
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 than 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 needed 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 it 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 algorithm 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 disk space 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 superceded by a better

set Monday or Tuesday, this is the set of MkIV calcs 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.

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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
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
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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

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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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