
Mauna Loa Solar Observatory Observer's Log

Tue Apr 27 16:49:53 GMT 2021
Year: 21 Doy: 117
Observer: mlso
WEATHER COMMENT: mcotter: Tue Apr 27 16:51:06 GMT 2021
Temp: 38.3f, Humidity: 50%, Pressure: 28.714in, Wind: 3mph from 252degs, Skies: clear skies with light wind from the south west. Inversion layer visible on the horizon at or above Maunakea.
___end___
GENERAL COMMENT BY mcotter: Tue Apr 27 16:51:12 GMT 2021
Opened windows upstairs
___end___
GENERAL COMMENT BY mcotter: Tue Apr 27 16:51:17 GMT 2021
PM Blew off Kcor O1
___end___
Tue Apr 27 17:00:36 GMT 2021 Kcor Focus/alignment program exited
GENERAL COMMENT BY mcotter: Tue Apr 27 17:08:50 GMT 2021
Kcor started. Sky a little bright.
SGS offsets: X(RA): -125, Y(Dec):70.
Polarization checked: Mid, Bright, Dark, Mid.
___end___
GENERAL COMMENT BY mcotter: Tue Apr 27 17:14:00 GMT 2021
Stopped Kcor.
___end___
UCoMP COMMENT BY mcotter: Tue Apr 27 17:14:33 GMT 2021
Beginning installation of Ucomp filter wheel.
___end___
Tue Apr 27 21:37:21 GMT 2021 Kcor Focus/alignment program exited
Tue Apr 27 21:39:44 GMT 2021 Kcor Focus/alignment program exited
GENERAL COMMENT BY mcotter: Tue Apr 27 21:42:23 GMT 2021
UCoMP O1 alignment.

Started Day with the solar disk centered at T-am position:
In Filter wheel 9 (1083)
 O1=0   TCam=100,-40
 O1=62 TCam=75,-40

Other wavelength ranges had similar positions with ranges of motion but their images on the detector were offset a <20 pixels.

Treating 1083 as definitive for the rest of the tests since it is bright and I trust the centroids better.

The O1 positions was adjusted with the alignment fixture but the closes to centered we could achieve was bout 50pixels in X before bottoming out against the slot cut in the spar extender.

The spar extender bolts were loosened and the spar extender was pushed west (toward the Chromag face of the spar). This ga

ve range to align to O1 toward the center of the range.

Things are better with the fixture but the dog’s are not very repeatable so there were multiple iterations of loosing the dogs and adjusting the alignment screws to get back to hit the dead center of the range.

The O1 was then moved front to back to confirm the tilt. The tilt seemed to be acceptable.
___end___
GENERAL COMMENT BY mcotter: Tue Apr 27 21:43:57 GMT 2021
Kcor again running.
Sky is a little bright, but the synoptic image looks acceptable.
___end___
GENERAL COMMENT BY mcotter: Tue Apr 27 21:44:54 GMT 2021
Kcor polarization verified: Mid, Bright Dark, Mid.
___end___
GENERAL COMMENT BY mcotter: Tue Apr 27 21:52:54 GMT 2021
Bits of Altocumulus clouds are forming and then dissipating over the summit area of Maunaloa. Orthographic clouds are form ing all around the summit of Maunaloa but seem to be staying where they are. Wind is picking up out of the west-northwest.
___end___
GENERAL COMMENT BY mcotter: Tue Apr 27 22:01:33 GMT 2021
Kcor again stopped.
Altocumulus clouds are increasing above the observatory. Orthographic clouds are increasing around the summit.
The dome remains open, but I am keeping a close eye on the clouds to see if they become threatening.
___end___
GENERAL COMMENT BY mcotter: Wed Apr 28 03:23:54 GMT 2021
Found the T-cam on UCoMP was loose between the focus stage and cantilevered bracket. This loose bracket was causing us t o chase our tails for most of the O1 alignments as the camera we were using as a reference was moving with gravity.

Removed t-cam from telescope tightend focus stage, also opened up the holes that mount the cantilevered bracket to tip/til t frame to give slight more range of alignment motion.

Placed alignment iris on the rail between just in front of the the modulator. Lamp was put above the iris to illuminate i t and the the T-cam was adjusted in X and Y to bring the iris dot to the middle of the detector.

Instrument -> O1 Y alignment by moving the instrument plate kinematic mounts results where confusing. The front 2 kenamati c mounts seemed to move opposite, unscrewning on bolt drove us +Y while tightening the other went -Y.   While the aft moun t seemed to do nothing in Y.   It was assumed that moving all 3 together would give a + or - Y motion and moving the front together opposite the back would induce a tilt of the instrument plate in Y.

In the afternoon we also had some baffling issues with a lot of stray light making making the alignments difficult. The c over was used to shield the back half of the enclosure but at one point it fell of causing some minor image to one of the corners. It should be fixable with by straightening the aluminum and adding a rivit.
___end___
GENERAL COMMENT BY mcotter: Wed Apr 28 03:25:39 GMT 2021
PM Blew off Kcor O1 front and back. A few particles moved but I think the worst offenders are still stuck on the O1.
___end___

ONSITE STAFF: berkey, mcotter