.

Mon Mar 17 23:35:50 GMT 2003 PICS End Patrol

WEATHER COMMENT: Mon Mar 17 23:55:57 GMT 2003

In heavy orographic clouds and fog. Closing domes for now.

Mon Mar 17 23:56:30 GMT 2003 CHIP End Patrol

\*\*PICS PROBLEM\*\*: Mon Mar 17 23:56:43 GMT 2003

Buggers! We opened up PSPT, dusted off the surfaces inside the covers around the camera, and applied compressed air to CCD between shutter cycles at longest exposures. Unable to determine if that was effective (or made it worse) due to clouds. Standing by.

Mon Mar 17 23:59:34 GMT 2003 MKIV End Patrol

\*\*MKIV PROBLEM\*\*: Tue Mar 18 01:38:33 GMT 2003

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Disassembled wrap-up for red heater power supply cable and removed one wrap. There are now just two wraps of cable inside the wrapup. According to Darryl's assessment, this should reduce the occurrence of cable binding between very few to none. Tidied up and reassembled

mk4 wrapup and heater system.

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WEATHER COMMENT: Tue Mar 18 01:45:54 GMT 2003

In heavy fog and light drizzle.

\*\*PICS PROBLEM\*\* Tue Mar 18 01:46:18 GMT 2003

putting insulation cover onto PICS to protect optics overnight.

Did not get to check if lint removal was successful. Left note for

Darryl to check it tomorrow.

Tue Mar 18 01:57:13 GMT 2003

MkIV

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