

H-R Diagram Spreadsheet

This Microsoft Excel spreadsheet plots a star's temperature and absolute magnitude on a Hertzsprung-Russell Diagram. The diagram is marked with areas corresponding to different star types, so it shows how the plotted star is classified.

Go to the class web site at <http://www.barransclass.com/astr1070>. Click on the "units" link, then on the "stars" unit link. Right-click on "Hertzsprung-Russell plot spreadsheet" and save it to your student account.

Enter the Data

Before you begin, have the minimal data for your star. If you do not know the star's absolute magnitude, the spreadsheet can calculate it from apparent magnitude and parallax, so have at least those numbers. Enter them in the yellow cells in the spreadsheet. The calculated absolute magnitude will appear in the purple cell.

If you do not know the star's surface temperature, you can look it up from its spectral class. A list of temperatures corresponding to the common spectral classes can also be accessed from the class web site.

Enter the star's temperature and absolute magnitude in the salmon-colored cells.

The Plot

The plot below the data tables should now show your star as a yellow circle on the H-R diagram.

To copy the plot with all graphics to a MS Word file, first select the entire plot by drawing a selection box around it with the graphics selection tool. Copy by selecting CTRL^C or by right-clicking with the mouse and selecting "Copy" from the pull-down menu. To paste into the Word file, click the location on the file where you wish to insert it and then select "Paste Special." There, select "Microsoft Drawing Object."