

## INSTRUCTIONS FOR USING THE A.L.P.O. SOLAR SECTION REPORT FORMS

Congratulations on joining the A.L.P.O. Solar Section. You have just taken the first step in expanding your recreational pursuit of solar observing into a scientific endeavor. Now your observations need to be archived. Whether this is done is also up to you. Enclosed you will find forms for reporting your observations to the Section. This is the next most important step in ensuring that your observations will have lasting scientific value. You need to fill out the appropriate form and send it in to the Section Recorder who will then add your observations to those of others from around the world and make them available to the professional astronomical community. These observations do get used! In the last 15 years our observations have been used by solar astronomers at National Solar Observatory (NOAO), Max Planck Inst., NASA, NOAA/SESC and about a dozen other institutions worldwide.

It is hoped by now that you have developed an appreciation for the inherent dangers in solar observing. NEVER TAKE ANY CHANCES WITH YOUR EYESIGHT. If a filtration system has not been tested, then test it first before putting your eye to it. Understand, YOU CANNOT REACT FAST ENOUGH TO PREVENT EYE DAMAGE IF UNFILTERED SUNLIGHT PASSES THROUGH THE TELESCOPE TO YOUR EYE! Even a cracked filter can allow enough light to pass through that it will cause irreversible injury to your eye! Many manufactured filters have been found not to be safe, especially some Mylar-type filters. With a proper full aperture solar filter, held up to a 100 watt light bulb, the bulb filament should just barely be visible, and I mean JUST BARELY!! Never should looking at the sun be uncomfortably bright, nor there EVER be an afterimage. All screw-on, eyepiece solar filters are dangerous and should be discarded unless they are used with SUBSTANTIAL filtration of the light BEFORE the eyepiece, in fact, BEFORE the light enters the telescope! Such eyepieces will and do break as they heat up so close to the focal plane of the telescope objective. Also, even when they do work, they usually leave the observer with a reddish afterimage similar to that seen after being out without sunglasses in a snow covered landscape. This is bad for your eyes. Remember, take no chances. The tissues of the eye do not repair themselves. Once damaged, that's it.

Care and accuracy in making and reporting your observations cannot be overstressed here. You need to be strictly honest and always be on guard for details created by the mind's eye. For example, one of the projects for which amateur observations are being used is in looking for precursors to flares in both white light and H-alpha. If you decide to patrol for solar flares you will not only have to be alert to changes in suspected flare sites but in other areas of the active region as well. There is reason to believe that pre-flare changes take place and can be seen in white light in the opposite ends of bipolar groups. You have to be careful to note appearances of the whole sunspot group. If you come back later and think you see a change but have no good notes of that area made earlier, you cannot be sure of change and can only note it as an impression, not an observation.

On the following pages are instructions for these forms. Use the blank forms to make copies. Many observers make a few copies of each first, fill in repetitive information like name and address, and then make copies of those to draw on or attach to photographs.

#### LAST WORD

Armed with these forms and instructions you can now begin to study the features of the sun for fun and still contribute to science. The rest is up to you. If you think that your work is not good enough, speak up. We are here to help you. Many of today's expert observers began with photos showing sunspots as shady smears on an indistinct white disk. Many of their first drawings were scribbles compared to the artwork they now produce. You too can learn these things by taking advantage of the accumulated experience of the ALPOSS staff. To get started you should get a copy of OBSERVE AND UNDERSTAND THE SUN from the Astronomical League.

As I said above, the rest is up to you. With patience, and diligence you will find your work published in professional journals as well as in the popular journals and THE STROLLING ASTRONOMER, the journal of the ALPO. In such a manner you can leave a permanent record of your work and contributions to science that will live after you. But, it all begins now, at your telescope, as you study the powerhouse of our solar system, a star at one astronomical unit!