Outdoor Lab 8 - Saturn

Objective: To observe the characteristics of the planet Saturn and its moons.

1 Saturn

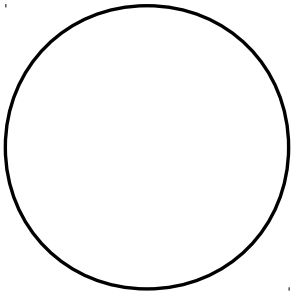
Saturn usually impresses in a small telescope. The ring structure is unique among the solar system planets, and Saturn's retinue of moons is constantly changing. As many as five can be visible, depending on the location of the moons and the viewing conditions.

2 Indoor Preparations

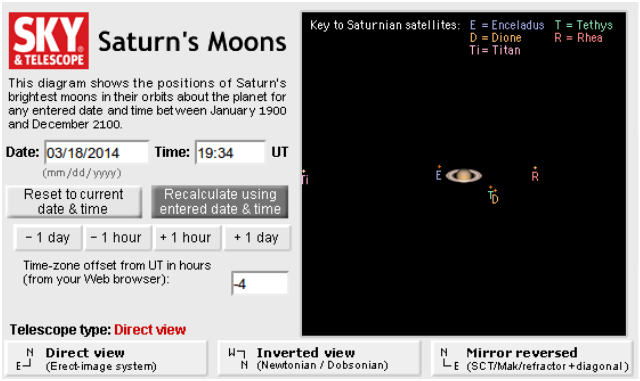
Before going outside, go the web site at `http://www.skyandtelescope.com/observing/objects/javascript/saturn_moons` and print out the finder chart showing the current locations of Saturn's moons. this will be invaluable in understanding what you are seeing when at the eyepiece. A sample of the output is on the bottom of page 2.

3 Observations

1. Record the time and date.
2. Identify the naked eye stars around Saturn and locate its position in the atlas. Estimate and record the RA and Dec, and identify the constellation.
3. Find Saturn with the telescope. We will likely use the 10" Alt-Az telescopes for this. Determine the directions N, S, E, W and label the figures on the observing sheet accordingly.
4. Examine Saturn and its moons and sketch the result on the large circle on the observing sheet. Sketch in the rings as best you can. Finally record the location of the visible moons. Can you see changes in the positions of the moons during the observing period? Can you determine which moon is which? A finder chart will aid in this.
5. If you have a camera, try taking a photograph of Saturn. Can you see more or less detail in the photograph than with the naked eye?
6. Try using eyepieces of different focal length. What is the trade-off of magnifcation vs field of view? Which eyepiece gives the best view, in your opinion?
7. Try watching Saturn for several minutes. You should see brief times intervals where the turbulence in the atmosphere steadies down and you get a clearer view for a short time.
8. If there are any nearby stars in the field of view, record these as well.



Date =_____ Time =_____ RA/Dec =_____ Constellation =_____



This tracker was downloaded from
`http://www.skyandtelescope.com/observing/objects/javascript/saturn_moons`