```
Mauna Loa Solar Observatory Observer's Log
 ______
       Mon Dec 18 17:04:39 GMT 2006
Year: 06 Doy: 352
Observer: yasukawa
WEATHER COMMENT: Mon Dec 18 17:04:45 GMT 2006
Clear, S wind 8 mph, temp 33 F.
end
Mon Dec 18 17:20:39 GMT 2006
                              CHIP
                                       Start Patrol
Mon Dec 18 17:20:49 GMT 2006
                              PICS
                                       Start Patrol
SBM COMMENT: Mon Dec 18 17:26:23 GMT 2006
Observing
end
PSPT COMMENT: Mon Dec 18 17:26:32 GMT 2006
Starting up.
  end
A NEW TAPE HAS BEEN PUT INTO KAIEE DLT DRIVE, Mon Dec 18 17:26:48 GMT 2006
PSPT COMMENT: Mon Dec 18 17:45:50 GMT 2006
Observing
end
Mon Dec 18 17:46:04 GMT 2006
                              MKIV
                                      Start Patrol
Mon Dec 18 18:00:16 GMT 2006
                              PICS
                                       Flat
Mon Dec 18 18:02:39 GMT 2006
                                       End Flat
                              PICS
Mon Dec 18 18:02:48 GMT 2006
                                       ReStart Patrol
                              PICS
Mon Dec 18 18:03:01 GMT 2006
                              CHIP
                                       LSD
Mon Dec 18 18:04:44 GMT 2006
                              CHIP
                                       End LSD
Mon Dec 18 18:04:54 GMT 2006
                              CHIP
                                       BiasLSD
Mon Dec 18 18:05:52 GMT 2006
                                       End BiasLSD
                              CHIP
Mon Dec 18 18:06:00 GMT 2006
                                       Bias
                              CHIP
Mon Dec 18 18:06:50 GMT 2006
                              CHIP
                                       End Bias
Mon Dec 18 18:07:06 GMT 2006
                              CHIP
                                       ReStart Patrol
Mon Dec 18 18:10:08 GMT 2006
                              MKIV
                                      End Patrol
CHIP COMMENT: Mon Dec 18 18:21:31 GMT 2006
Will be running CHIP focus test.
Spar may shake around while removing CHIP covers and making adjustments.
SBM alignment will be affected by cover removal so I will be standing
down on SBM obs until the tests are over and I can realign the SBM.
 end
Mon Dec 18 18:29:22 GMT 2006
                              CHIP
                                       End Patrol
Mon Dec 18 18:29:51 GMT 2006
                              MKIV
                                      End Cal
Mon Dec 18 18:29:57 GMT 2006
                                      Start Patrol
                              MKIV
SBM COMMENT: Mon Dec 18 18:30:01 GMT 2006
Paused observations.
  end
**CHIP PROBLEM**: Mon Dec 18 20:44:50 GMT 2006
```

CHIP PROBLEM: Mon Dec 18 20:44:50 GMT 2006
After removing covers, I discovered that the Meadowlark filter's front

and rear surfaces had oil smears near the edges, not encroaching more

than approximately 1/8" from the edge, on several areas around the circumference, the largest smear, about 1/2" long. Carefully cleaned the oil off the surfaces with alcohol swabs and lens tissue. I could not tell by looking up thru the filter whether there was any separation internally.

```
Loosened camera on mount, proceeding with focus test.
end
CHIP COMMENT: Mon Dec 18 20:53:28 GMT 2006
Original setting of focus (read off Oriel Encoder Mike Controller)
is 20570.0.
I will be moving it thru a series of focus positions:
-600, -400, -200, 0, +200, +400, +600
checking the registration of the camera against the micrometer and the
retaining spring each time, and then taking one patrol loop at each
position.
end
CHIP COMMENT: Mon Dec 18 21:02:11 GMT 2006
At 19970.5
 end
Mon Dec 18 21:02:37 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 21:06:20 GMT 2006
                               CHIP
                                        End Patrol
**CHIP PROBLEM**: Mon Dec 18 21:04:55 GMT 2006
Too much scattered light, covering the camera/filter area with dark cloth.
Repeating 19970.5
FixCEenter needs controller to be in remote mode. Switching changed focus.
finished Patrol and then re-focused at 19972.4 (close as I could get it.)
end
Mon Dec 18 21:09:54 GMT 2006
                                        Start Patrol
                               CHIP
Mon Dec 18 21:11:10 GMT 2006
                               CHIP
                                        End Patrol
**CHIP PROBLEM**: Mon Dec 18 21:11:18 GMT 2006
Exposure better but still a bit bright. Will go with that on this go-around
otherwise, I'll have to put covers on between each adjustment.
If the micrometer/spring registration appears good each time, I'll put the
covers on for the next two focus series.
end
CHIP COMMENT: Mon Dec 18 21:17:12 GMT 2006
focus set at 20170.1, mike/screw registration was good.
end
Mon Dec 18 21:18:16 GMT 2006
                                        Start Patrol
                               CHIP
Mon Dec 18 21:19:12 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 21:24:18 GMT 2006
focus set at 20369.2, registration OK.
end
Mon Dec 18 21:24:59 GMT 2006
                                        Start Patrol
                               CHIP
Mon Dec 18 21:25:52 GMT 2006
                                        End Patrol
                               CHIP
CHIP COMMENT: Mon Dec 18 21:27:16 GMT 2006
Focus set at 20571.0, registration OK.
end
```

```
Mon Dec 18 21:31:10 GMT 2006
                                CHIP
                                         Start Patrol
Mon Dec 18 21:32:12 GMT 2006
                                CHIP
                                         End Patrol
CHIP COMMENT: Mon Dec 18 21:33:33 GMT 2006
Focus set at 20771.4, registration OK.
end
Mon Dec 18 21:38:48 GMT 2006
                                CHIP
                                         Start Patrol
Mon Dec 18 21:40:01 GMT 2006
                                CHIP
                                         End Patrol
CHIP COMMENT: Mon Dec 18 21:41:46 GMT 2006
focus set at 20970.4, registration OK.
end
Mon Dec 18 21:46:55 GMT 2006
                                CHIP
                                         Start Patrol
Mon Dec 18 21:48:16 GMT 2006
                                CHIP
                                         End Patrol
Mon Dec 18 21:53:44 GMT 2006
                                CHIP
                                         Start Patrol
CHIP COMMENT: Mon Dec 18 21:50:00 GMT 2006
focus set at 21169.8, registration OK.
  end
Mon Dec 18 21:55:26 GMT 2006
                                CHIP
                                         End Patrol
CHIP COMMENT: Mon Dec 18 21:56:02 GMT 2006
First series complete.
Procedure to prevent focus shift during FixCenter step is to press either
M1 or M2 (X or Y) and then switch from local to remote before FixCenter
begins. If M3 (focus) is selected, it will move after remote is selected
during the FixCenter mode.
Looks like spring/mike registration is good throughout. I will put covers
on to reduce scattered light.
  end
CHIP COMMENT: Mon Dec 18 22:06:18 GMT 2006
Covers back on after repositioning focus to 19971.4 and checking registration
on return to first test position.
end
Mon Dec 18 22:07:37 GMT 2006
                                CHTP
                                         Start Patrol
Mon Dec 18 22:08:51 GMT 2006
                                CHIP
                                         End Patrol
CHIP COMMENT: Mon Dec 18 22:10:42 GMT 2006
focus set at 20169.7
 end
Mon Dec 18 22:11:17 GMT 2006
                                CHIP
                                         Start Patrol
Mon Dec 18 22:12:16 GMT 2006
                                         End Patrol
                                CHIP
CHIP COMMENT: Mon Dec 18 22:13:25 GMT 2006
focus set at 20370.6
  end
Mon Dec 18 22:14:00 GMT 2006
                                CHIP
                                         Start Patrol
Mon Dec 18 22:14:53 GMT 2006
                                         End Patrol
                                CHIP
CHIP COMMENT: Mon Dec 18 22:15:52 GMT 2006
Focus set at 20570.2
 end
Mon Dec 18 22:16:21 GMT 2006
                                CHIP
                                         Start Patrol
Mon Dec 18 22:17:36 GMT 2006
                                CHIP
                                         End Patrol
CHIP COMMENT: Mon Dec 18 22:18:30 GMT 2006
```

```
focus set at 20770.6
end
Mon Dec 18 22:19:00 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:20:00 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 22:20:51 GMT 2006
focus set at 20969.6
end
Mon Dec 18 22:21:27 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:22:27 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 22:24:06 GMT 2006
focus set at 21171.0
end
Mon Dec 18 22:24:41 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:25:29 GMT 2006
                             CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 22:28:41 GMT 2006
Checked registration at 21171.0. OK
Moved to 19969.8 and checked registration. OK.
end
CHIP COMMENT: Mon Dec 18 22:32:05 GMT 2006
Re-covered CHIP. Starting third focus test series--second test series
with covers (better exposure) loosely in place.
focus is set at 19969.8
end
Mon Dec 18 22:34:11 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:35:07 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 22:37:42 GMT 2006
focus is set at 20171.1
end
Mon Dec 18 22:38:27 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:39:30 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 22:40:59 GMT 2006
focus set at 20370.5
end
Mon Dec 18 22:41:27 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:42:27 GMT 2006
                                        End Patrol
CHIP COMMENT: Mon Dec 18 22:43:27 GMT 2006
Focus is set to 20570.6
____end
Mon Dec 18 22:44:00 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:45:26 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 22:46:51 GMT 2006
focus set at 20769.8
end
Mon Dec 18 22:47:18 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:48:46 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 22:49:53 GMT 2006
focus set at 20969.6
end
```

```
Mon Dec 18 22:50:32 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:51:32 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 22:52:40 GMT 2006
focus set at 21169.4
end
Mon Dec 18 22:53:10 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 22:54:00 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 23:03:50 GMT 2006
Removed covers, checked registration at 21169.4, looked OK.
Moved back to first position in test series, 19969.9, registration OK.
Re-covered CHIP.
Decided to repeat series one more time in order to get three focus test
series with the covers on (loosely) for better exposures. First series
is inconsistent with the cover-on series.
end
CHIP COMMENT: Mon Dec 18 23:07:16 GMT 2006
focus set at 19969.9
end
Mon Dec 18 23:07:43 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 23:08:54 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 23:09:43 GMT 2006
focus set at 20170.9
end
Mon Dec 18 23:10:12 GMT 2006
                                        Start Patrol
                               CHIP
Mon Dec 18 23:11:15 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 23:12:14 GMT 2006
focus set at 20371.0
end
Mon Dec 18 23:12:46 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 23:13:39 GMT 2006
                                        End Patrol
                               CHIP
CHIP COMMENT: Mon Dec 18 23:15:56 GMT 2006
focus set at 20569.9
end
Mon Dec 18 23:16:31 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 23:17:28 GMT 2006
                                        End Patrol
CHIP COMMENT: Mon Dec 18 23:18:11 GMT 2006
focus set at 20769.9
___end
Mon Dec 18 23:18:49 GMT 2006
                                        Start Patrol
                               CHIP
Mon Dec 18 23:19:51 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 23:20:52 GMT 2006
focus set at 20969.4
end
Mon Dec 18 23:21:25 GMT 2006
                                        Start Patrol
                               CHIP
Mon Dec 18 23:22:15 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 23:23:41 GMT 2006
focus set at 21169.6
end
```

```
Mon Dec 18 23:24:17 GMT 2006
                               CHIP
                                        Start Patrol
Mon Dec 18 23:25:13 GMT 2006
                               CHIP
                                        End Patrol
CHIP COMMENT: Mon Dec 18 23:25:52 GMT 2006
Focus test pau.
Will check registration at last position, move to original position,
check registration, secure camera on dovetail, and break for lunch
before putting covers back on.
end
**CHIP PROBLEM**: Mon Dec 18 23:29:47 GMT 2006
Buggers! I need to stop everybody and move spar in order to reach CHIP
at this time. Will postpone lunch and do the checks and restoration
first.
 end
Mon Dec 18 23:31:42 GMT 2006
                               PICS
                                        End Patrol
Mon Dec 18 23:35:51 GMT 2006
                               MKIV
                                       End Patrol
Tue Dec 19 00:34:31 GMT 2006
                               MKIV
                                       Start Patrol
CHIP COMMENT: Tue Dec 19 00:36:26 GMT 2006
Covers back on CHIP. Focus is set at 20570.8
Filter surfaces look OK for now. Took a bunch of photos to document insides
before buttoning up. Restored encoder mike controller to remote status.
end
Tue Dec 19 00:38:29 GMT 2006
                               CHIP
                                        Start Patrol
Tue Dec 19 00:38:44 GMT 2006
                               PICS
                                        Start Patrol
**SBM PROBLEM**: Tue Dec 19 00:48:26 GMT 2006
Restarted SBM and did some alignment. It is well aligned but there is
a strange artifact near one of the struts. Something may have come loose
and fallen inside tube. Waiting for SBM to get lower before I look down
the tube with a mirror. Good time to eat some lunch--finally!
  end
**PSPT PROBLEM**: Tue Dec 19 01:19:21 GMT 2006
I just received email that PSPT crashed. It was actually still running,
taking images. Data transfer may have crashed, though so I killed
program and restarted it.
end
**SBM PROBLEM**: Tue Dec 19 01:21:13 GMT 2006
I don't see the artifact anymore. I'll wait until close to shutdown to look
down the tube-- it'll be safer then.
____end_
NICE MK4
             IMAGE: 1820
NICE PICSLIMB IMAGE: 1815
NICE PICSDISC IMAGE: 1814
NICE CHIP
             IMAGE: 1816
GONG COMMENT: Tue Dec 19 01:24:30 GMT 2006
Going down to GONG to do weekly PM.
GONG COMMENT: Tue Dec 19 01:48:08 GMT 2006
Back from GONG.
____end_
```

```
WEATHER COMMENT: Tue Dec 19 01:48:19 GMT 2006
Seeing is deteriorating. Fortunately, I think today's seeing was
pretty good most of the day throughout the CHIP focus tests.
  end
**SBM PROBLEM**: Tue Dec 19 01:49:26 GMT 2006
pausing to look down the tube.
end
SBM COMMENT: Tue Dec 19 01:57:36 GMT 2006
I did not see anything out of the ordinary inside and at the aperture of
the tube. I do not see the "artifact" that was on the initial image(s)
after reassembling CHIP and re-aligning the SBM. Observing.
  end
CHIP COMMENT: Tue Dec 19 02:18:59 GMT 2006
Unplugged p3 (focus control cable) from Oriel encoder mike controller.
Cable is normally unplugged to prevent changing focus.
Plugged it it for tests.
____end_
Tue Dec 19 02:26:29 GMT 2006
                                MKIV
                                         End Patrol
Tue Dec 19 02:27:17 GMT 2006
                                CHIP
                                          End Patrol
Tue Dec 19 02:27:37 GMT 2006
                                PICS
                                          End Patrol
Tue Dec 19 02:35:42 GMT 2006
        MkIV
00 34.rawmk4
               02 08.rawmk4
                              19 14.rawmk4
                                              20 48.rawmk4
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00 37.rawmk4
               02 11.rawmk4
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01_48.rawmk4	18_53.rawmk4	20_27.rawmk4	22_01.rawmk4	c18_10.rawmk4
01_50.rawmk4	18_56.rawmk4	20_30.rawmk4	22_04.rawmk4	c18_17.rawmk4
01_53.rawmk4	18_59.rawmk4	20_33.rawmk4	22_07.rawmk4	c18_23.rawmk4
01_56.rawmk4	19_02.rawmk4	20_36.rawmk4	22_10.rawmk4	
01_59.rawmk4	19_05.rawmk4	20_39.rawmk4	22_13.rawmk4	
02_02.rawmk4	19_08.rawmk4	20_42.rawmk4	22_16.rawmk4	
02_05.rawmk4	19_11.rawmk4	20_45.rawmk4	22_19.rawmk4	