Appendix II: Downloading of Spectra

In [ ]:
```
#This section reproduces code used to download stellar spectra
#See chapter 7 for a description of this work

import pandas as pd
import requests
import io
```

In [ ]:
```
#Import data from spectralMetaData.csv files into a dataframe
#Then use requests to obtain the csv files from their urls and write them
 ↪  to disk
#Prior to running this code data from the spectralMetaData were manually
 ↪  downloaded as csv file
#Data from mydb.spectralMetaData1 were downloaded to a file named
 ↪  spectralMetaData1.csv
#Data from mydb.spectralMetaData2 were downloaded to a file named
 ↪  spectralMetaData2.csv
#Data from mydb.spectralMetaData3 were downloaded to a file named
 ↪  spectralMetaData3.csv

#Download data for use in chapter 8
stars_df = pd.read_csv('spectralMetaData1', usecols = ['SpecObjID',
 ↪  'plate', 'mjd', 'fiberid'])

for index, row in stars_df.iterrows():
    SpecObjID = str(row['SpecObjID']) + '.csv'
    plate = str(row['plate'])
    mjd = str(row['mjd'])
    fiberid = str(row['fiberid'])
    url ='http://dr12.sdss3.org/csvSpectrum?plateid=' + plate + '&mjd=' +
     ↪  mjd + '&fiber=' + fiberid + '&reduction2d=v5_7_0'

    s=requests.get(url).content
    c=pd.read_csv(io.StringIO(s.decode('utf-8')))
    c.to_csv(SpecObjID)

#Download data for use in chapter 9 (training)
stars_df = pd.read_csv('spectralMetaData2', usecols = ['SpecObjID',
 ↪  'plate', 'mjd', 'fiberid'])
```

```
for index, row in stars_df.iterrows():
    SpecObjID = str(row['SpecObjID']) + '.csv'
    plate = str(row['plate'])
    mjd = str(row['mjd'])
    fiberid = str(row['fiberid'])
    url ='http://dr12.sdss3.org/csvSpectrum?plateid=' + plate + '&mjd=' +
    ↪  mjd + '&fiber=' + fiberid + '&reduction2d=v5_7_0'

    s=requests.get(url).content
    c=pd.read_csv(io.StringIO(s.decode('utf-8')))
    c.to_csv(SpecObjID)

#Download data for use in chapter 9 (test)
stars_df = pd.read_csv('spectralMetaData3', usecols = ['SpecObjID',
↪  'plate', 'mjd', 'fiberid'])

for index, row in stars_df.iterrows():
    SpecObjID = str(row['SpecObjID']) + '.csv'
    plate = str(row['plate'])
    mjd = str(row['mjd'])
    fiberid = str(row['fiberid'])
    url ='http://dr12.sdss3.org/csvSpectrum?plateid=' + plate + '&mjd=' +
    ↪  mjd + '&fiber=' + fiberid + '&reduction2d=v5_7_0'

    s=requests.get(url).content
    c=pd.read_csv(io.StringIO(s.decode('utf-8')))
    c.to_csv(SpecObjID)
```