
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, and 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

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	