

How to Run the Sun Lab

1. If the radio telescope and SRT software is not already up and running the see the ‘Procedure for Turning on the Radio Telescope’
2. Make sure that everything is running OK. Look to the lower left corner of the software window. You should see a power reading of approximately 5500 counts (pwr. = 5500 counts). This is the number of raw counts detected by the receiver and should be around 5500 counts most of the time. Although the number of counts may vary by as much as several hundred, if you see a number in this range then everything should be working fine!!
3. Using ‘Notepad’, or some text editor, open the file C:\SRTnew\sunlab.rad and delete any existing text from the file. Save the changes and close ‘Notepad’. This removes any previous runs of this lab from the file. If you forget to do this you can do it later, the most recent run is appended to the end of the file. *Just be careful and don’t delete your new run from the file!!*
4. At this time calibration of the radio telescope is NOT necessary for this lab. Only the relative intensities on source and off source are relevant for our purposes.
5. The next step is to change the frequency scan mode. Click the ‘freq’ button at the top of the software window. Now in the command line at the bottom of the screen type the following:

1420.4 5 5 .125

1420.4 is the center frequency of the observation. The first 5 is the mode of operation for the receiver. The second 5 is the number of frequency bins. The last number, .125, is the width of the bins in MHz. *The receiver will take a moment to adjust to this new mode. Don’t be alarmed if it doesn’t change immediately.*

6. Click the ‘Rcmdff’ button at the top of the screen. After a moment the computer will return a message above the command line that says ‘the file srt.cmd cannot be read.’ Click the ‘Rcmdff’ button again and

you will be prompted to enter a filename. In the command line type 'sunlab.cmd' (no quotes) and press the enter key. After a brief delay the scan of the sun will begin. You can see the cross hair move on the screen, or you can watch and see the telescope moving behind the obsevatory.

7. Once the scan is complete, the data file located in C:\SRTnew\sunlab.rad can be viewed with any text editor or imported into a spreadsheet application for further analysis.
8. When finished with the telescope stow the telescope by clicking the 'Stow' button at the top of the screen. This will move the telescope to the home position. When it has finished the software can be shutdown, and the telescope powered down.