

Sample Astronomical Spectra for Use with RSpec

All images were captured with an 8" SCT and a Star Analyser 100 (100 line/mm) grating.

Type A and Type M Stars

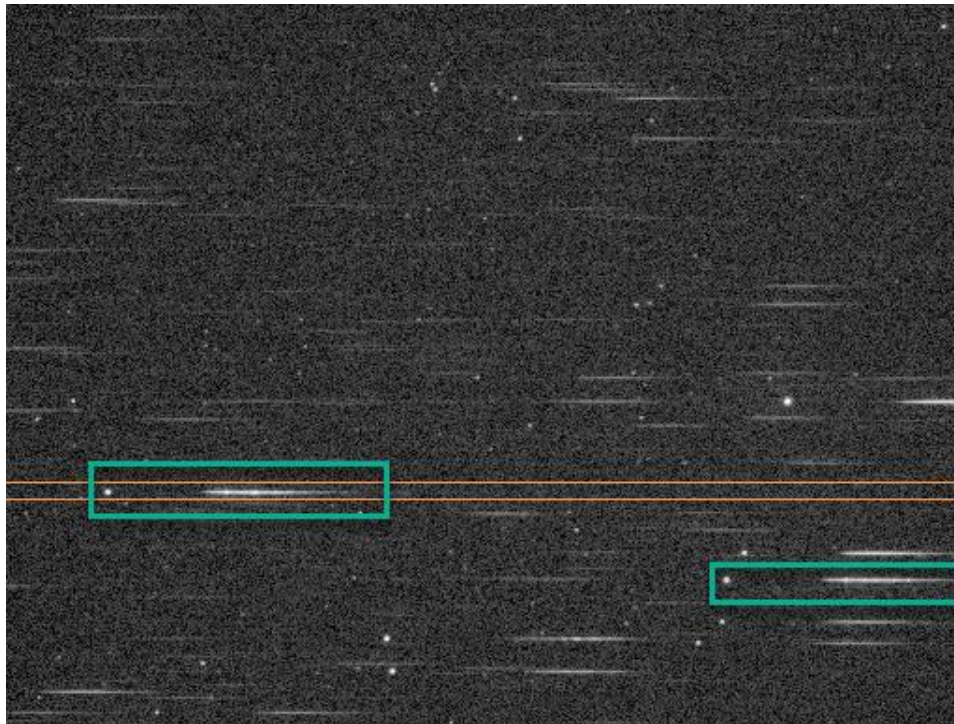
First, calibrate the Type A star. When you've done it correctly, the dispersion value should read approximately 11.2 Å/pixel, as shown below.



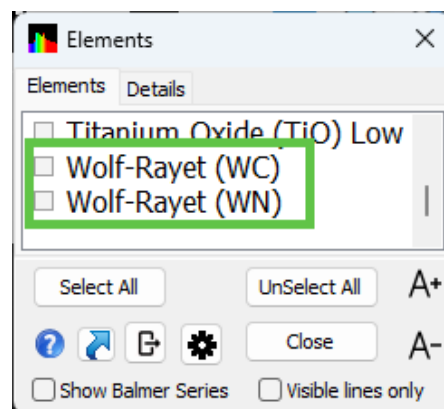
Because the M-star was captured with the same setup as the A-star, you can calibrate it using that same 11.2 Å/pixel value, as described in video 24, *One-Point Linear Calibration Revisited* [here](#). The Type A, Type M, and Wolf-Rayet spectra were all captured with a dispersion of 11.2 Å/pixel.

Wolf-Rayet Stars

The WR image contains the spectra of two WR stars of different subtypes. On the left is WR 135 (WC). To the lower right is WR 134 (WN), as shown below. Notice you can spot the emission lines in the image itself:



Use the Elements window in RSpec to identify the emission lines:



Type Ia Supernova

This is SN2018fe in M101. You can identify it as a Type Ia supernova using the Si II absorption line. You can also calculate the radial velocity (RV) of the expanding shell from the blueshift of the Si II line: [link](#). See <https://www.rspec-astro.com/sample-projects/#supernova> for a brief discussion. The dispersion to use when doing one point calibration for this object is approximately 18.24 Å/pixel.

Eta Carinae

Eta Carinae with prominent hydrogen emission lines. Dispersion is 12.21 Å/pixel.

Neptune

Neptune showing the methane absorption bands. Use the Elements window in RSpec to identify these lines. Dispersion is 4.38 Å/pixel.

Were these sample spectra helpful? Boring? Exciting? Is there anything I can add to the PDF to make it more useful? I'd love to hear how these samples worked for you. Send me an email or use the contact form at www.rspec-astro.com/contact.