Using your Meade ETX for safe solar observing

You can use your Meade ETX telescope for observing sunspots and faculae and the occasional white light flare.

Obviously you must take the utmost care when observing the Sun as even the merest glimpse of it through an un-filtered optical system can lead to permanent eye damage, if not, blindness.

The golden rule with solar observing through any form of optical aid, including cameras is ‘if in doubt’ DON’T!

If you have any doubts about how to carry out solar observing, or if you have any doubts about the quality of the filter or type of filter that you are using, then again the advice is don’t use it.

That said, it is perfectly possible to use a solar filter with your telescope providing that it is the type that fits snugly over the front of your telescope and not any type of filter that screws into the eyepiece. **On no account should these ever be used.**

You should also check the filter for pinholes scuffs and general quality each and every time that you use it. You can do this by holding it up to a strong light source at arms length. Any degradation of the filter should be immediately noticeable. Again, if you see large holes or blemishes, do not use it. Discard it and purchase a new one from a reputable source. The few dollars it will cost far out-weighs the value of your eyesight.

If you have a filter that you are happy with, then make sure that it is a good fit on the front of your telescope and that there is no danger of it falling, or being blown off in a breeze or being knocked or pulled off accidentally. If you are showing other people the sun through your telescope, it is essential that you supervise the viewing at all times, especially if you audience include children.

Make sure that the finder scope is securely capped off or even removed, to prevent accidental sight of the sun through this. Doing this can also stop ears getting burnt or hair catching fire! Also, wear a sunhat and be careful not to get sunburn.

The simplest way to find the sun, which oddly enough can be difficult, as the only thing that will be seen through the filter is the sun itself, is to use the ‘least shadow method’. This involves you manually pointing the telescope by watching the shadow of the telescope on the ground or a wall behind it become increasingly smaller as you get nearer to the desired object. Once you believe you have the smallest shadow check through the
eyepiece (which should be a low power one) and the sun (hopefully) should be in the field of view or very nearby.

Most white light filters render the sun’s image as white, which is of course quite correct. Some people however find this a little un-natural looking as we largely believe the sun to be yellow, so the use of a light yellow filter such as a Wratten #8 can give the viewer that nice ‘yellow sun’ view that to many is more pleasing.

Sunspots are of course fascinating to study as they change and move across the solar disc day by day and even hour-by-hour. It is possible to draw or photograph them and record their numbers and positions on the sun’s surface. You will find that sunspot numbers will vary according to the ‘solar cycle’, an eleven-year cycle of sunspot activity. At time of greatest activity, there can be many sunspots varying in size from tiny dots to large blemishes that look at little like ink blots on paper, through to time of minimal activity when there are few if any spots at all. The next peak of solar activity is reckoned to be in 2012 and sunspot activity should steadily rise up to that year.

White light solar flares are occasionally visible on the surface of the sun and look like brighter areas of the disc and signify a huge out burst of activity and release of energy. These are though quite rare events. More easily visible are ‘faculae’ a Latin word meaning ‘small torch’. These are visible near the edge or ‘limb’ of the sun’s disc and are associated with sunspots and look like lighter regions around the spots.

As you see, there are many interesting things to see on the sun, so remember, take great care, but enjoy the view.

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