
Mauna Loa Solar Observatory Observer's Log

Sun Oct 3 16:39:44 GMT 1999
Year: 99 Doy: 276
Observer: elmore
Sun Oct 3 16:55:24 GMT 1999 CHIP Startup--Initializing new tape
Sun Oct 3 16:58:37 GMT 1999 PICS Start Patrol
Sun Oct 3 16:58:46 GMT 1999 CHIP CHIP Start Patrol
WEATHER COMMENT: Sun Oct 3 16:58:58 GMT 1999
Clear sky, thick clouds below, wind=5 mph from the SW, temp=46 F.
Sun Oct 3 17:02:07 GMT 1999 CHIP Bias
Sun Oct 3 17:03:04 GMT 1999 CHIP End Bias
Sun Oct 3 17:03:11 GMT 1999 CHIP Water
Sun Oct 3 17:03:53 GMT 1999 CHIP End Water
Sun Oct 3 17:04:18 GMT 1999 MKIV Start Patrol
Sun Oct 3 17:14:30 GMT 1999 MKIV Start Patrol
Sun Oct 3 17:24:35 GMT 1999 MKIV Start Patrol
Sun Oct 3 17:27:25 GMT 1999 MKIV Start Patrol
Sun Oct 3 17:35:05 GMT 1999 MKIV End Correct
Sun Oct 3 17:35:09 GMT 1999 MKIV Start Cal
MKIV COMMENT: Sun Oct 3 17:35:48 GMT 1999
Major software update today:
Data are sent to the host, nahenahe, while the next scan is beginning.
Turn around overhead was about 50 seconds with old code and mkiii,
33 seconds with old code and mkiv, and is not 13 seconds.
Kcc is now synchronized to the mkiv, not the mkiii, or a surrogate
the last couple of days. Look for a change in the number of

'bad' reads as a consequence. Also pay close attention to the headers
as they are produced at each scan position rather that all at once
at the beginning with only scan varying fields filed at each scan.
This was necessary so that the data write/collection could be overlapped.
There are now raw detector dump data at the end of each file! These
consist of 8 reads of P channel which has 768 pixels followed by
8 reads of the S channel which also has 768 pixels. P is in inverse
order with respect to height.

Bias level is measured at the first 32 pixels at the beginning of every
scan. If the level is not zero, bias at all heights are multiplied
by the change need to zero the bias. Watch these first pixels in the
data to make sure this is working.
MKIV COMMENT: Sun Oct 3 17:49:47 GMT 1999
Correct performed followed by a cal. Let us hope clouds stay away
so we can run a sequence.
MKIV COMMENT: Sun Oct 3 17:50:56 GMT 1999
More on software. The synchronization to MkIV now means a slight
change in the number of scan azimuths. I suspect is starts and

ends more punctually with the same azimuth increment in between.
Expect 982+/- records in the new data.
MKIV COMMENT: Sun Oct 3 17:52:52 GMT 1999
Lots of fine coronal structure visible near the limb. The prominence
cavity at 170 shows several loops. The AR at 220 has funny looking
spikey things (how scientific!).
Sun Oct 3 17:55:22 GMT 1999   MKIV   Start Patrol
Sun Oct 3 18:02:00 GMT 1999   CHIP   Bias
Sun Oct 3 18:02:33 GMT 1999   PICS   Flat
Sun Oct 3 18:03:04 GMT 1999   CHIP   End Bias
Sun Oct 3 18:03:18 GMT 1999   CHIP   Water
Sun Oct 3 18:04:00 GMT 1999   CHIP   End Water
Sun Oct 3 18:05:08 GMT 1999   PICS   End Flat
MKIV COMMENT: Sun Oct 3 18:13:29 GMT 1999
The gif images show a rock steady intensity vs time. This means that
we have fixed the intensity drift so that the sky transmission works
correctly for adjusting the intensity. Now...what algorythm is
being used to correct for sky transmission?
Sun Oct 3 18:25:32 GMT 1999   MKIV   Start Patrol
MKIV COMMENT: Sun Oct 3 18:41:44 GMT 1999
Something funny with 18_34 scan. Q is far too large for most of the scan.
Sun Oct 3 18:52:19 GMT 1999   MKIV   Start Patrol
Sun Oct 3 18:53:54 GMT 1999   MKIV   End Patrol
Sun Oct 3 18:53:57 GMT 1999   MKIV   Start Patrol
Sun Oct 3 19:00:33 GMT 1999   PICS   polarization_calibration
Sun Oct 3 19:02:07 GMT 1999   CHIP   Bias
Sun Oct 3 19:03:19 GMT 1999   CHIP   End Bias
Sun Oct 3 19:03:30 GMT 1999   CHIP   Water
Sun Oct 3 19:04:17 GMT 1999   CHIP   End Water
PSPT PROBLEM: Sun Oct 3 19:34:34 GMT 1999
Even with the mirror gain set down to -5 there are still fuzzy images
being taken for the flat field sequences for all 3 wavelengths. The top
row of images are always fuzzy, I recorded the quadcell stage positions
for those images for future reference. Once I can get manual images
displayed I can experiment more easily with those quadcell stage
positions and the software gains and other things. We may have to
realign the optics to avoid those stage and fast-mirror position
combinations.

Regarding the use of the ephemeris for pointing, it looks like the
ephemeris is used after every time the images are written to disk,
but it doesn’t need to be, in fact when it is used it points the
telescope farther away from the sun than if the tracking mode were
used. It may be that the guider servo and the mirror servo don’t
need to be turned off at those times, because they are turned back on
within a few seconds. If they need to be turned off then it would be
better to leave the telescope in tracking (clock-drive) mode then turn
those servos back on (guider then mirror) without using the ephemeris.

That would save a lot of time and prevent problems throughout the
day. I've left the telescope in tracking mode for over an hour and the
solar image stayed on the quadcell the whole time, that's all we need
between sequences that make use of the servo loops for the images.
I'll talk to Randy about modifying the software. -Darryl
Sun Oct 3 19:50:41 GMT 1999   MKIV   Start Patrol
Sun Oct 3 20:01:59 GMT 1999   CHIP   Gain
Sun Oct 3 20:07:49 GMT 1999   CHIP   End Gain
Sun Oct 3 20:08:00 GMT 1999   CHIP   Bias
Sun Oct 3 20:09:03 GMT 1999   CHIP   End Bias
Sun Oct 3 20:09:19 GMT 1999   CHIP   Water
Sun Oct 3 20:10:06 GMT 1999   CHIP   End Water
Sun Oct 3 20:38:17 GMT 1999   MKIV   Start Cal
PSPT COMMENT: Sun Oct 3 20:42:06 GMT 1999
I setup the automatic dome rotation again since it is about the right
time of the year for it.

WEATHER COMMENT: Sun Oct 3 20:47:50 GMT 1999
Orographic clouds are starting to pass over.
PSPT PROBLEM: Sun Oct 3 20:48:11 GMT 1999
During the 2000 ut sequence the images looked fuzzy so I tried changing
the mirror gain while Kim and I watched the error meter needles. We found
that the best setting was at -15, instead of -5 where I had it. So I
changed the code and tried to startup using Restart but it wouldn't due to
lack of diskspace due to the data tape not being completed last night.
Obs doesn't work so there is no way for me to transfer data or write a
data tape or take data, no way I know anyway. I'll keep trying things.
Sun Oct 3 21:02:17 GMT 1999   CHIP   Bias
Sun Oct 3 21:02:59 GMT 1999   MKIV   Start Patrol
COMMENT: Sun Oct 3 21:03:28 GMT 1999
Extended the dome slot.
1999   CHIP   End Bias
Sun Oct 3 21:03:31 GMT 1999   CHIP   Water
Sun Oct 3 21:04:19 GMT 1999   CHIP   End Water
Sun Oct 3 21:15:26 GMT 1999   MKIV   Start Patrol
Sun Oct 3 21:40:51 GMT 1999   MKIV   Start Cal
MKIV COMMENT: Sun Oct 3 21:42:27 GMT 1999
Today we ran a sequence of Calibrations. Unless superceeded by a better
set Monday or Tuesday, this is the set of MkIV cals to use to examine
stability of Gain, Offset, an the X matrix elements throughout a morning.
WEATHER COMMENT: Sun Oct 3 21:44:59 GMT 1999
Right on the edge of the dissipating cumulus. This calibration may therefore
not be as good as one would like.
Sun Oct 3 22:02:01 GMT 1999   CHIP   Bias
Sun Oct 3 22:03:04 GMT 1999   CHIP   End Bias
Sun Oct 3 22:03:16 GMT 1999   CHIP   Water
Sun Oct 3 22:04:10 GMT 1999   CHIP   End Water
Sun Oct 3 22:07:59 GMT 1999   MKIV   Start Correct

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Sun Oct  3 22:09:30 GMT 1999    MKIV    End Correct
Sun Oct  3 22:18:19 GMT 1999    MKIV    Start Correct
Sun Oct  3 22:19:44 GMT 1999    MKIV    End Correct
Sun Oct  3 22:29:27 GMT 1999    MKIV    Start Correct
Sun Oct  3 22:30:53 GMT 1999    MKIV    End Correct
Sun Oct  3 22:30:57 GMT 1999    MKIV    Start Correct
Sun Oct  3 22:32:20 GMT 1999    MKIV    End Correct
Sun Oct  3 22:32:37 GMT 1999    MKIV    Start Patrol
Sun Oct  3 22:36:43 GMT 1999    MKIV    Start Correct
Sun Oct  3 22:38:07 GMT 1999    MKIV    End Correct
Sun Oct  3 22:38:25 GMT 1999    MKIV    Start Patrol
Sun Oct  3 22:41:19 GMT 1999    MKIV    Start Patrol
Sun Oct  3 22:43:55 GMT 1999    MKIV    End Patrol
Sun Oct  3 22:49:24 GMT 1999    PICS     End Patrol
Sun Oct  3 22:49:34 GMT 1999    CHIP     CHIP End Patrol
Sun Oct  3 22:56:45 GMT 1999    CHIP     ending tape
COMMENT: Sun Oct  3 23:38:36 GMT 1999

TAPES:
******
MKIV: 99276
CHIP: C00940
PICS: P01565
LOWL: L00631 in drive #0

Sun Oct  3 23:39:50 GMT 1999
       MkIV

17_04.rawmk4   18_19.rawmk4   19_18.rawmk4   20_14.rawmk4   c17_41.rawmk4
17_07.rawmk4   18_22.rawmk4   19_21.rawmk4   20_17.rawmk4   c17_47.rawmk4
17_27.rawmk4   18_25.rawmk4   19_24.rawmk4   20_41.rawmk4   c18_31.rawmk4
17_30.rawmk4   18_28.rawmk4   19_27.rawmk4   20_47.rawmk4   c18_38.rawmk4
17_38.rawmk4   18_34.rawmk4   19_33.rawmk4   20_53.rawmk4   c18_44.rawmk4
17_44.rawmk4   18_41.rawmk4   19_39.rawmk4   21_03.rawmk4   c19_30.rawmk4
17_50.rawmk4   18_47.rawmk4   19_45.rawmk4   21_05.rawmk4   c19_36.rawmk4
17_55.rawmk4   18_53.rawmk4   19_50.rawmk4   21_08.rawmk4   c19_42.rawmk4
17_58.rawmk4   18_57.rawmk4   19_53.rawmk4   21_11.rawmk4   c20_38.rawmk4
18_01.rawmk4   19_00.rawmk4   19_56.rawmk4   21_15.rawmk4   c20_44.rawmk4
18_04.rawmk4   19_03.rawmk4   19_59.rawmk4   21_18.rawmk4   c20_50.rawmk4
18_07.rawmk4   19_06.rawmk4   20_02.rawmk4   21_43.rawmk4   c21_40.rawmk4
18_10.rawmk4   19_09.rawmk4   20_05.rawmk4   21_50.rawmk4   c21_47.rawmk4
18_13.rawmk4   19_12.rawmk4   20_08.rawmk4   21_56.rawmk4   c21_53.rawmk4
18_16.rawmk4   19_15.rawmk4   20_11.rawmk4   c17_30.rawmk4
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