

2 January 1961

CLIMAX NEWSLETTER

December 1960

The excellent coronal skies continued through December, but activity on the sun was very, very low. The hourly figures are as follows: 53 of Class I sky, 9 of Class II, 1 of Class III, and 1 of Class IV for a total of 64 hours that were coronal. This computes to roughly 26% of possible observing time. The heavy predominance of Class I sky is very typical for winter time.

The run-down on the coronagraph programs is:

Green Survey: 13 good, 1 partial, 1 no good for a total of 15.

Green Comparison at 1600 UT: 4 good (all four of these were in the form of a regular survey that was shot at 1600 - not a separate special observation.

Green Comparison at 2400 UT: 1 good only. (These are hard to obtain now due to sunset being at 2230 UT, but with the help of a large mirror mounted on a satellite we did squeeze one in.)

Red Survey: 6 good, 3 partial, 1 no good for a total of 10.

Iron Series: 2 good, 1 partial for a total of 3. The two shot on 24 and 25 Dec. were two of the best for this program that have been obtained. The program includes 5303, 5694, 6374, 6563, 7060, 7892. When the image converter is once again installed 10747 and 10798 will be added to the list.

Paschen Series: 1 good. This, shot on 25 Dec, was likewise one of the best for the Paschen program yet obtained.

10830 Spicules: None attempted.

H α and D₃ Spicules: None attempted.

H and H ϵ : 1 good.

Long Prominence: This program is not fully worked out as yet, and requires 3 to 4 hours to completely shoot. One attempt was made to work further on exposures and filters to be used, but was called off half way through the program because the only prominence of any size on the sun dwindled away (it was apparently a surge).

4686 and 5411: None attempted - no activity.

H_c Scans (Potential Disk Flare): None attempted.

4686 Disk Flare: None attempted.

While the total hours of coronal sky remained at a fairly good level, it would appear that few programs were shot. Generally speaking, winter observing time comes in lumps - that is, when it is clear it is usually clear all day long. This fact would tend to favor some programs, and cut down on others such as the routine surveys. Also, our new staff member, Bob Eddy, is now being trained in the operation of the coronagraph. This, of necessity, must use up some of the good sky time. This is also a lengthy training since the observer must learn the complexities of the instrument (many times more complex than the other instruments at Climax) at those infrequent times when we do have clear sky and can free the instrument from observing.

Joe Rush spent a weekend working on the alignment of the coronagraph early in the month. He removed the Coude mirror, cleaned it, and adjusted its position within its own mount. The F₁ lenses were removed, cleaned, and the one with the occulting disk on it was taken to Boulder to have the occulting disk stem lapped to the hole in the lens. Joe and Lee Lacey had spent several days at Climax in October, I believe, and had tested and cleaned all the secondary optics except the mirrors and F₁ lenses at that time. Joe is planning another trip up to continue this work soon.

The big dome remains out of operation with the work on the new door system progressing as well as is possible in the Climax winter. The work is exceedingly difficult in the bitter cold, but Charlie, Dave, Dale, Harold, and Lee now have the both halves of the bottom door completed, and the first half of the next door up operating. Barring a setting-in of blizzard weather, the work should go faster now since the fellows have much of the basic work for installation done on all the doors.

The Flare Patrol (Monohexaheliograph?) continued to operate at a rate of 6 pictures per minute on 35 mm film entirely for the month. Dick and Jim have discovered that apparently there are no suppressor plates in the filter to lower the light from the close in side bands, and this may be causing pronounced decrease in the contrast. Charlie, Bob J. and myself worked over the cycling of the instrument to alleviate the vibration problem, and it appears that the main sources of vibration have been eliminated. The improvement in image quality on the film is not startling, however.

On 19 December Lew Grant started his cloud seeding program again in the Climax area - he seeds only when the weather bureau forecasts snow anyway in an attempt to increase snowfall (that's all we need - more snowfall). So on 22 December an arrangement

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was worked out between Lew and several of the wives here at the site for the wives to handle all of Lew's notifying and formalities and to also operate the nuclei counter twice daily. This frees the observing staff from a rather tedious and time-consuming job that we had done since over a year ago. However, the Weather Bureau is interested in heavy operation of the counter for the 28 December - 5 February period, and we agreed to run the counter, in addition ~~the~~ to the operation for Lew by the wives, twice per day with five readings each time, for that period.

Keith

D. Keith Watson