FSQ-85 and the Alpy 600

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Abstract

A test of the Shelyak Alpy 600 using a Takahashi FSQ-85 shows extremely well corrected spectra, particularly notable at shorter wavelengths which are typically problematic for refractors of simpler design.

1 Summary

Figure 1 shows a variety of stars from Type-B to Type-M. In each case the Balmer lines, particularly at shorter wavelengths, show excellent correlation with published values, unlike spectra taken previously under the same conditions using a common 2 element ED refractor.

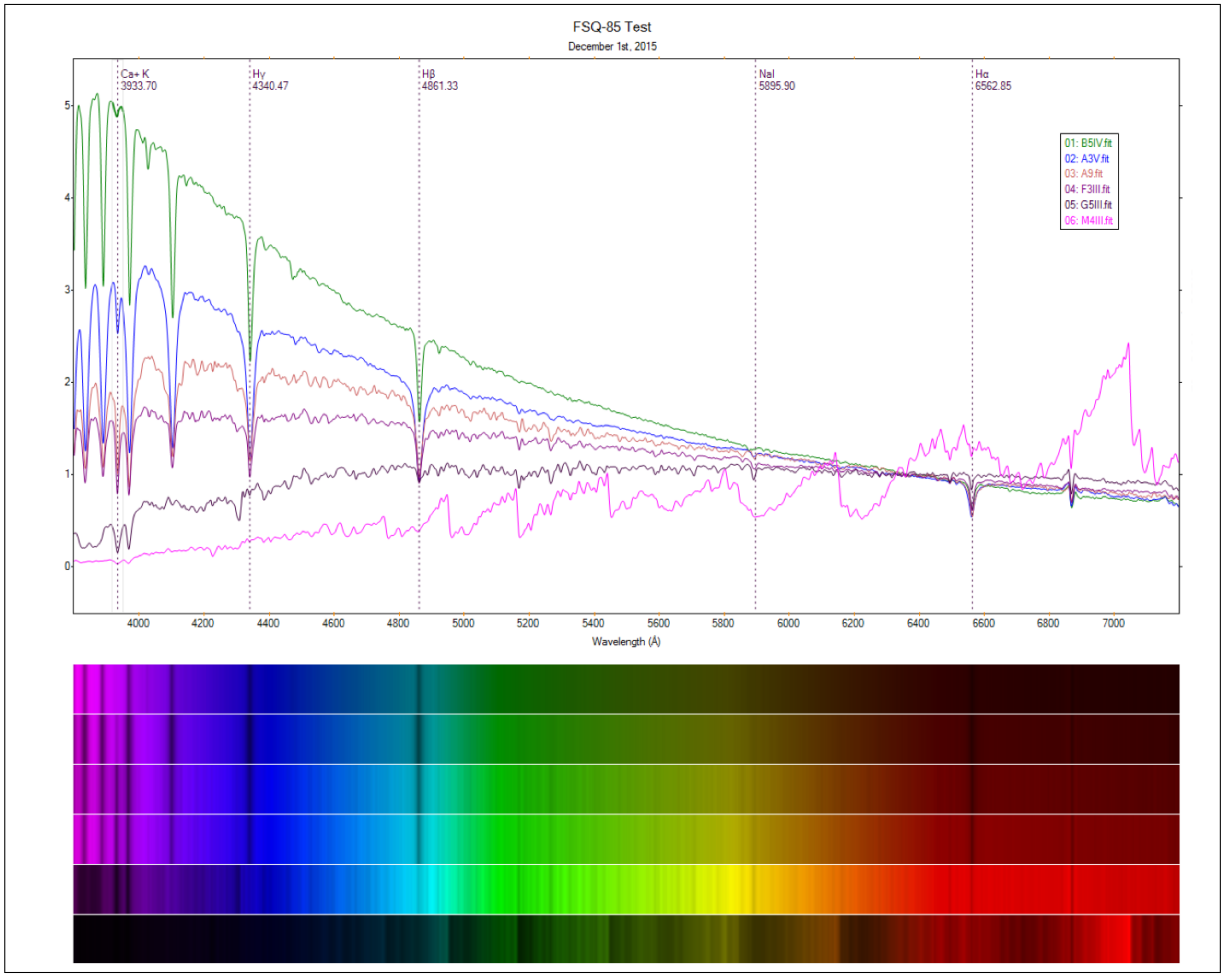

Figure 1: A selection of test star profiles. The synthetic spectral strips show expected Balmer absorption changes from B to F in addition to the increasing line complexity of the 'cooler' stars.

Figure 2: A comparison between spectral images: TOP Megrez 80 (two element ED) BOTTOM FSQ-85 (4 element Petzval)

2 Balmer line correlation

Spectra show excellent Balmer line correlation with catalogue standards. The temperature profile also compares well with spectra that have been corrected for instrument response.

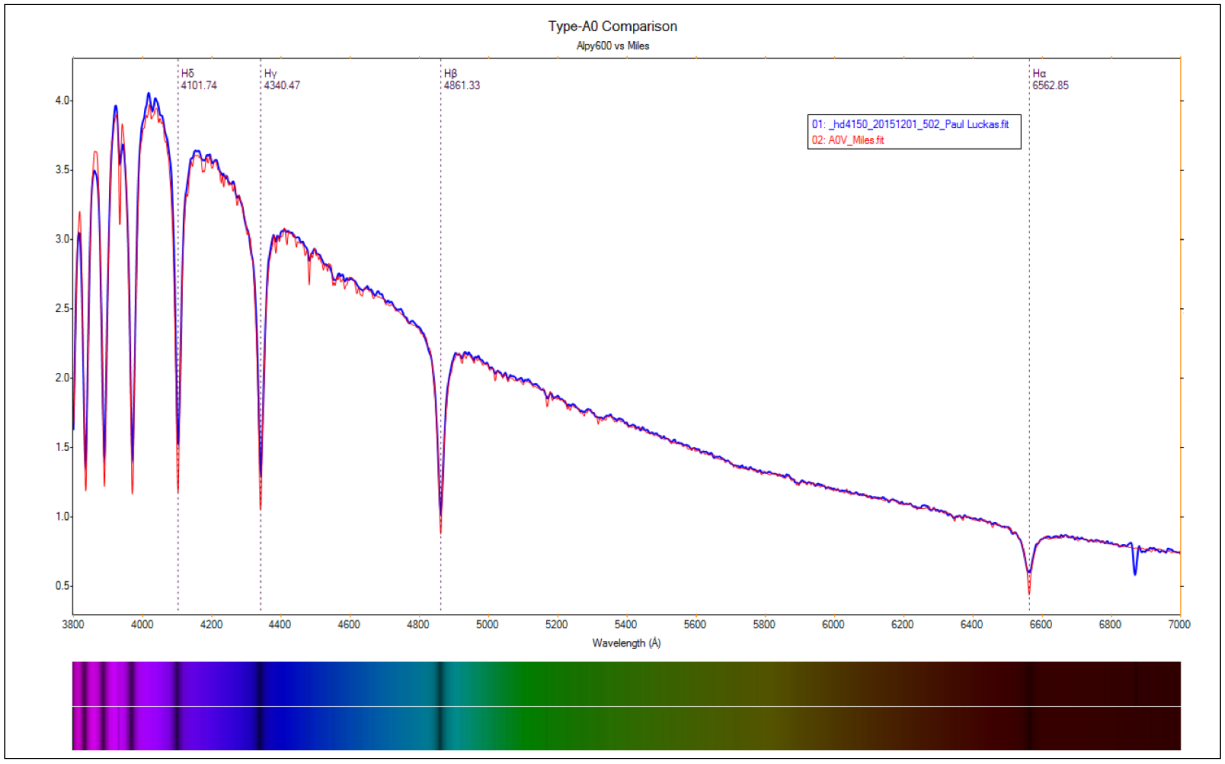

Figure 3: A Type-A0 comparison with Miles.

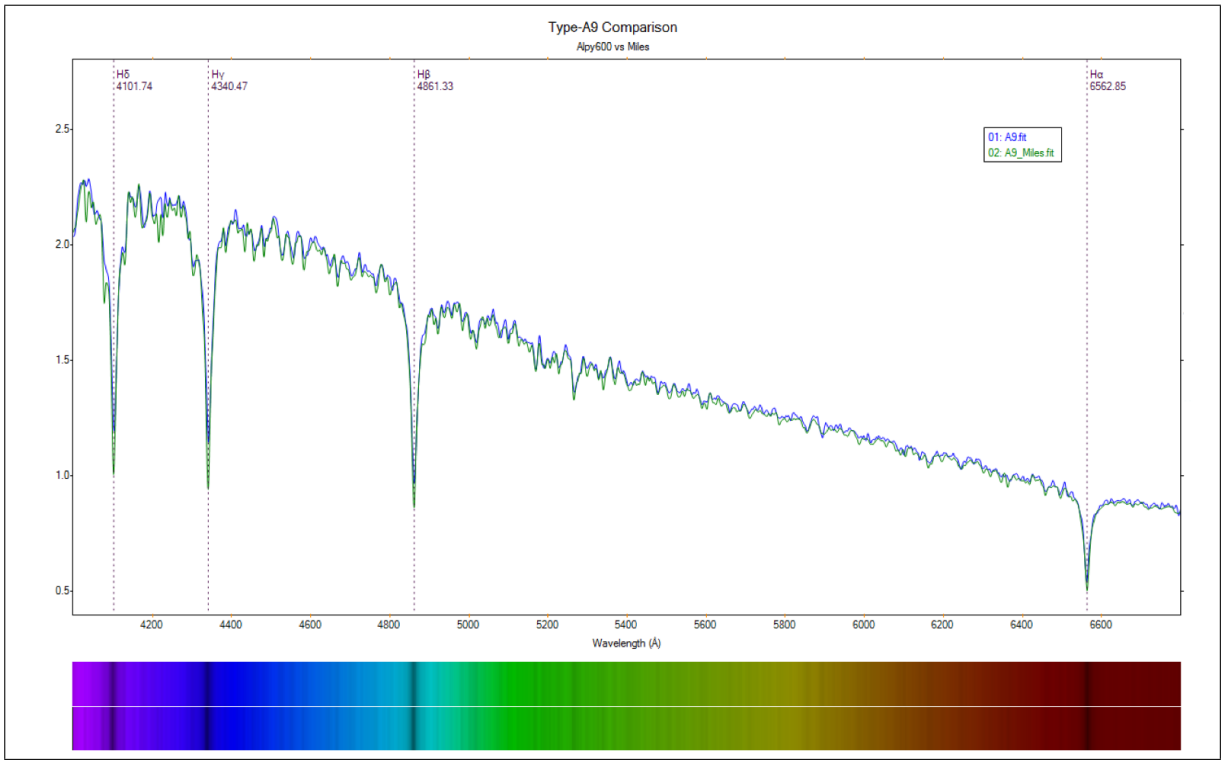

Figure 4: A Type-A9 comparison with Miles

3 Additional comparison plots

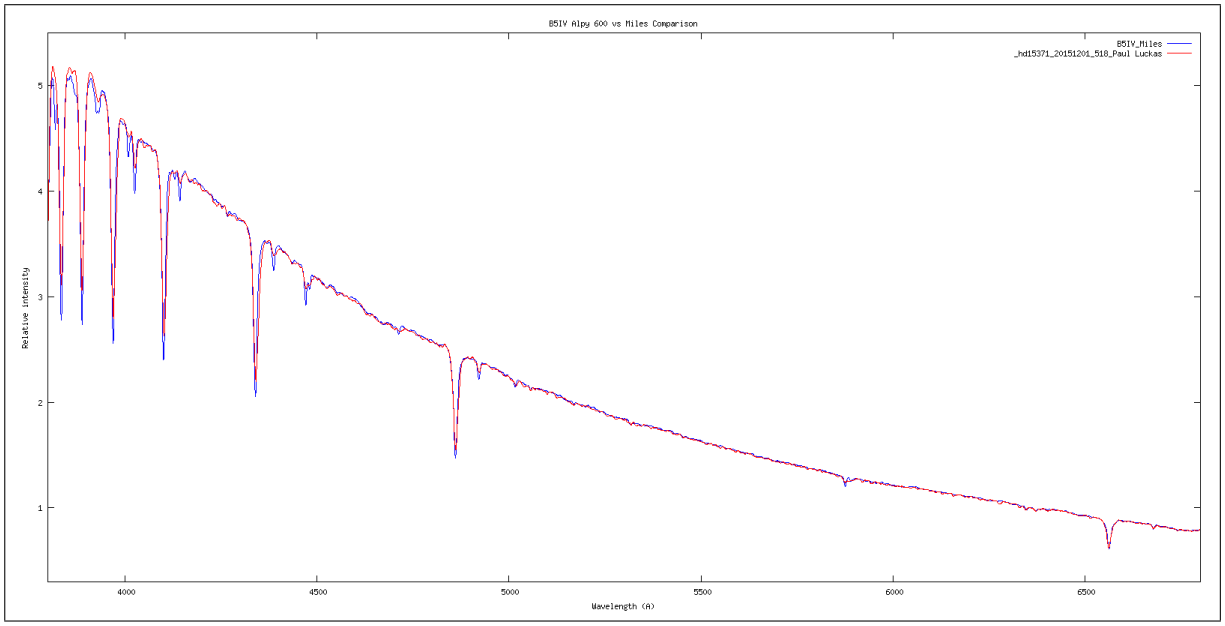

Figure 5: A Type-B5IV comparison with Miles

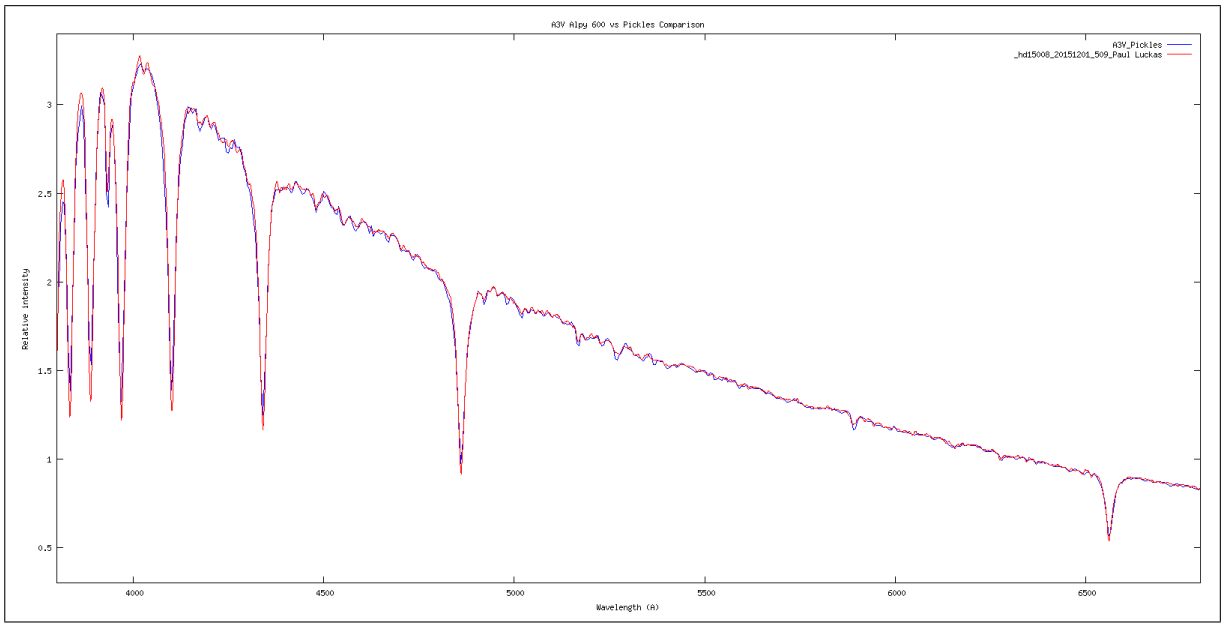

Figure 6: A Type-A3V comparison with Pickles

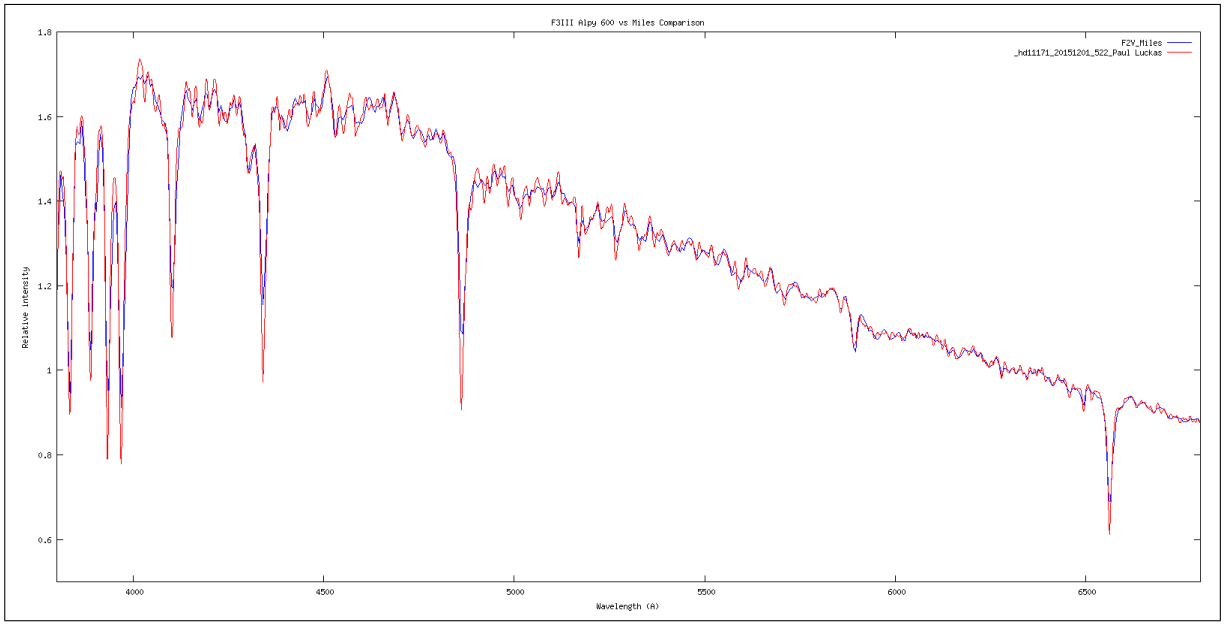

Figure 7: A Type-F3III comparison with Miles

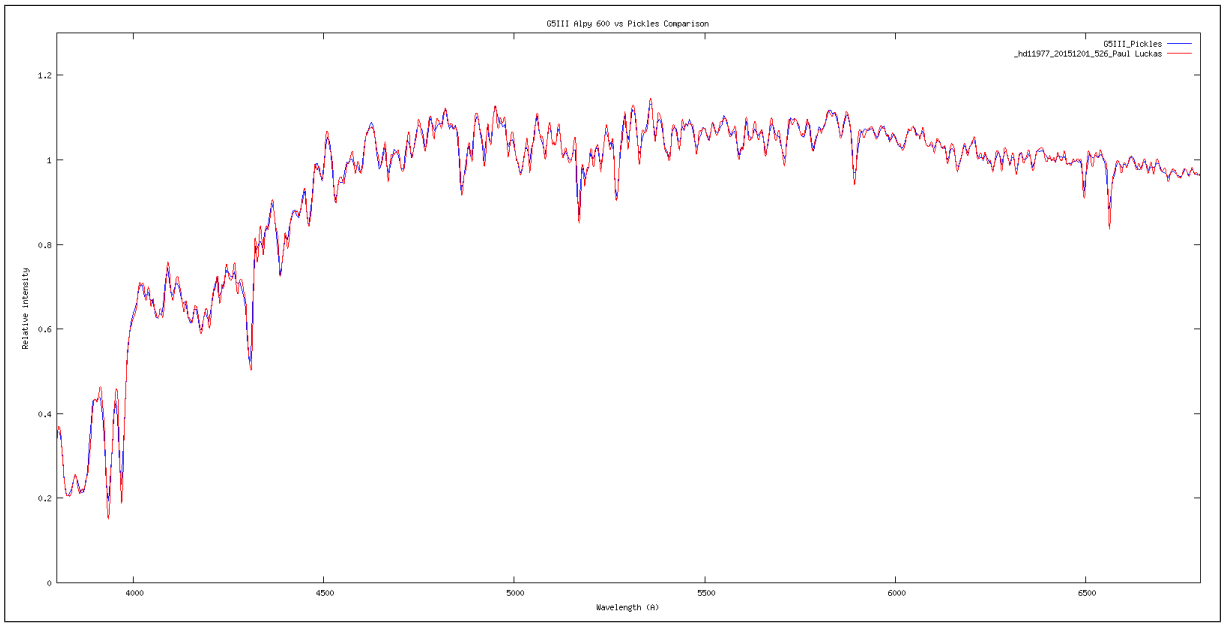

Figure 8: A Type-G5III comparison with Pickles

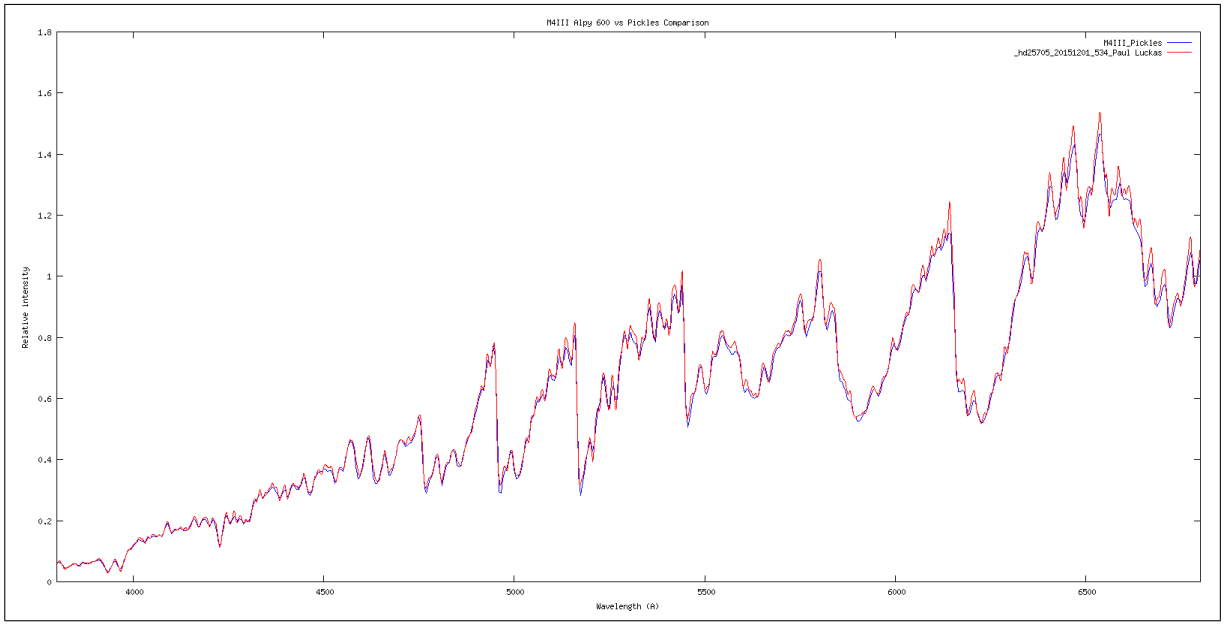

Figure 9: A Type-M4III comparison with Pickles

4 “OBAFGKM”

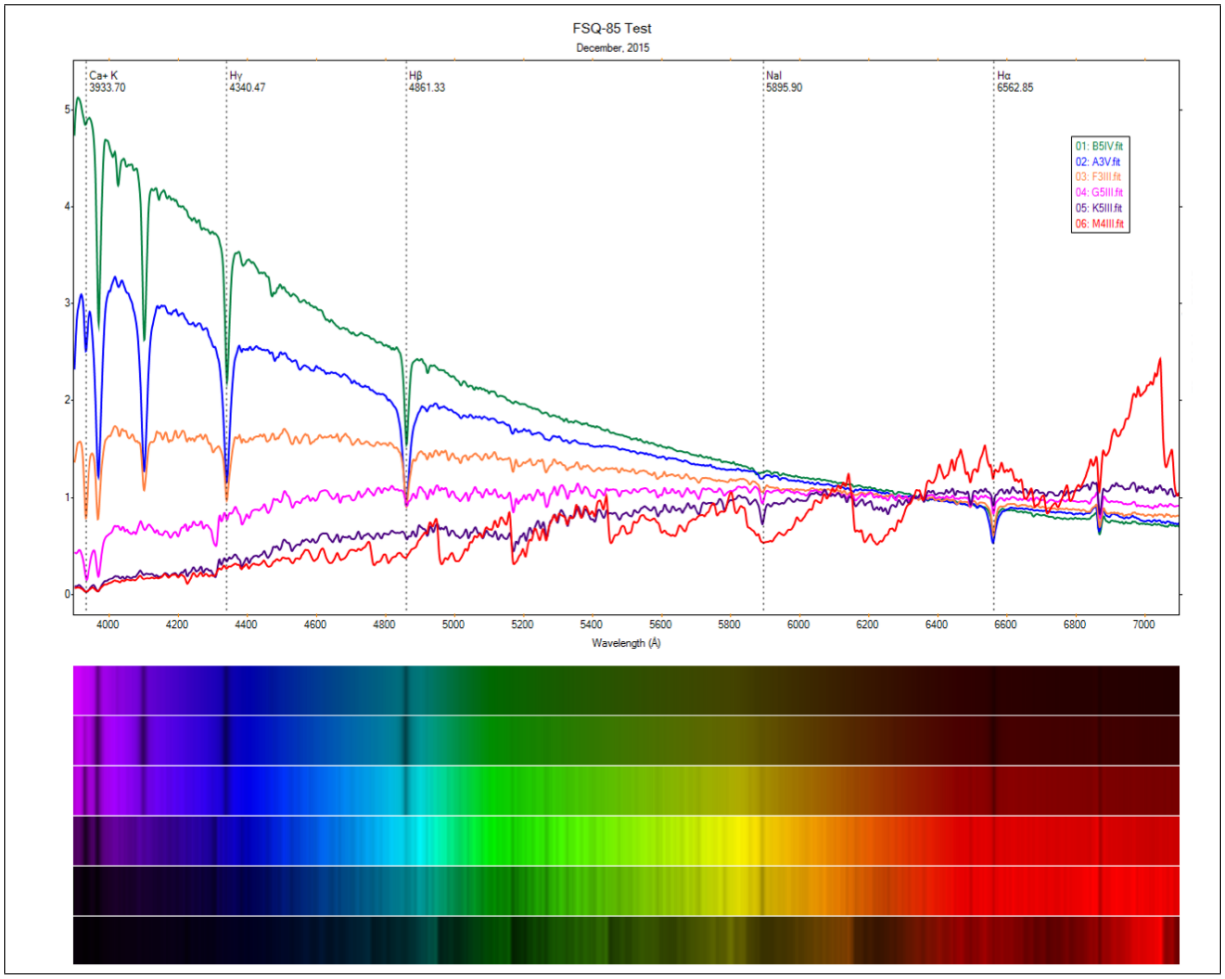

Figure 10: A “BAFGKM” sequence, created with the addition of a Type-K star acquired on December 7th, 2015.