Übungen – UNIT 3 – Astronomische Spektroskopie

Thema: Spektroskopische Archive

The aim of this exercise is to search for already observed spectroscopic data of five stars in the different available archives.

Background: before you apply for your own observations, always check the archives for available data. All of them are, in general, public. So you can use them without any regulations. And you are independent of the TACs and the weather conditions.

Starting Point: http://cdsweb.u-strasbg.fr/astroweb/center.html

Stars to search for (the more spectra you derive the better):

1. HD 10088: V = 7.87 mag, α = 01 38 56.6, δ = +21 55 06.9
2. HD 49336: V = 6.19 mag, α = 06 46 12.1, δ = -37 46 31.2
3. HD 125162: V = 4.18 mag, α = 14 16 23.0, δ = +46 05 17.9
4. HD 171028: V = 8.31 mag, α = 18 32 15.5, δ = +06 56 44.7
5. HD 213657: V = 9.66 mag, α = 22 33 47.1, δ = -42 03 13.8

For the protocol:

1. List the following quantities: JD or HJD, resolution, wavelength range, integration time and telescope/site
2. Download at least two spectra and plot them
3. Answer the following questions according to your sample of spectra:
   - Can you perform a spectral classification?
   - Can you perform an abundance analysis?
   - Can you derive v sin i with an accuracy better than 10 km/s?
   - Do you have enough material for a radial velocity study?
4. Find out the spectral types for these stars from the literature