**Risk Assessment**

*Number:* ST03
*Performed by:* Stephen Tonkin
*Date:* 2004 October 23
*Last Reviewed:* 2019 July 04
*Review frequency:* 24 months

# *Title:* Astronomical Observations

*Affected persons:* All persons on observing site

*Hazard:* Injury due to equipment failure
*Weighting:* Hazard = 2; Likelihood = 1; Weighting = 2
*Control:* On each occasion astronomical equipment is used, it must be checked for the following (where applicable):

- Security of counterweights
- Effectiveness of axis locks
- Sharp edges, especially on or near eyepieces
- Security of attachment of instrument to mount
- Effectiveness of tripod leg-clamps and spreaders

*Hazard:* Injury due to accidental contact with equipment in the dark
*Weighting:* Hazard = 2; Likelihood = 3; Weighting = 6
*Control:* All participants will be instructed to:

- Always place equipment that is not being used in a location (e.g. between tripod legs) where it will not be a trip-hazard
- Always walk; never run.
- Look in the direction they are moving.
- Not to walk around whilst looking through an observing instrument.
- Use a red-light torch to illuminate the ground if it is very dark or if the ground is uneven.

*Hazard:* Injury due to accident or slippage during setup or dismantling of astronomical equipment
*Weighting:* Hazard = 2; Likelihood = 2; Weighting = 4
*Control:* Users to be instructed in safe and correct procedures for setting up and dismantling, with demonstrations where applicable. The observing site will be illuminated with white light prior to set-up of equipment and for dismantling at the end of observing sessions.

*Hazard:* Hypothermia in exceptionally cold weather
*Weighting:* Hazard = 3; Likelihood = 1; Weighting = 3
*Control:* Advice given on appropriate clothing for cold-weather observing. Anyone inadequately dressed will be advised to go somewhere warmer.

*Hazard:* Eyesight damage during solar observation
*Weighting:* Hazard = 4; Likelihood = 2; Weighting = 8
*Control:* The following rules to be implemented and reiterated on each occasion when solar observation is undertaken:

- **NEVER LOOK AT THE SUN THROUGH AN OPTICAL INSTRUMENT THAT IS NOT PROPERLY FILTERED.**
- The Sun must only be observed by image projection, through a proprietary solar filter that is used at the entrance pupil of the instrument, or through a telescope designed specifically for solar

observation.

- Filters must be checked for integrity by a competent person on every occasion when they are used.
- All people at an instrument used for projection where it is physically possible to place the eye at the eyepiece must be verbally instructed not to attempt to look through the eyepiece. The instrument must carry a conspicuous written notice to the same effect.
- Eyepiece-fitting solar filters must never be used.
- Instruments with a “folded light” optical configuration (e.g. Schmidt-Cassegrain or Gregory-Maksutov telescopes) must not be used for projecting solar images.
- Herschel wedges other than those with ceramic heat dissipators must not be used, except by a competent adult, and then only for demonstrating the principle of their use and not for routine observation.
- Finder scopes must be either removed, filtered at the entrance pupil, or capped at **both** ends.
- Unfiltered instruments that are not being used for projection must be left in shadow so that they cannot inadvertently be used to observe the Sun. Allowance must be made for movement of the shadow as the Sun moves.