

The view window has two magnifications (see Figure 1 below):

Finder View is the view through the finder scope that gives a wide field of view and has a red square which outlines the instrument field of view.

Instrument View is the view from the main telescope with red vertical lines that show the position of the slit of the spectrometer.

As in any image of the night sky, stars and galaxies are visible in the view window. It is easy to recognize bright galaxies in this lab simulation, since the shapes of the brighter galaxies are clearly different from the dot-like images of stars. But faint, distant galaxies can look similar to like stars, since we can't see their shape.

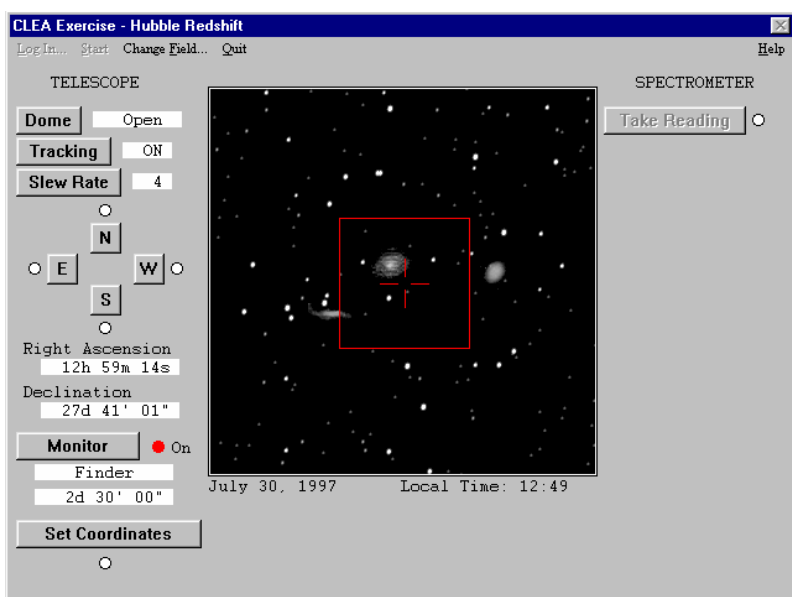


Figure 1:
Field of View from the
Finder Scope

6. Now change fields by clicking on Ursa Major I in the lists of selected galaxies to highlight the field. Then click the **OK** button.

7. Locate the **Change View** button in the lower left hand portion of the screen. **Click** on this button to change the view from the **Finder Scope** to the **Instrument**. The field of view is now smaller so that you can accurately position the galaxy in the slit of the spectrometer. Use the directional buttons (**N, S, E or W**), to “slew”, or move, the telescope to carefully position, in the slit, the object you intend to use to collect data—any of the galaxies are suitable. To move continuously, **press and hold down** the left mouse button. Notice the red light comes on to indicate the telescope is “slewing” in that direction.

As in real observatories, it takes a bit of practice to move the telescope to an object. You can adjust the speed or “slew rate” of the telescope by using the mouse to press the **slew rate** button. (1 is the slowest and 16 is the fastest). When you have positioned the galaxy accurately in the slit, click on the **take reading** button to the right of the view screen.

The more light you get into your spectrometer, the stronger the signal it will detect, and the shorter the time required to get a usable spectrum. Try to position the spectrometer slit on the brightest portion of the galaxy. If you position it on the fainter parts of the galaxy, you are still able to obtain a good spectrum but the time required will be much longer. If you position the slit completely off the galaxy, you will just get a spectrum of the sky, which will be mostly random noise.