ï by selecting objects from the **Hot-List** pull-down menu on the menu bar at the top of the window. We will use the **Hot-List** in this exercise, because it is so convenient.

5. The telescope has a tracking motor designed to keep it pointed at the same spot in the heavens as the earth turns. Right now the motor is off, and, even if you are not moving the telescope with the N-E-S-W buttons, you will see the Right Ascension display changing, because the rotating earth is causing the telescope to sweep the heavens. You should turn on the tracking motor to remedy this. Just below the time displays on the left hand side of the screen is a button labeled **Tracking**. If you click on it, you will see the word ***on*** appear next to the button, and you will notice that the Right Ascension display stops changing. The telescope will now track any object it is pointed at.

6. You are now ready to receive signals from your first pulsar.

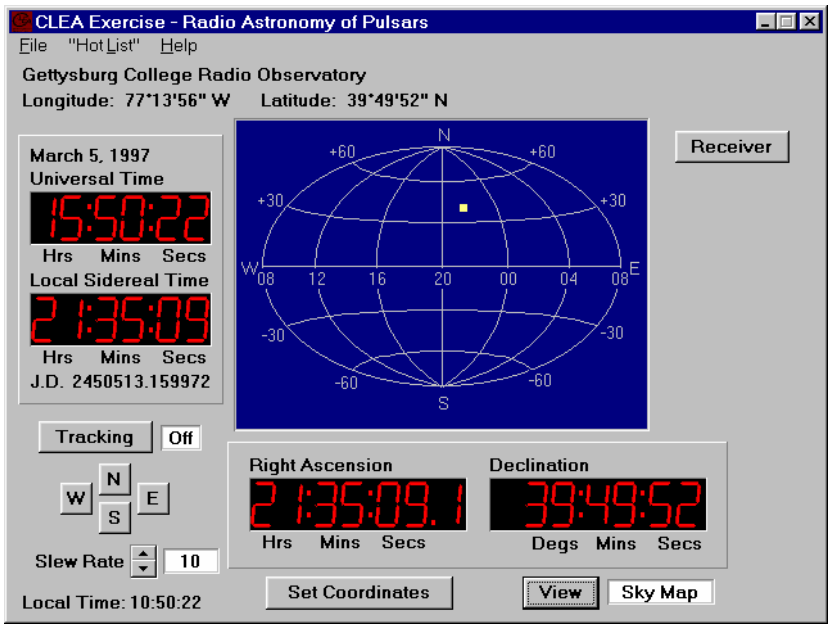

Figure 1: Sky View

Part 2: Observation of a Pulsar with a Single-Channel Radio Receiver

Letís begin by familiarizing yourself with the receiver and general properties of pulsars. In this part of the exercise you will point the telescope at a moderately strong pulsar and, using a radio receiver with a graphic display, look at the pulsing radio signal to get some idea of its overall characteristics. The radio waves we receive from pulsars are characterized by sharp pulses of short duration, very steady in their period of repetition, with periods of as short as a few hundredths of a second up to several seconds. The strength of individual pulses varies a bit, in a random fashion, as we shall see, but the overall strength of the signals depends most strongly on the frequency at which you observe them. Our radio receiver can be tuned to any frequency between 400 and 1400 Megahertz (MHz), and we will use this feature to see, qualitatively, how a pulsarís signal strength changes with frequency.

1. We want to point our radio telescope to pulsar **0628-28**. To move the telescope to the proper coordinates, we will use the **Hot List.** The **Hot List** is located on the menu bar. Click and pull down the **Hot List** menu and choose **View/Select from Lis**t. **Click** on the pulsar desired, **0628-08** (the name is in the leftmost column), and **click on the OK button** at the bottom.

ï After asking you for verification, the telescope will begin to move. Youíll see the square on the sky map move, and the coordinate displays change, until the telescope is pointing at the object.

ï Write down, in the space provided , the Right Ascension and Declination you are pointing to:

RA Dec