Reducing Spectra in IRAF
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This document is a prettier version of the cheat sheet that I use whenever I’m doing spectral reductions. As usual, the best place to start for more detailed information is Josh’s IRAF tutorial. For simplicity’s sake I assume that you’re trying to extract the spectrum of an object contained in obj.fits (which has already been dark subtracted and flat fielded) and its associated comparison lamp is called comp.fits.

1. Enter IRAF and load the noao, onedspec, twodspec, and apextract packages.

2. Use apall to extract the object spectrum: apall obj

3. Extract the comparison spectrum using the same extraction aperture as before:
apall comp ref=objc recen- trace- back- intera-

4. Identify lines of known wavelength in the comparison spectrum with identify:
identify comp.ms

5. Use hedit to edit the header to correlate the comparison spectrum with the object spectrum: hedit obj.ms REFSPEC1 comp.ms add+ ver- show+

6. Use dispcor to apply the dispersion correction as calculated from the comparison spectrum: dispcor obj.ms

Now you have a dispersion-corrected spectrum that splot will display with wavelength on the x-axis. Depending on your requirements, you might also want to perform an absolute flux calibration, but that’s a matter for another day.