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                  Mauna Loa Solar Observatory Observer's Log
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          Sun Mar  5 17:02:40 GMT 2000
Year: 00  Doy: 065
Observer: koon
WEATHER COMMENT: Sun Mar  5 17:02:42 GMT 2000
Clear sky, wind=5 mph from the South, temp=44 F.
alizing new tape
Sun Mar  5 17:08:12 GMT 2000    MKIV    Start Patrol
Sun Mar  5 17:08:21 GMT 2000    CHIP    CHIP Start 7 Passband Patrol
Sun Mar  5 17:08:21 GMT 2000    CHIP    CHIP Start 7 Passband Patrol
Sun Mar  5 18:00:24 GMT 2000    PICS    Flat
Sun Mar  5 18:03:10 GMT 2000    PICS    End Flat
**** EVENT COMMENT ****: Sun Mar  5 18:13:39 GMT 2000
There is what appears to be the remnants of a huge EPL falling back to the
sun at PA=350.  PICS shows it extending out to about RV=1.7, and MkIV
shows it extending out to past RV=2.0 !  It has been in progress since the
start of observations, I already sent out an alert even though no CME was
seen.
COMMENT: Sun Mar  5 19:12:31 GMT 2000
Extended the dome slot.
Sun Mar  5 20:02:38 GMT 2000    CHIP    Gain7
Sun Mar  5 20:11:01 GMT 2000    CHIP    End Gain
Sun Mar  5 20:11:21 GMT 2000    CHIP    Bias
Sun Mar  5 20:12:29 GMT 2000    CHIP    End Bias
**PSPT PROBLEM**: Sun Mar  5 22:06:11 GMT 2000
I've improved the "mirror oscillation fuzzy image" problem.
Eric and Haosheng have been discussing the values of output voltages used
by the Fast Mirror and found on the Mirror Servo board.  Building upon
what they started I did some tests shortly after the 2100 UT image
sequences ended, while the telescope was pointed near the sun but not
under any servo loop controls I opened the dust cover and turned on the
guider servo and the mirror servo to get normal Fast Mirror control
going.  I checked output voltages from the Mirror Servo board and found
they were quite different from what Haosheng said they used to be, he said
5 to 7 volts and I was seeing -11 vdc, he may have meant -5 to -7 vdc, but
anyway it was different and if I adjusted it to even -7 vdc then the
oscillations would be even worse than they were.  Giving up on this
absolute value type approach I opened the side of the telescope and tapped
the telescope to get the Fast Mirror to go unstable and start oscillating,
which it did very easily.  I changed the setting of the telephoto lens
image sizer just before the quad cell to try to enlarge the image so that
the light spill over the occulting disk was increased to the point that
the "optical gain" of the quad cell would go down below the threshold
that contributes to the oscillation instability.  I found where that
setting is and went a little beyond it to a physical stop in the ring,
that's as big as the image will get without moving more optics.  The
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ring is marked with positions and taped down. I tried moving the
quadcell xy-stage to its limits and couldn't get the mirror to
oscillate even if I tapped on the telescope, I did this because many
months ago I noticed that the oscillation occurred regularly in the
flat field images at certain image positions (different quad cell
stage positions), I was alerted to a problem with the flat fields by
Randy and Kim back then and watched several full sequences to see the
regular pattern. The output voltages were slightly different at
different stage positions which is not ideal. As I wrote this I looked
at the images occasionally and the only fuzzy image I saw was the last
image shown in the large image window. So even at the limit of the
telephoto lens oscillation might still occur, but it should be
drastically better now, I'll have to watch an entire calibration sequence
sometime to check. Why the voltages are different from Haosheng's
values and the different voltage values at different quadcell stage
extremes and that last fuzzy image seem to suggest that more adjustment
can be done and something is degrading over time. The fact that
unstable oscillations can't be induced anymore by tapping on the telescope
shows that the active mirror function has been significantly improved.
**** EVENT COMMENT ****: Sun Mar 5 22:33:22 GMT 2000
CME at PA=255, starting around 2220 UT.
**** EVENT COMMENT ****: Sun Mar 5 22:38:25 GMT 2000
A EPL can be seen on PICS limb images at the same PA=255 area.
PSPT PROBLEM: Sun Mar 5 23:01:41 GMT 2000
I ran an unscheduled data set to watch the images, only the red images
were fuzzy, maybe all of the red images. A new clue. It would be good
to watch how low the U2A and U2B voltages drop during a red image to see
if it is different than for blue and Ca-K images, as well as watching
a full calibration for quadcell stage position related fuzziness.
COMMENT: Sun Mar 5 23:19:57 GMT 2000
Lost Spar guiding when Spar bumped the elevator in the dome. Moved
elevator, repointed and reset guider.
WEATHER COMMENT: Sun Mar 5 23:39:03 GMT 2000
Orographic clouds have moved in, I think the CME is done anyway.
Sun Mar 5 23:39:40 GMT 2000   CHIP   ending tape
Sun Mar 5 23:39:49 GMT 2000   CHIP   ending tape
COMMENT: Sun Mar 5 23:53:48 GMT 2000

TAPES:
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MKIV: 00065
CHIP: C01064
PICS: P01683
LOWL: L00675 in drive #0

Sun Mar 5 23:55:00 GMT 2000
        MkIV

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17_08.rawmk4    18_25.rawmk4    19_51.rawmk4    21_09.rawmk4    22_26.rawmk4
17_11.rawmk4    18_28.rawmk4    19_55.rawmk4    21_12.rawmk4    22_29.rawmk4
17_14.rawmk4    18_31.rawmk4    19_58.rawmk4    21_15.rawmk4    22_32.rawmk4
17_17.rawmk4    18_34.rawmk4    20_00.rawmk4    21_18.rawmk4    22_35.rawmk4
17_20.rawmk4    18_37.rawmk4    20_03.rawmk4    21_21.rawmk4    22_38.rawmk4
17_23.rawmk4    18_40.rawmk4    20_06.rawmk4    21_24.rawmk4    22_41.rawmk4
17_26.rawmk4    18_43.rawmk4    20_09.rawmk4    21_26.rawmk4    22_44.rawmk4
17_29.rawmk4    18_46.rawmk4    20_12.rawmk4    21_29.rawmk4    22_47.rawmk4
17_32.rawmk4    18_49.rawmk4    20_15.rawmk4    21_32.rawmk4    22_49.rawmk4
17_34.rawmk4    18_51.rawmk4    20_18.rawmk4    21_35.rawmk4    22_52.rawmk4
17_37.rawmk4    18_54.rawmk4    20_21.rawmk4    21_38.rawmk4    22_55.rawmk4
17_40.rawmk4    18_57.rawmk4    20_24.rawmk4    21_41.rawmk4    22_58.rawmk4
17_43.rawmk4    19_00.rawmk4    20_27.rawmk4    21_44.rawmk4    23_01.rawmk4
17_46.rawmk4    19_03.rawmk4    20_30.rawmk4    21_47.rawmk4    23_04.rawmk4
17_49.rawmk4    19_06.rawmk4    20_33.rawmk4    21_50.rawmk4    23_07.rawmk4
17_52.rawmk4    19_09.rawmk4    20_36.rawmk4    21_53.rawmk4    23_10.rawmk4
17_55.rawmk4    19_12.rawmk4    20_39.rawmk4    21_56.rawmk4    23_13.rawmk4
17_58.rawmk4    19_15.rawmk4    20_42.rawmk4    21_59.rawmk4    23_16.rawmk4
18_01.rawmk4    19_18.rawmk4    20_45.rawmk4    22_02.rawmk4    23_19.rawmk4
18_04.rawmk4    19_21.rawmk4    20_48.rawmk4    22_05.rawmk4    23_22.rawmk4
18_07.rawmk4    19_24.rawmk4    20_51.rawmk4    22_08.rawmk4    23_25.rawmk4
18_10.rawmk4    19_27.rawmk4    20_54.rawmk4    22_11.rawmk4    23_28.rawmk4
18_13.rawmk4    19_30.rawmk4    20_57.rawmk4    22_14.rawmk4    23_31.rawmk4
18_16.rawmk4    19_33.rawmk4    21_00.rawmk4    22_17.rawmk4    c19_36.rawmk4
18_19.rawmk4    19_39.rawmk4    21_03.rawmk4    22_20.rawmk4    c19_42.rawmk4
18_22.rawmk4    19_45.rawmk4    21_06.rawmk4    22_23.rawmk4    c19_48.rawmk4
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