

Introduction

SpectroPlot is a macOS application designed for inspecting astronomical spectral profiles, such as those produced by *ISIS*, *Demetra*, *BASS* and similar software.

It mirrors many of the basic features of Tim Lester's excellent Windows application – *PlotSpectra*.

SpectroPlot supports simple calibrated 1D FITS spectral profiles and text files with two columns (wavelength and intensity). More complex FITS data products, including 2D and 3D datasets, are not supported.

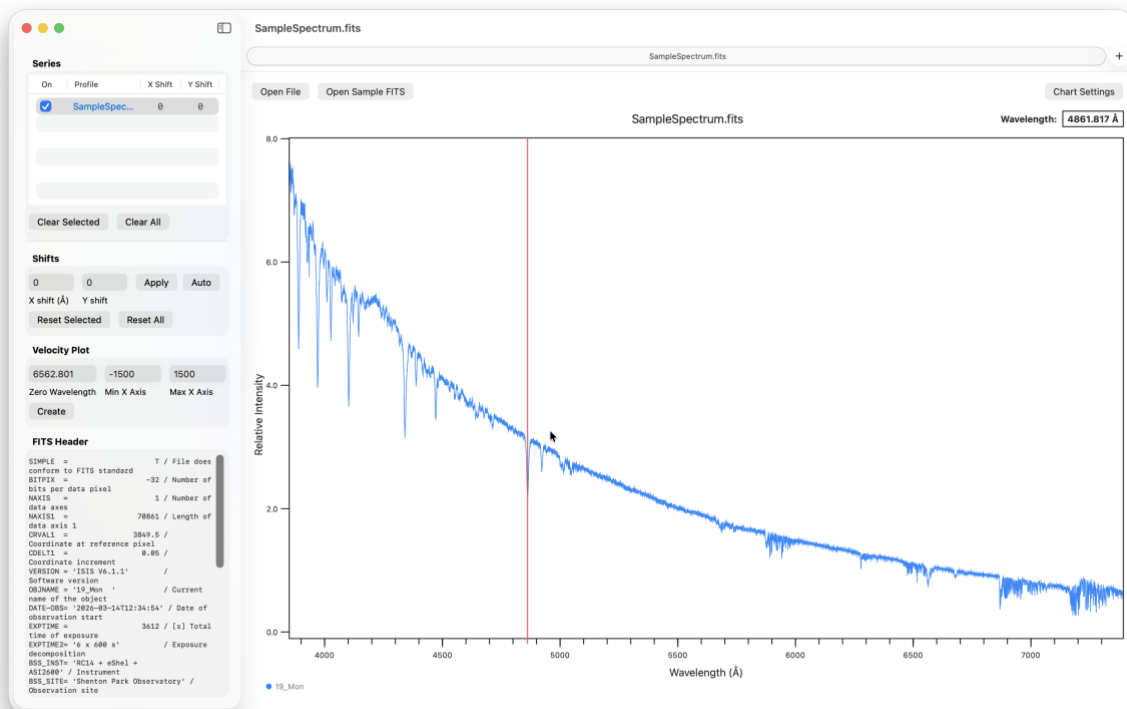
Requirements

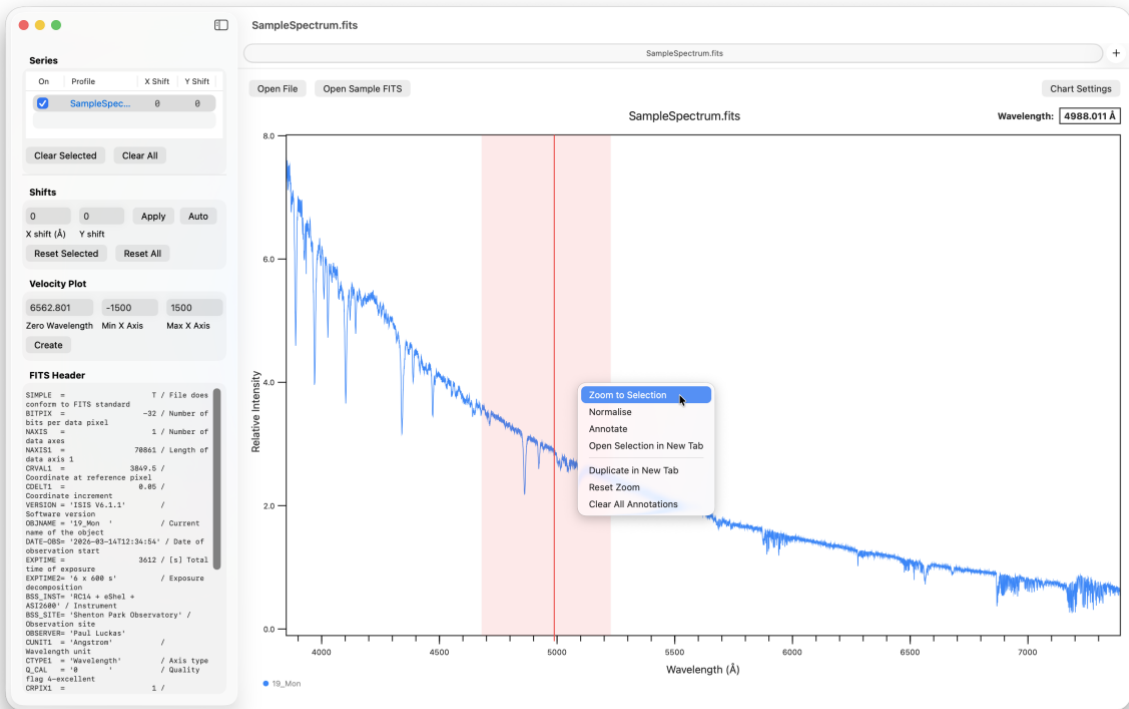
SpectroPlot has been tested on macOS 26 (Tahoe) and macOS 15 (Sequoia).

Basic operation

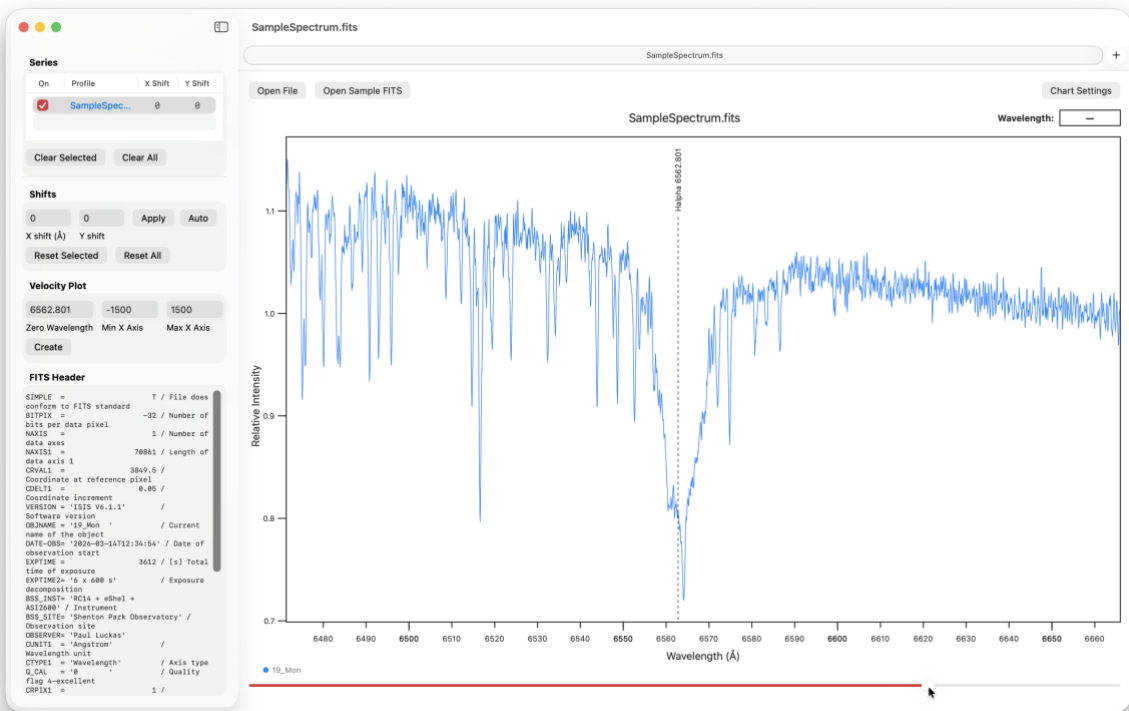
Open a profile using the Open File button or choose Open Sample FITS to open the included sample file.

Move your mouse cursor across the plot to view the wavelength display updated continuously.





Left-click and highlight a region of interest. Right-click (or Control-click) to open the context menu, where you can zoom in on the region or add line annotations from the built-in spectral line list.



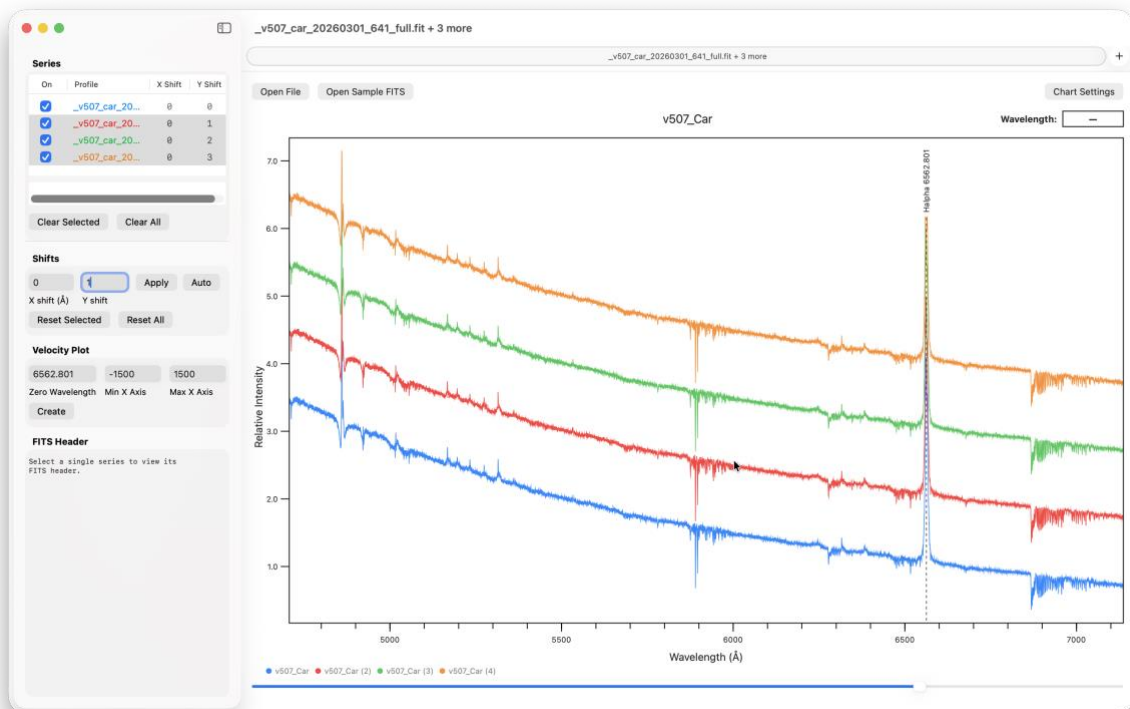
Sidebar

The left-hand sidebar displays a list of open spectral profiles and details of the currently selected target in the list.

- The series checkboxes control visibility of files in the chart view.
- Colours can be modified by right clicking on targets in the series table.
- The FITS header for the currently selected file is also displayed.

The sidebar can be resized and hidden and a separator below the series table can be 'dragged' to adjust panel sizing.

Profiles can be individually shifted in both X (wavelength) and Y (intensity). An 'auto shift' feature automates shifting a series of spectra by the same amount. Start with a Y increment of less than 1, select the targets you wish to shift and then select *Auto*.



The sidebar also includes a basic velocity plot feature that provides a means to quickly investigate the approximate radial velocity of single or multiple selected profiles. Enter a desired zero wavelength and X axis limits and then select *Create*.

The velocity plot will open in a new tab with the cursor now displaying a live velocity value in km/s.

Note: Velocity values in SpectroPlot are approximate, single-feature estimates. They are intended for quick visual reference only and are not system-wide radial velocity measurements derived from full-spectrum methods such as cross-correlation.

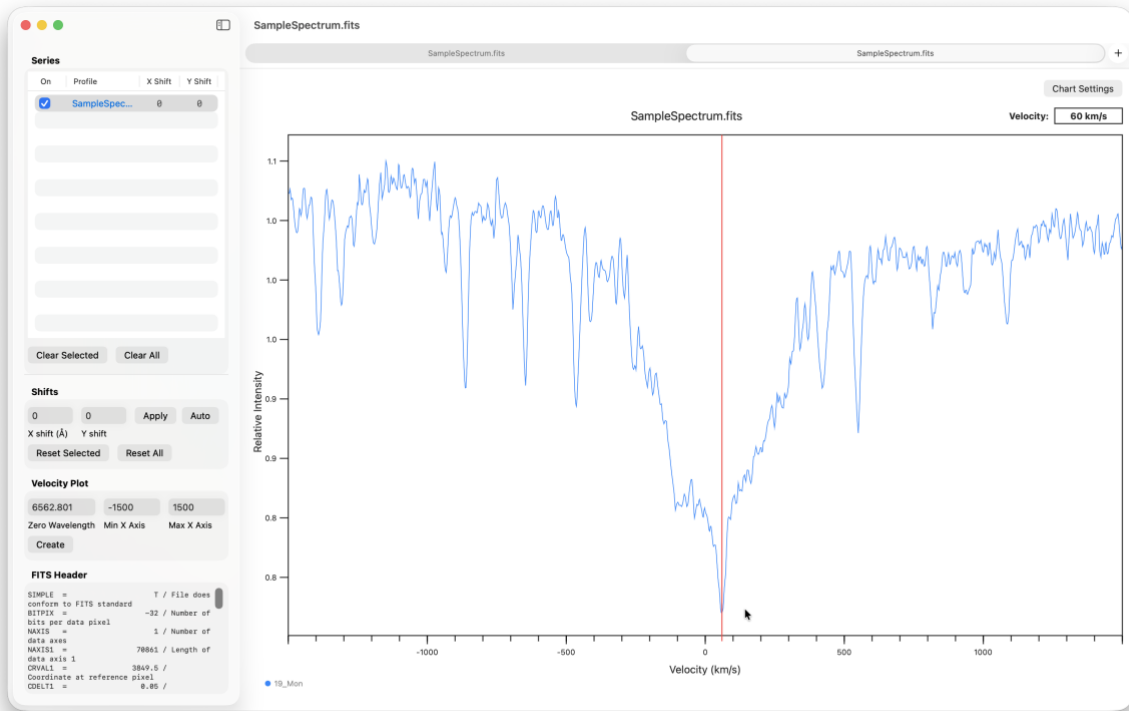
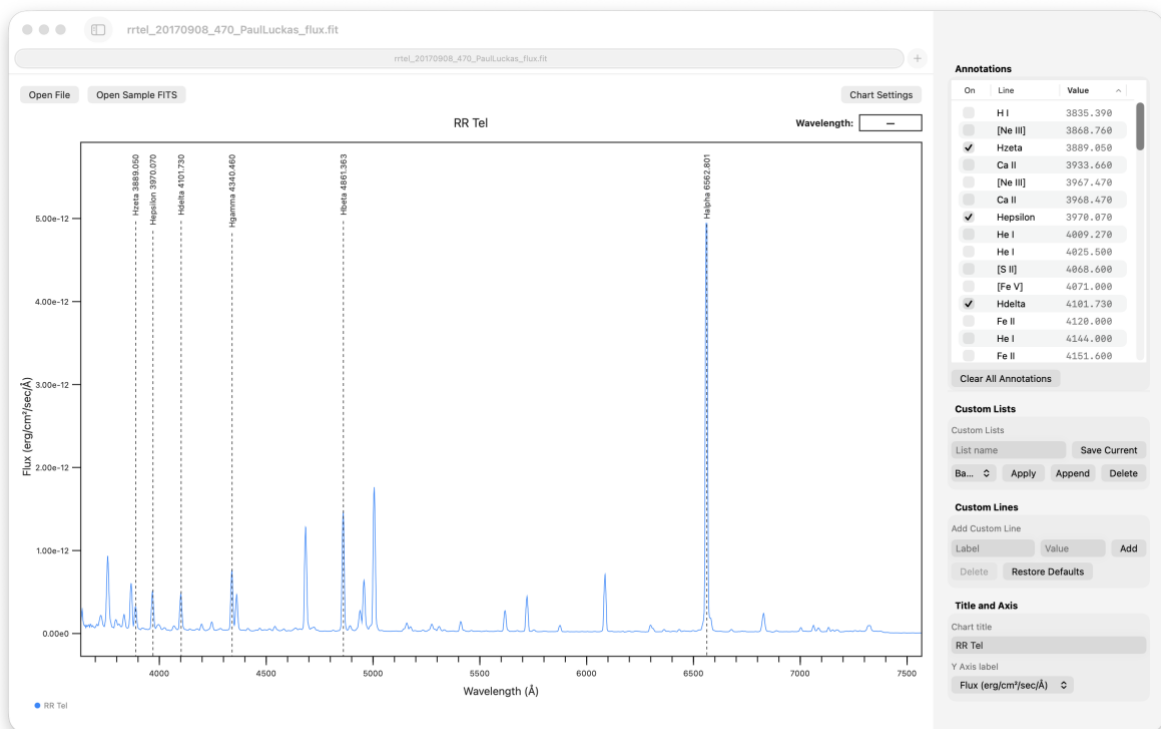


Chart Settings

Additional chart settings are available by opening the Chart Settings inspector. A sortable annotation list is displayed where individual lines can be manually selected for display.

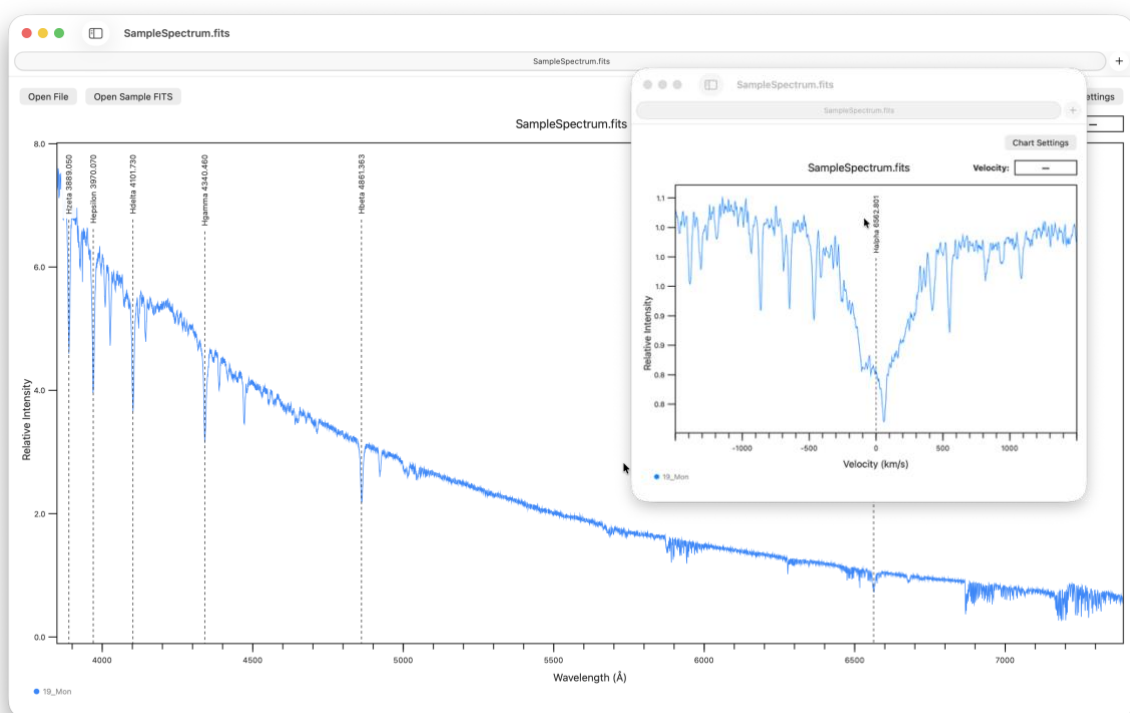


Custom lists can also be created, where they can then be applied or appended to an existing chart view. Custom lists can also be imported via the *Import Custom List CSV* command in the File menu. The format is simply; label, wavelength.

Custom spectral lines can be added to the database or the entire database can also be restored to default.

Tab Views

SpectroPlot utilises standard macOS tabs that allow individual views to be detached and reattached for easy display.



Saving Plots

SpectroPlot does not include a dedicated “export image” function, but macOS provides simple built-in tools to capture plots directly from the screen.

Capture a Selected Area

Press: Shift + Command (⌘) + 4

- Your cursor becomes a crosshair
- Click and drag to select the plot area
- Release to capture
The image is saved automatically to your Desktop (by default).

Capture a Specific Window

Press: Shift + Command (⌘) + 4, then Spacebar

- The cursor changes to a camera icon
- Click on the *SpectroPlot* window
- The entire window is captured cleanly

Additional Screenshot Options

Press: Shift + Command (⌘) + 5

This opens the macOS screenshot toolbar, where you can:

- Choose where screenshots are saved
- Set a timer
- Select capture modes (window, selection, full screen)

Tips for Best Results

- Resize the SpectroPlot window before capturing to control resolution
- Use the area selection tool for precise cropping
- Ensure the plot is fully visible and not obscured