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MaStar

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Abstract

Key words: stars: evolution — stars: supergiants — stars: massive

1 Introduction

The MaNGA Stellar Library (MaStar) is a library of spectra covering from 3,622 to 10,354 Angstrom with a spectral resolution around R 1800.

Bellazzini has retrieved the catalog and matched with the Gaia DR3 catalog using a search radius of 0.5 arcsec.

The fits file

$$mastarall - v3\_1\_1 - v1\_7\_7\_goodstars\_inDR3.fits$$

contains 59266 raws and 37 columns.

The original file $mastarall - v3\_1\_1 - v1\_7\_7.fits$ has 4 extensions, with GOODSTARS being the first (Catalog). The GOODSTARS catalog contains stars that have at least one high quality visit spectrum.

All high quality 1D MaStar spectra are located in the "mastar-goodspec-v3_1_1-v1_7_7.fits.gz" file (7.1 G): (Spectra).

A code in python is distributed to browse the spectral file. The code is called sdss-marvin (MARVIN). The installation procedure:
pip install sdss-marvin
failed.

A simple code in python was then written to extract the needed spectra. The code

- cross-matches the CALSPEC library CALSPEC-resultCOORDn.csv with the goodstars_inDR3 catalog mastarall-v3_1_1-v1_7_7_goodstars_inDR3.fits, 3 source have MANGAID, two have good spectra. One of the source has 3 spectra.
- all spectra with the corresponding MANGAID are extracted from mastar-goodspec-v3_1_1-v1_7_7.fits and a list is saved in the file calspec_sdss_sp.csv.
- spectra are saved in the local directory as eps, the files are named as the MANGAID followed by a numbering (1,2,3).
- the individual spectra are saved locally as Tables.csv.

In the spectral description it is stated that the wavelengths (in vacuum) is in Å, while the flux density is in [10^{-17} erg/s/cm^2/Å].

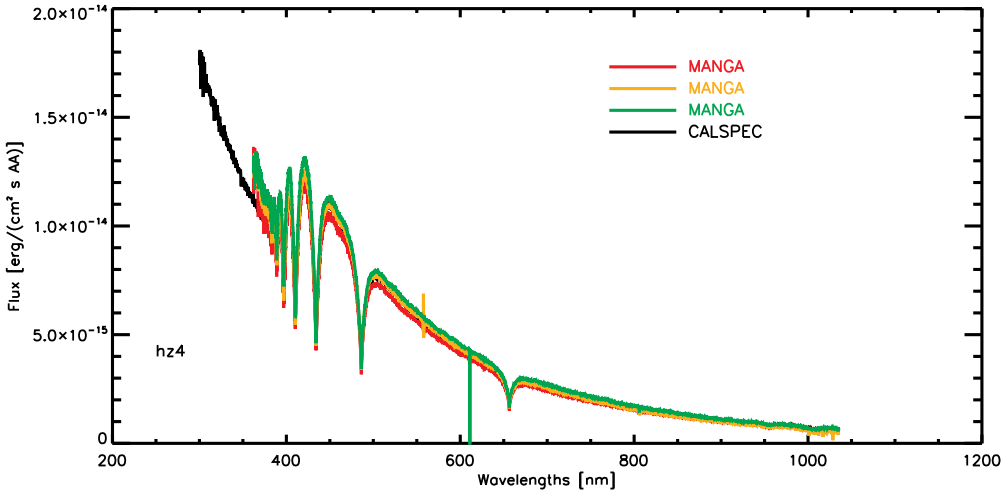

Fig. 1. MANGA stars of hz4, G=14.520 mag.

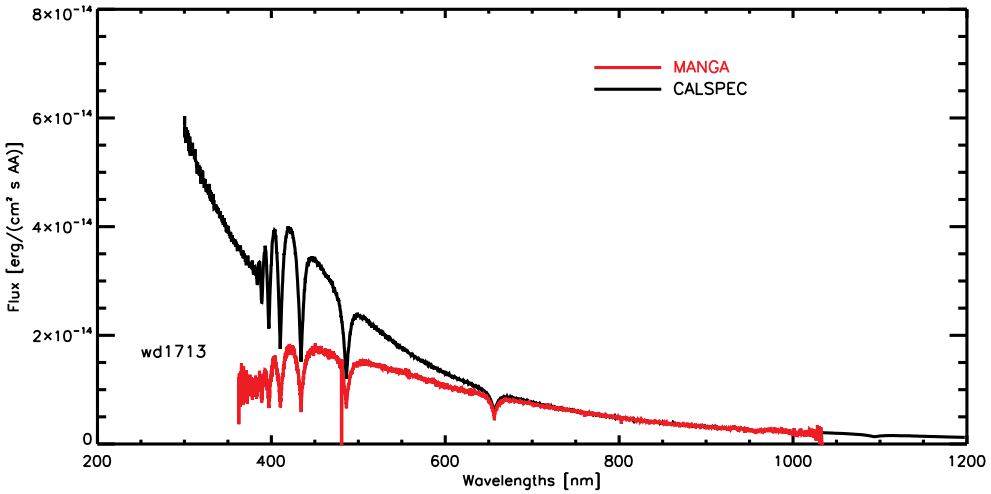

Fig. 2. MANGA stars of WD1713, G=13.327 mag.