

Mauna Loa Solar Observatory Observer's Log

Mon May 30 17:28:31 GMT 1994

Year: 94 Doy: 150

Observer: koon

COMMENT: Mon May 30 17:29:12 GMT 1994

Clear sky, wind ~10 mph from the southeast, temp ~45 F.

The Sparcstation took a very long time to start up after logging in (~12 minutes). The first time I tried I thought the computer had crashed so I rebooted, but then it took a long time again so I just let it go and watched. Nothing else seems wrong except it is sluggish.

Mon May 30 17:32:44 GMT 1994: Patrol Start

DPMON COMMENT: Mon May 30 17:54:42 GMT 1994

I let the instrument run for a while with limb exposure set at 100 ms and disk exposure set at 5 ms. I'm letting it run now with limb exposure set at 200 ms and disk exposure at 100 ms. Everything seems to be working OK, image orientation is close to being centered, focus is off so I'll work on that after I find good exposure settings.

Mon May 30 18:00:11 GMT 1994: Filemark-Calibration

MKIII COMMENT: Mon May 30 18:11:04 GMT 1994

Calibrating channel 1.

LOW-L COMMENT: Mon May 30 18:11:36 GMT 1994

Crashed sometime in the last two days, no error message on the screen, just the normal repetitive screen output of:

fbtoram

velocity

etc.

The last line on the screen was:

velocity

The cursor was on the line below the last output line and was about three inches in from the left side and was blinking, it didn't respond to the Enter key but it did respond to the "fix" command, more later.

MKIII COMMENT: Mon May 30 18:36:34 GMT 1994

Calibrating channel 0.

DPMON COMMENT: Mon May 30 18:58:34 GMT 1994

Set disk exposure to 80 ms, will keep limb exposure at 200 ms. It appears there may be a tilt in the O2B that is causing the current disk image to be

brighter in the half of the sun to the southwest of an imaginary line running from northwest to southeast , dividing the disk in half, the limb regions of sharpest focus correspond to the intersection of this line with the limb in the northwest and the southeast. I think that this imaginary line may rotate clockwise as the camera rotates counterclockwise indicating a misalignment of the Lyot filter/Halle filter/O2B/Camera train.

DPMON COMMENT: Mon May 30 19:19:24 GMT 1994

Rotated the Lyot stop/filter (LSF) ~90 degrees CCW from the camera perspective, the imaginary line I wrote about earlier has rotated along with the LSF.

DPMON COMMENT: Mon May 30 19:35:42 GMT 1994

Rotated the LSF back to approximately the original orientation and tilted the LSF to see if the illumination would even out a little, it increased the brightness and spread it more evenly across the disk. Will try setting the disk exposure to 50 ms.

DPMON COMMENT: Mon May 30 19:52:55 GMT 1994

Tilted the LSF even more so that the light passes through it at an angle that is more normal to its surface.

COMMENT: Mon May 30 20:00:01 GMT 1994

ADR rotated dome to block guider telescope so the spar lost guiding for a little while there.

DPMON COMMENT: Mon May 30 20:01:11 GMT 1994

Didn't see any change in brightness distribution with the last change in tilt of the LSF so I put it back the way it was originally installed (max. filter tilt).

DPMON COMMENT: Mon May 30 20:07:28 GMT 1994

The diffuser wheel is running away (after last cal), will reset the Plessey.

Mon May 30 20:08:10 GMT 1994: Patrol End

Mon May 30 20:12:41 GMT 1994: Patrol Start

DPMON COMMENT: Mon May 30 20:17:45 GMT 1994

Extended dome slot

DPMON COMMENT: Mon May 30 20:20:16 GMT 1994

Changed disk exposure to 80 ms.

Mon May 30 20:24:04 GMT 1994: Patrol End

DPMON COMMENT: Mon May 30 21:15:42 GMT 1994

Switched to manual exposures to speed up alignment, then camera got stuck in the busy mode, had to exit windows. Waited 15 minutes and still the screen was blank (didn't exit windows totally), so I rebooted the computer. Login time was normal this time. This is the second tape for today. I'm still in manual mode to try to set the LSF to the best orientation before I start changing the focus.

Mon May 30 21:30:38 GMT 1994: Patrol Start

DPMON COMMENT: Mon May 30 21:32:38 GMT 1994

set the disk exposure to 90 ms. The disk images are the most evenly illuminated when the LSF is positioned with the cutaway portion away from the filter wheel (i.e., 180 degrees away from how I had it installed initially), the filter wheel still clears the LSF in that position. Limb exposure is at 250 ms.

DPMON COMMENT: Mon May 30 21:46:37 GMT 1994

Will pause Patrol now to install Hartman mask and determine the best exposures for focusing. Currently the limb regions at 50 and 230 are almost in focus.

Mon May 30 22:03:15 GMT 1994: Patrol Start

DPMON COMMENT: Mon May 30 22:04:29 GMT 1994

Installed Hartman mask so that light passes on the east and west as viewed by the camera. Increased the limb exposure to 2000 ms, and the disk exposure to 220 ms.

Mon May 30 22:13:27 GMT 1994: Patrol End

Mon May 30 22:15:42 GMT 1994: Patrol Start

DPMON COMMENT: Mon May 30 22:15:44 GMT 1994

Dome was partially blocking dome. Moved dome and set limb exposure to 1000 ms.

DPMON COMMENT: Mon May 30 22:25:27 GMT 1994

O2B Micrometer was at 6.635 initially and west limb double images were separated by 0.13 inch on the monitor. I have now moved the mike setting to 7.650 and the image separation is .167, visibly worse.

DPMON COMMENT: Mon May 30 22:35:56 GMT 1994

Mike set to 5.650 now, limb image overexposed, set exposure to 500 ms.

DPMON COMMENT: Mon May 30 22:41:57 GMT 1994
Dome was blocking the DPMon, moved it now.

DPMON COMMENT: Mon May 30 22:45:39 GMT 1994
image separation was 0.10 inch at mike setting of 5.650.

DPMON COMMENT: Mon May 30 22:46:49 GMT 1994
Mike set at 4.650 now, visibly better, image separation is 0.05 inch.

DPMON COMMENT: Mon May 30 22:50:04 GMT 1994
Set limb exposure to 600 ms, will wait a full cycle before changing mike.

DPMON COMMENT: Mon May 30 22:56:51 GMT 1994
Mike set to 3.650 now, image separation hard to see, increasing limb
exposure to 750 ms then will wait a full cycle (at least).

Mon May 30 23:01:15 GMT 1994: Filemark-Calibration

DPMON COMMENT: Mon May 30 23:02:32 GMT 1994
Image separation is difficult to discern, this is close, next I will move
Hartman mask to realign with the moving camera so that the light passes
through the east and west sides.

DPMON COMMENT: Mon May 30 23:07:08 GMT 1994
Hartman mask is realigned with the camera, image separation noticeable on the
east limb (0.05 inch) but not on the east limb where I was making the
previous measurements.

DPMON COMMENT: Mon May 30 23:10:15 GMT 1994
Starting to see some structure on the disk images.

DPMON COMMENT: Mon May 30 23:11:52 GMT 1994
Set Mike to 2.650.

DPMON COMMENT: Mon May 30 23:13:14 GMT 1994
Image separation visible on east limb 0.10 inch, going back the other way
with the Mike

DPMON COMMENT: Mon May 30 23:16:25 GMT 1994
Mike now set back to 3.650, image separation at 0.05 inch again, it looks as though the ideal limb focus is between 3.650 and 4.650 (probably 4.150), I'll go through that range in .25 mm steps starting with 3.90.

DPMON COMMENT: Mon May 30 23:21:01 GMT 1994
Mike now set at 3.900.

DPMON COMMENT: Mon May 30 23:22:24 GMT 1994
Image separation about 0.035 at east limb.

DPMON COMMENT: Mon May 30 23:27:07 GMT 1994
Mike set to 4.150.

DPMON COMMENT: Mon May 30 23:27:57 GMT 1994
Very faint ring visible off east limb (image separation), difficult to measure

DPMON COMMENT: Mon May 30 23:32:52 GMT 1994
Mike now set to 4.400.

DPMON COMMENT: Mon May 30 23:36:24 GMT 1994
Very difficult to detect image separation.

DPMON COMMENT: Mon May 30 23:38:45 GMT 1994
Mike now set at 4.650 again.

DPMON COMMENT: Mon May 30 23:42:06 GMT 1994
West limb occulter image slightly blurred, east limb looks good.

DPMON COMMENT: Mon May 30 23:45:04 GMT 1994
Mike set back to 4.300 (between the previous two best settings of 4.150 and 4.400).

Mon May 30 23:51:04 GMT 1994: Patrol End
Tue May 31 00:01:35 GMT 1994: Patrol Start

DPMON COMMENT: Tue May 31 00:01:39 GMT 1994

OK, the mike is at 4.300 and the limb exposure is at 300 ms, the disk exposure is at 80 ms. That does it for rough focusing, there is still a faint ring right at the limb. I have focused to the occulting disk edge as well as possible but that doesn't mean the sun is in focus, since it is very difficult for me to see any differences in the focus of prominences and filaments from one mike setting to another I'll need feedback from the folks in Boulder. Maybe I'll try more tomorrow.

Tue May 31 00:10:04 GMT 1994: Patrol End

COMMENT: Tue May 31 00:10:12 GMT 1994

Activity report:

QP: 73; 116; 242.

No coronal activity.

TAPES:

MKIII: H00766

DPMON: P00067 and P00068

LOW-L: L00051 in drive #0, removed L00049 from drive #0 after crash, and removed L00050 from drive #1 and installed L00052.

Tue May 31 00:40:00 GMT 1994: Filemark

SCAN-LOG

SCAN-LOG 17:13:47. 5/30/94 DOY 150

17:20:21	17:23:34	17:26:48	17:30:00	17:33:13
17:36:24	17:39:36	17:42:48	17:46:01	17:49:13
17:52:25	17:55:36	17:58:49	18:01:59	18:05:11
18:08:21	1816 0 CL	18:21:51	1827 15CL	18:36:02
1842 0 CL	18:47:25	1851 15CL	19:07:48	19:10:57
19:14:10	19:17:19	19:20:27	19:23:34	19:26:42
19:29:48	19:32:56	19:36:02	19:39:09	19:42:15
19:45:23	19:48:29	19:51:38	19:54:44	19:57:57
20:01:03	20:04:11	20:07:18	20:10:25	20:13:32
20:16:40	20:19:47	20:22:55	20:26:02	20:29:10
20:32:16	20:35:27	20:38:34	20:41:47	20:44:55
20:48:03	20:51:10	20:54:18	20:57:25	21:00:33
21:03:41	21:06:49	21:09:56	21:13:04	21:16:12
21:19:20	21:22:27	21:25:36	21:28:43	21:31:51
21:34:58	21:38:07	21:41:15	21:44:23	21:47:30
21:50:39	21:53:46	21:56:54	22:00:02	22:03:10
22:06:18	22:09:32	22:12:40	22:15:49	22:18:56
22:22:05	22:25:12	22:28:21	22:31:28	22:34:36
22:37:44	22:40:52	22:43:59	22:47:08	22:50:15
22:53:23	22:56:30	22:59:38	23:02:45	23:05:53
23:09:00	23:12:08	23:15:15	23:18:23	23:21:29
23:24:38	23:27:46	23:30:54	23:34:01	23:37:10
23:40:18	23:43:27	23:46:35	23:49:44	23:52:51
23:56:00	23:59:08	0:02:17	0:05:25	0:08:34

0 ERRORS
OK