

Wilmot Telescope Procedure

9/04

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Background on Wilmot and the Telescope

The telescope is a 14" Schmidt Cassegrain on an equatorial mount. It has been mounted with its Dec axis adjusted for our latitude, and oriented to the North, such that RA is true, except for the small alignment required at each observing session. It is not necessary, therefore, to use altitude and azimuth coordinates.

What to Take with You

- ❑ One or more partners
- ❑ A cell phone (optional)
- ❑ This procedure
- ❑ A warm jacket
- ❑ A flashlight
- ❑ RA/Dec of objects to observe
- ❑ Observer's Handbook
- ❑ Star Chart

Observer's handbook, Star Chart and keys to the telescope and Wilmot building can be signed out from Dolly Aiken B+L454 prior to 4:30pm.

Check Out Viewing Conditions for Tonight

Go to www.weather.com To get a real good idea of what the weather will be like over the next several hours, click the option to put the map in motion. This will give you a good sense of whether or not clouds are heading this way. **DO NOT OPEN WILMOT OBSERVATORY IF IT IS RAINING OR SNOWING!**

Access to Wilmot Observatory

First, you need to attend an orientation given by a teaching assistant. At its completion, you will be given a “telescope operator certification card”.

30 minutes or so before you wish to begin observing, go to the Wilmot building. The 3 keys you’ve been given will open 1) the door to the building; 2) the door to the roof and 3) the door to the observatory dome. Take the elevator to the 5th floor; then take the stairs to the roof, and continue up the stairs there to the dome.

Safety

There are no railings around the edge of the building, but chains have been strung such that, if you don’t cross over them, they will keep you away from the edges. Please walk directly from the stairs to the dome, and return the same way, without exploring beyond that.

Once on the roof, close the door behind you; it will lock, limiting access by others. From the roof, the door opens without using the key.

If you observe the Sun during the day, do NOT look through the telescope without a solar filter, and do NOT look through the viewfinder at all. Better yet, defocus the image and project it onto a sheet of paper, then observe it on paper.

Lighting

There are red lights inside the dome, which are turned on by the switch to the left of the door, and farther from the door, as you enter. Twist the knob to control brightness.

There is also a white light outside the door that can be turned on for getting oriented at the telescope initially, or while shutting down. If you prop open the door of the dome you can use this as an additional light for getting set up, as the only lights in the dome are the red lights. If you use it prior to observing, plan to spend 10+ minutes getting your night vision adjusted after you turn it off.

Using the white flashlight will also require night vision readjustment. You may want to consider taping some red tissue paper or something equivalent over the flashlight. It will still partially disrupt your night vision, but it will not take as long to readjust as it will from an unaltered white light flashlight.

Operating the Dome

You should find the opening facing East. This position is also marked with a sign. This position is best since weather comes in from the West. Leave the dome in this position when you leave.

Plug in the switch that opens and closes the dome.

For observing near the horizon, lift the entire panel including the lower one by moving the switch to the OPEN position.

For observing near the zenith, pull the cord to disengage the lower panel, then raise the upper section.

To rotate the dome, first unplug the OPEN/ CLOSE switch, and then move the directional switch according to where you want the dome positioned. It is VERY important to unplug the open/close switch first. You will be adjusting the dome position as you move from observing one object to another.

Remove the plastic sheeting from the telescope AFTER you have opened the dome.

Telescope Power and Instruments

Open the door on the telescope mount. Turn on the power by plugging in the power strip and turning it on. This turns on the telescope tracking motor. Plug in the fine tracking instrument.

Loosen the screw on the Dec axis and tilt the scope to horizontal to remove the telescope and viewfinder caps.

Place an eyepiece in the telescope. (See below for selection).

Orientating the Telescope

Use the star chart to identify a bright star; look up its RA & Dec. Move the scope to that position in Dec, move the scope until it roughly lines up with the star in RA, and then sweep in RA until you have the bright star in view. Center the star, and then move the RA dial to match the RA of the object. The scope is now aligned. From this point on, move the telescope on its RA and Dec axes for selected objects without changing the position of the RA dial.

Note also that the Sidereal Time reading should match the current Sidereal Time. It will match Eastern Standard Time, not Daylight Savings Time.

There are two tracking settings, one for the sidereal rate, the other for viewing the Sun.

Selecting Eyepieces/ Lenses

Start with a wide angle eyepiece/ lens (28 mm or 40mm) to make it easier to get the object in view. Change to a smaller lens for greater magnification once you have located and centered an object you wish to observe.

Locating and Observing Objects

Once you have aligned the telescope and set the RA dial, look up (or figure out) the RA and Dec of the objects you want to observe. Turn the two axes of the telescope till they match the object's coordinates. Use the fine control to center the object.

ENJOY!

Shutdown Procedure

Turn off and disconnect the power strip. Disconnect and store the fine control. Remove and store the eyepiece in the desk drawer. Replace the telescope and viewfinder caps. Cover the telescope with the plastic sheeting. Return the dome opening to East. Plug in the OPEN/ CLOSE control. Close the dome. Unplug the OPEN/ CLOSE control. Pick up everything you brought with you. Turn off the lights. Lock the door. Note: unplugging the telescope and dome motor is important as this dome can be hit by lightning.

Return the keys, etc. to Dollie Aiken as early as possible the next morning.

Updating the Log

Out of date: Go to the website and update the observing log with how it went, what you saw (or didn't!), any problems you had, etc.



Opening Dome



Rotating Dome



Plugging in tracking



Plugging in fine control



Dec Axis release



Setting Dec Dial



RA Axis release



Setting RA Dial



Tracking Control



Fine control



Projecting Sun's image



Cover the scope



This Way Out