

## 2MASS:

- How to use 2MASS, go over any manuals, basic tutorial on Astrocams and data reduction
- LN2 how to fill
- Review how to swap LN2 dewars
- Have trainee get things up and running, focus, initialize etc

## Telescope Operations General Items:

- Rules for safe operation of telescope
- How to open mirror covers and secure them
- How to cover telescope in bad weather
- Mirror covers are the last thing to open at start of the night/first to close at the end
- Make sure everything in dome is out of the way
- Use the infrared camera to watch when you move the scope-turn off when exposing
- If operator for a group of people, no one but certified observer can move the scope
- Go over how to leave the scope safely overnight
- Where to write fill times
- Limits (hardware/software?)
- Check the weather regularly (Joe checks at a minimum once an hour on good nights)
- How to stow dome, open and close shutter
- Finderscopes/hand paddle
- Losing pointing and how to recover
- Don't turn on dome lights with shutter open

## Weather:

- Weather limits
- Humidity, rain
- Wind
- Lightning
- Snow/ice/spindrift
- Particulates- dust, smoke
- Where to read measurements

## MinnAux PC:

- Trouble reports
- Relevant weather webpages, online support webpages

## Control Room Building:

- Which doors to keep open, and which to close when buildings are heated
- Regular call list for problems (Dave, Jim, Steve, Joe, Melanie)
- Emergency call list, other numbers list (Trico, Sheriff Department)

## Security:

- When driving up to site, make sure you lock both gates behind you.
- Don't let hikers into the grounds/buildings.
- All outside doors closed and locked, sliding glass door closed and locked.

## Power Failures:

- Backup generator automatic? Need to call someone?
- Cleanly turn off 2MASS, explain the UPS situation, need to turn off everything and bring it back online cleanly
- Emergency flashlight locations

## Observer Requirements:

- Need to be certified on telescope and instrument
- Advanced notice to allow Ops to prepare 2MASS

## Universal Rules:

- If you give up your run, or leave during your run, filling the dewar is still your responsibility. Unless you can arrange with Mountain Operations prior to calling off your run, you must still come up to the mountain and fill the dewar every 24 hours.
- On the last day of your run, make sure you fill the dewar and let Mountain Ops know when you filled it last.
- Check the weather! If there is any chance of thunderstorms during the morning or afternoon of the day you leave, you need to put the telescope in lightning shutdown before you go.
- You need to keep on top of the weather. No moisture, condensation, dust, ash, pine needles, etc should ever get on the mirror. Staying open when it is unsafe to do so is grounds for decertification.
- Alcohol and drugs are not permitted on site.
- Animals/Pets are not permitted on site unless it is a service animal as defined by the DRC. Please find more information at the link. [Animals on Campus](#)

## Certification Process:

- Contact a certifier and work around THEIR schedule. Observing is a privilege, not a right. If you cannot be certified before your scheduled run, you will have to find a certified observer to operate for you, or you will lose the nights.

## Record Keeping:

- Everyone running the telescope needs proper documentation, otherwise nights may be lost.
- Certification sheets can be found in the Mountain Operations office N350 or the Mountain Operations WIKI page. They must be filled out and signed by both the certifier and the newly

certified.

- You need to turn in a digital picture of yourself along with your completed certification form to be considered certified
- Certification sheets must then be turned into Melanie Waidanz or Joe Hoscheidt so we can file the hard copy and update our database.
- If we cannot find your documentation, and don't provide us with proof of your certification, your night may be lost

## Certification Eligibility:

- If you are certified, but have not observed in a year, you now must take a refresher course with a certifier. This goes over the changes that have occurred since the last time you observed. Failure to work around a certifiers schedule to get refreshed could lead to a loss of your nights. This can be done with any of the certifiers.
- Once again, being able to observe is a privilege not a right. The rules are in place to keep not only the telescope and instrument safe, but the observers as well. We have the right to decertify anyone if they break the rules.

## Required Reading Prior to Observing:

- Guidelines for Observing: <http://james.as.arizona.edu/~psmith/90inch/guidelines.html>

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