



# Fitting in CASSIS

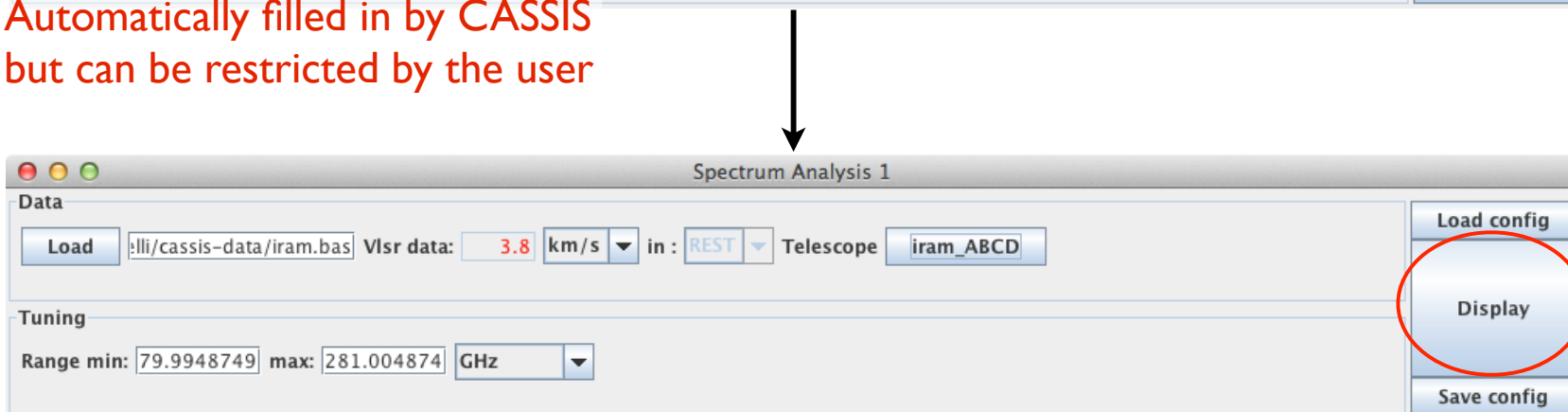
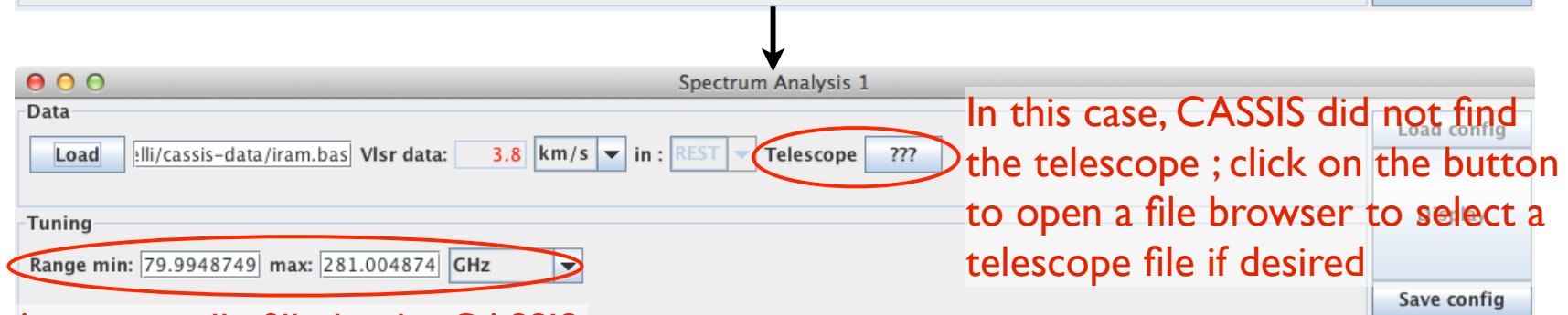
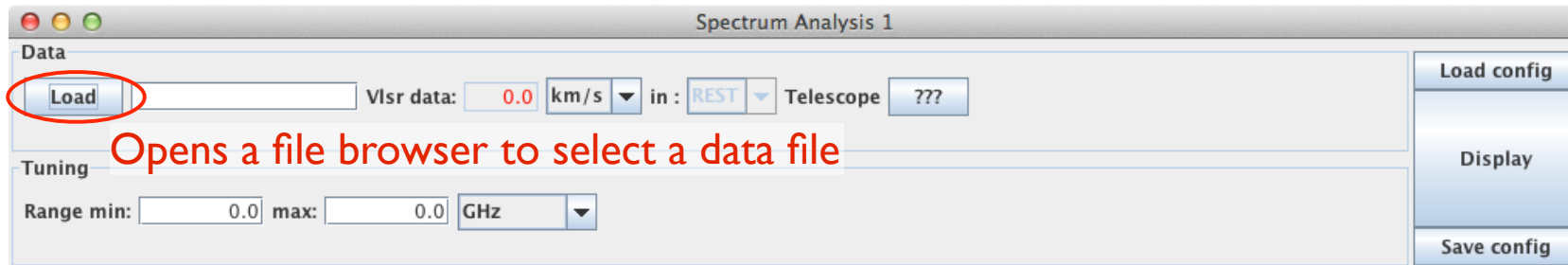


Use case : simple baseline fit  
in Spectrum Analysis (SA)



# Simple baseline fit in SA

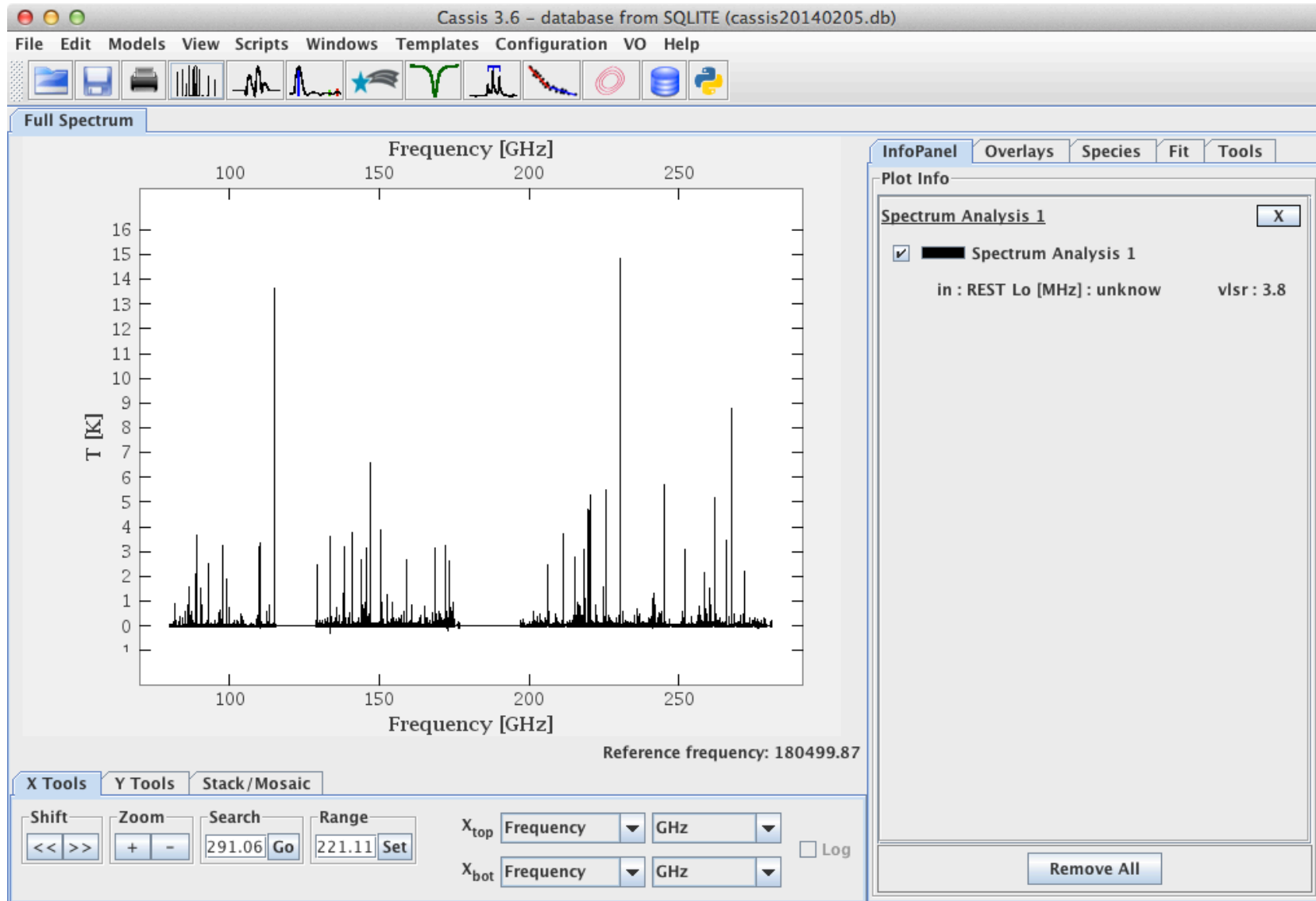
First load your data : click on the icon  or go to the “Models” menu → Spectrum Analysis





# Simple baseline fit in SA

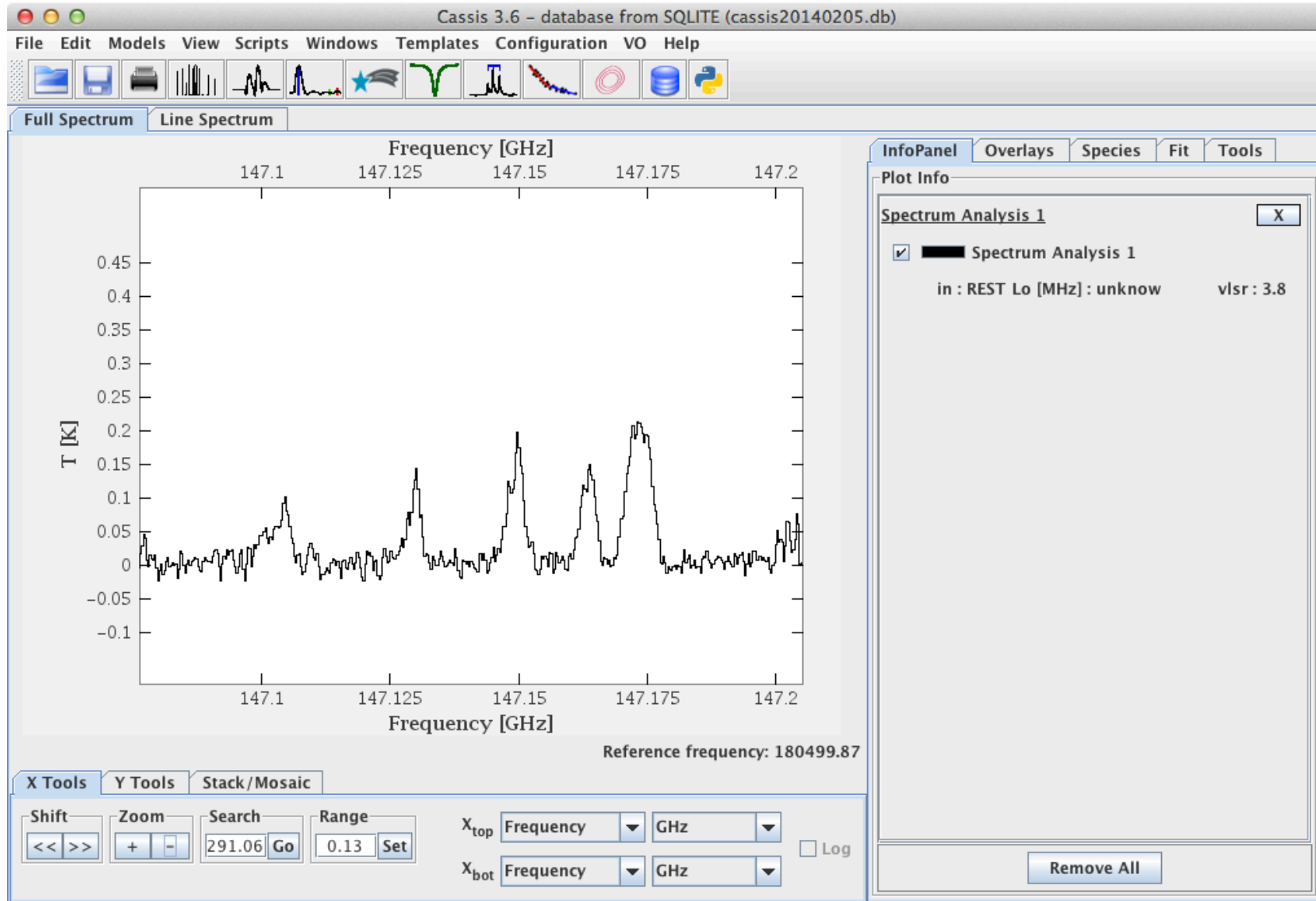
Display :





# Simple baseline fit in SA

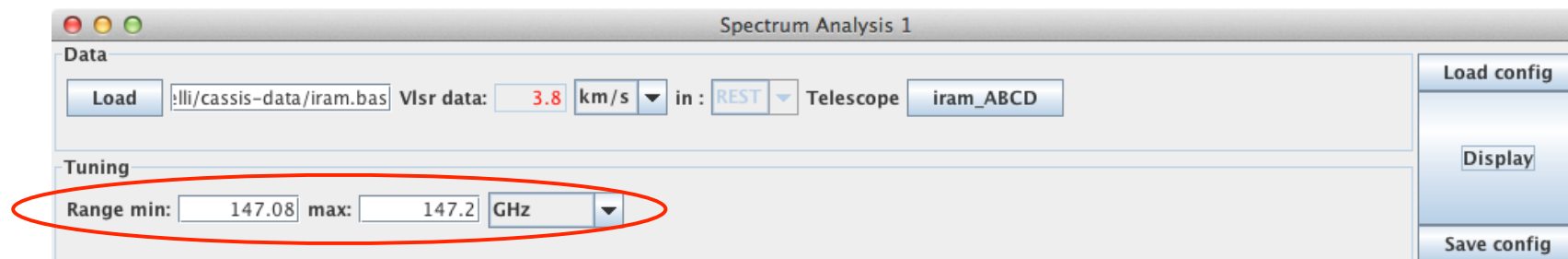
With the mouse or with the “X Tools” tab, zoom on a region where you want to fit a baseline :





# Simple baseline fit in SA

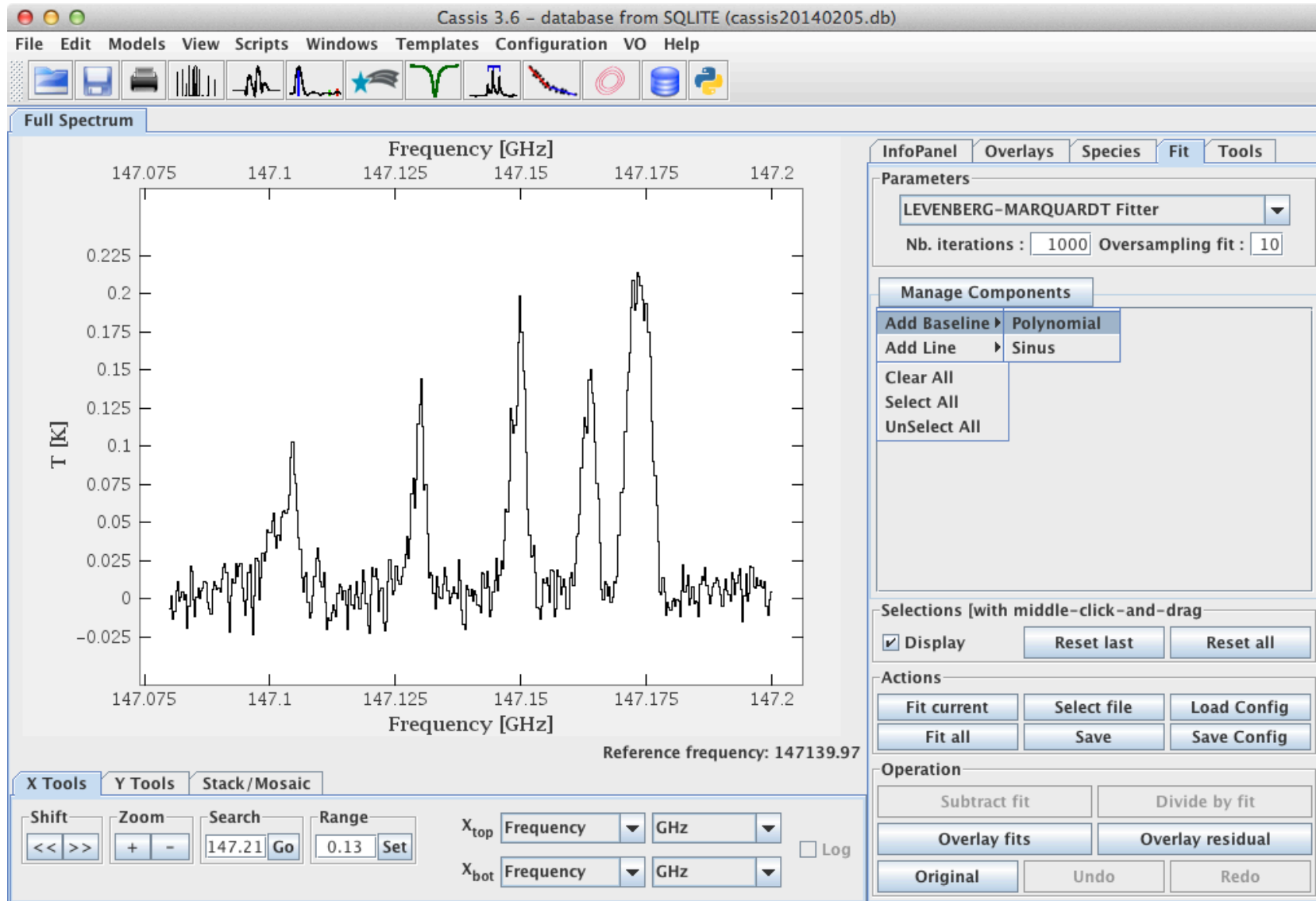
Warning: if we proceed with performing a fit, CASSIS will calculate the fitted function over the entire range of the “Tuning” section (SA data loading window), not just on the part that we have zoomed in. In this example, we loaded a spectrum with a large number of points, such that the fitting would take a long time. It is therefore important to restrict the tuning range once you have explored the spectrum.





# Simple baseline fit in SA

Go to the “Fit” tab and click on “Manage Components” → Add Baseline → Polynomial





# Simple baseline fit in SA

The screenshot displays the Cassis 3.6 software interface. The main window shows a spectral plot titled "Full Spectrum" with the following axes:

- X-axis: Frequency [GHz], ranging from 147.075 to 147.2.
- Y-axis: T [K], ranging from -0.25 to 0.225.

The plot shows a noisy signal with several absorption lines. Five vertical blue shaded regions are overlaid on the plot, indicating line-free regions. A red annotation "i. Middle-click and drag over line-free regions." points to these shaded areas. A reference frequency of 147139.97 GHz is noted at the bottom right of the plot area.

The right-hand side of the interface contains a control panel with the following sections:

- Parameters:** LEVENBERG-MARQUARDT Fitter, Nb. iterations: 1000, Oversampling fit: 10.
- Manage Components:** Baseline: Polynomial (ON), Degree: 1.
- Selections [with middle-click-and-drag]:**  Display, Reset last, Reset all.
- Actions:** Fit current (circled in red), Select file, Load Config, Fit all, Save, Save Config.
- Operation:** Subtract fit, Divide by fit, Overlay fits, Overlay residual, Original, Undo, Redo.

At the bottom of the interface, there are toolbars for X Tools, Y Tools, and Stack/Mosaic, along with search and range settings.



# Simple baseline fit in SA

