corv

Compact Object Radial Velocity

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`corv` : Introduction

1. **Fitting with templates**:

   Currently `corv` supports Koester DA models and can be generalized. We are working on the DB fitting as well using Koester models.

2. **Fitting with Voigt profiles:**

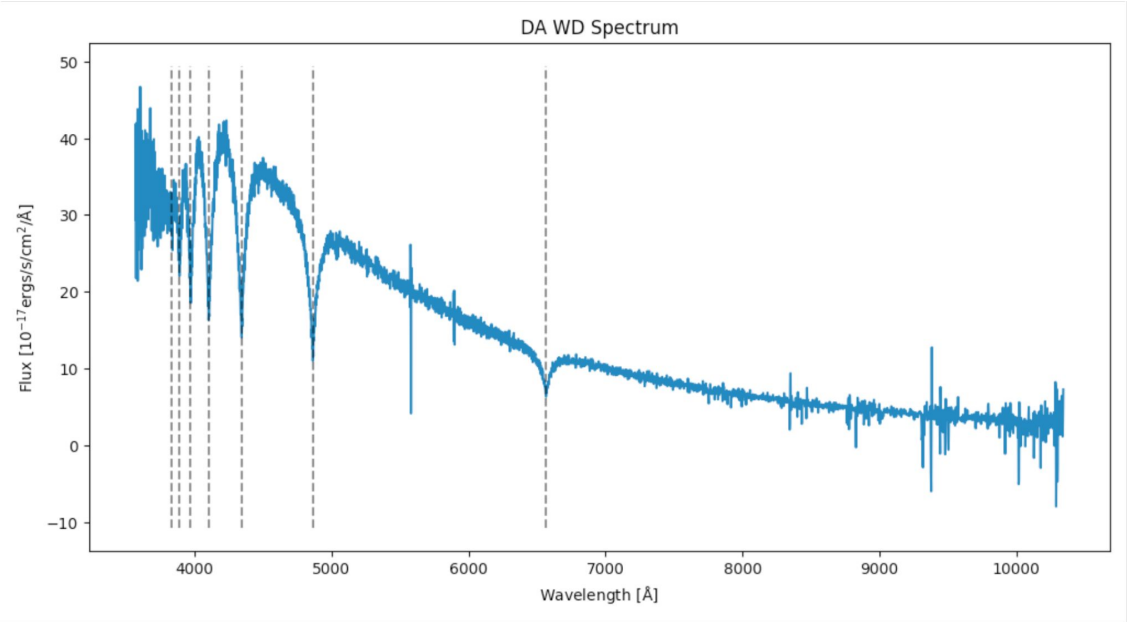
   In the absence of templates we fit the absorption lines with one or more voigt profiles.

Example : DA WD : J023503.67-002911.57

We select our target from the SDSS DR14 catalog

"White dwarf and subdwarf stars in the Sloan Digital Sky Survey Data Release 14" (Kepler et.al 2019)

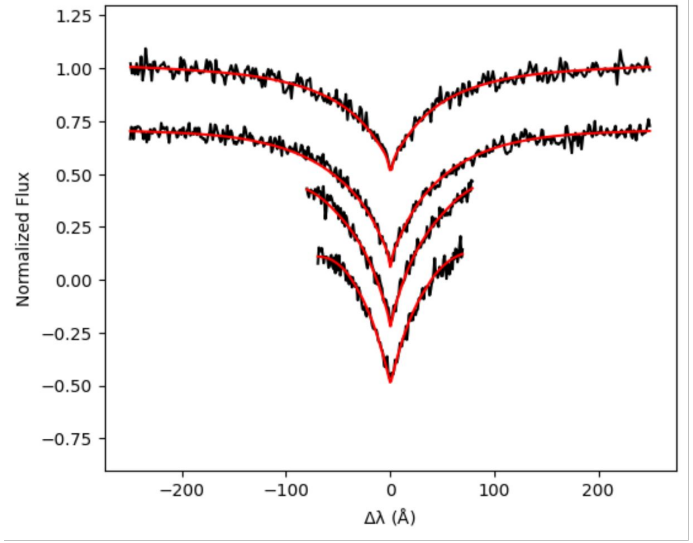
This has RV = 57 ± 7 km/s



Example : DA WD

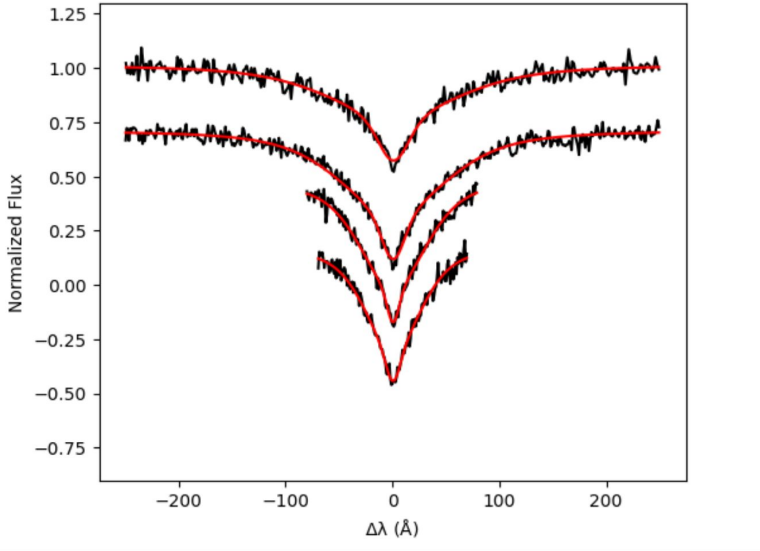
Fit With Koester Templates

<Parameter 'RV', value=52.85688682309183, bounds=[−2500:2500]>



Fit With Voigt Profiles

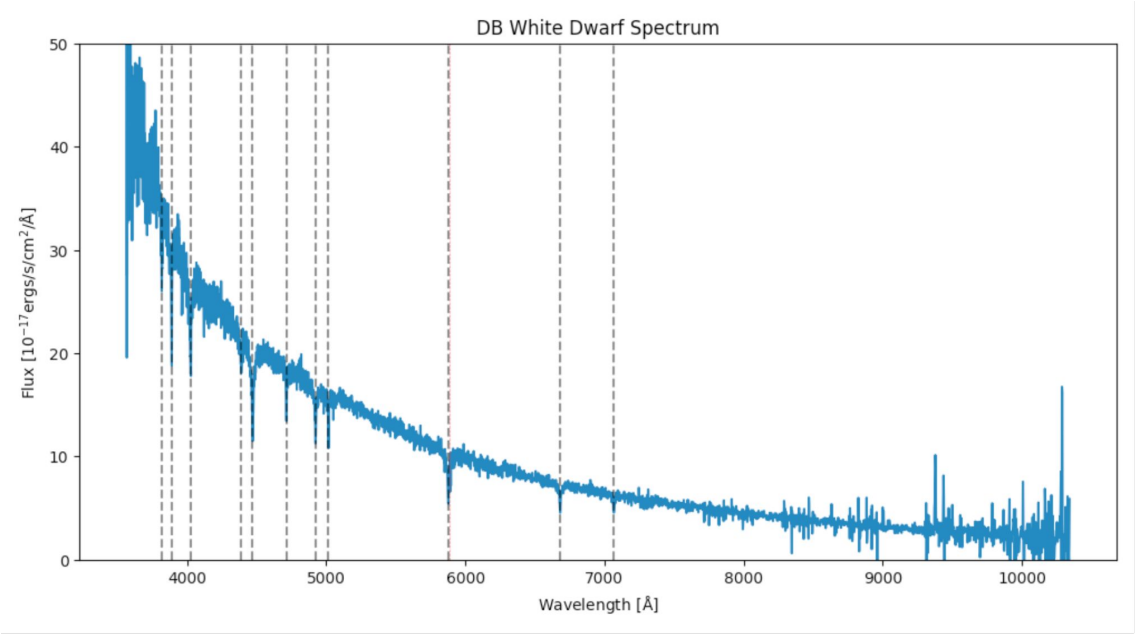
<Parameter 'RV', value=53.52380514066954 +/− 5.74, bounds=[−2500:2500]>



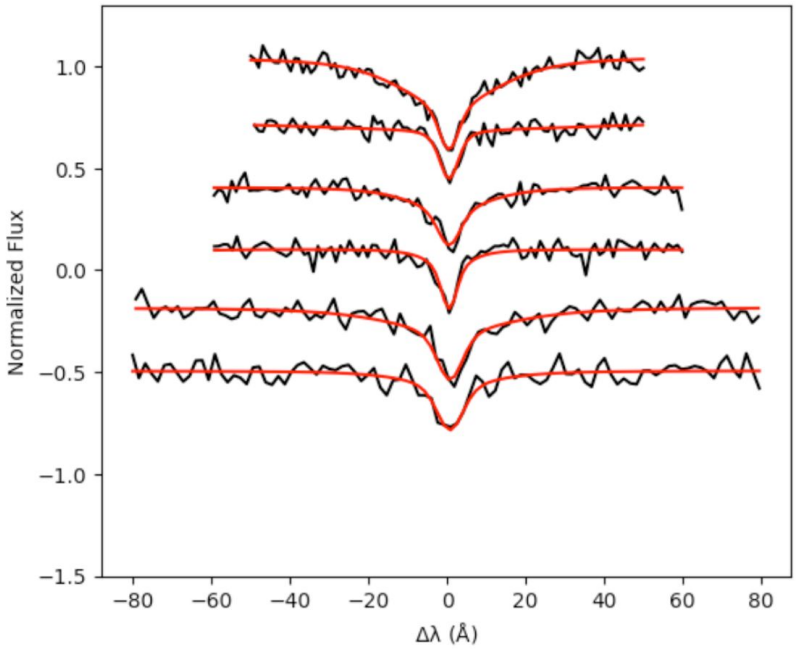
Example : DB WD : J222711.11+073510.7

Target is selected from the paper "Spectral Feature Extraction for DB White Dwarfs Through Machine Learning Applied to New Discoveries in the SDSS DR12 and DR14" (Kong et.al 2018)

RV = 50 ± 12 km/s



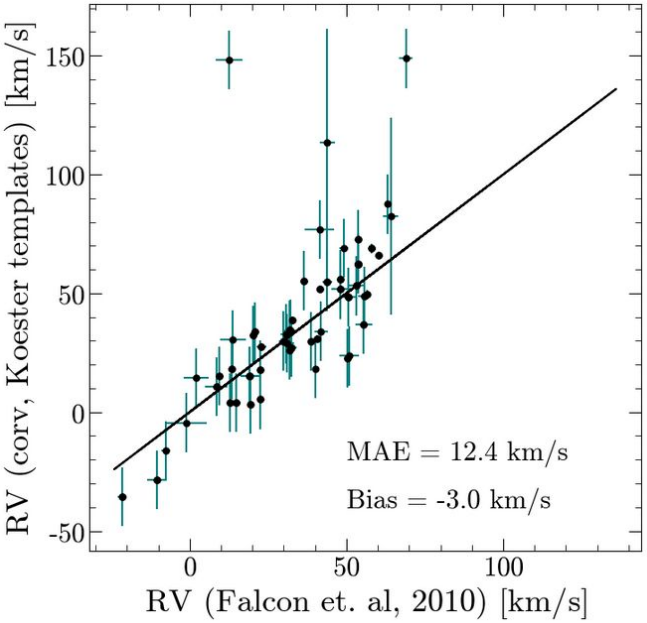
<Parameter 'RV', value=34.392418332467514 +/- 3.61, bounds=[-2500:2500]>



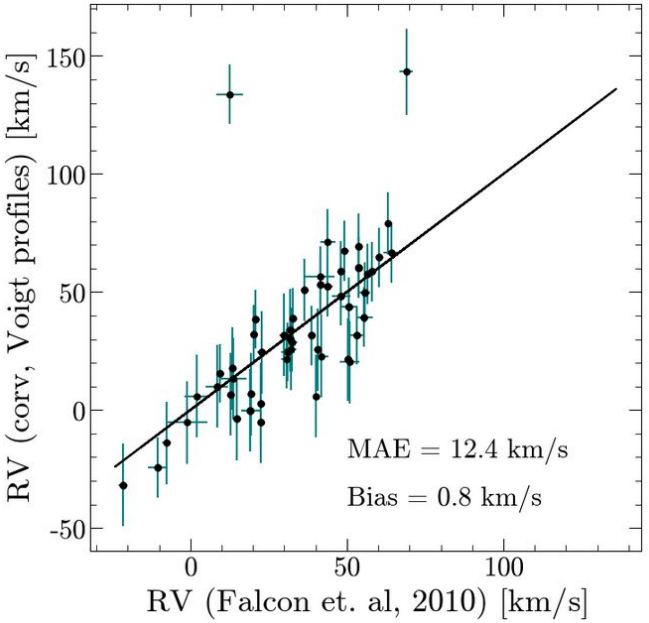
RV = 34 ± 3 km/s

Example : DA WD

Fit With Koester Templates



Fit With Voigt Profiles



Validation: Between Koester And Voigt Fitting