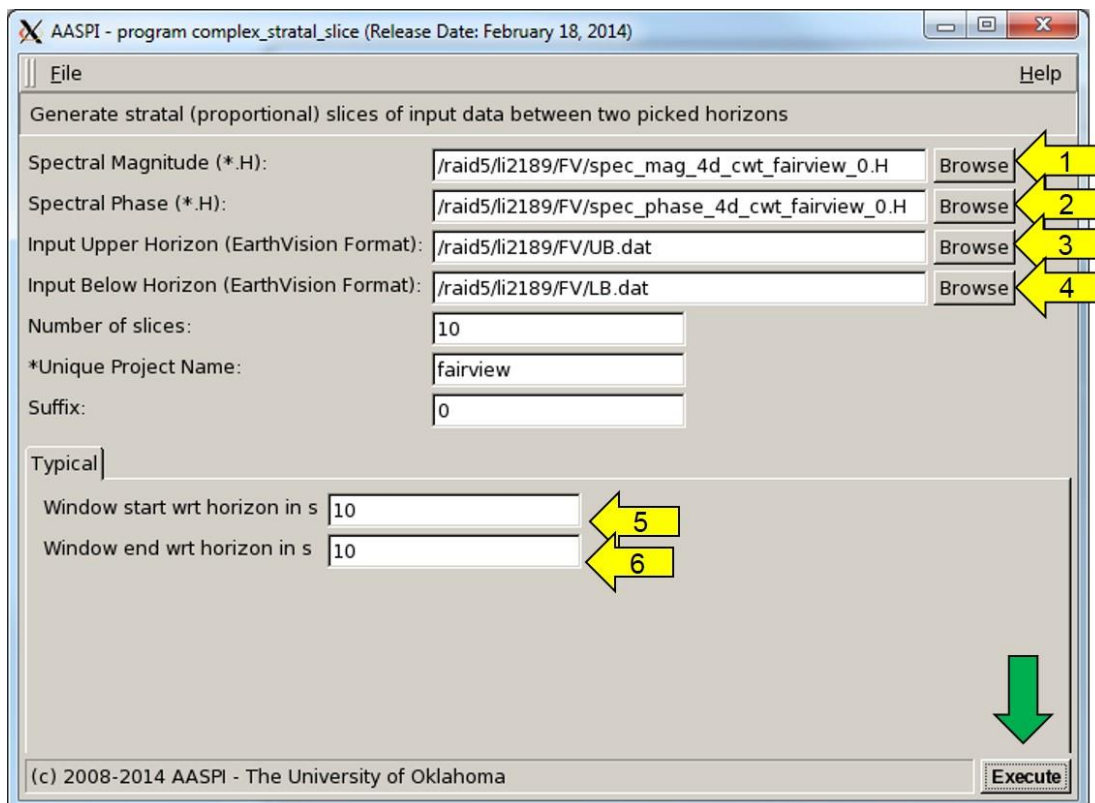


## COMPLEX STRATAL SLICE EXTRACTION– PROGRAM `complex_stratal_slice`

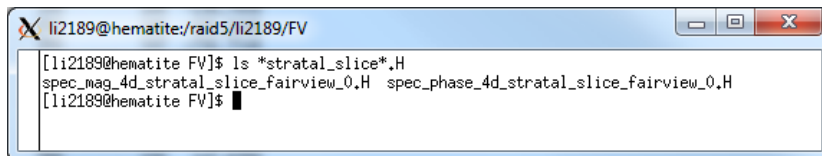
### Computing complex stratal slices

Recall that flattening and stratal slicing are computed by interpolating the input data using a  $\varphi=2\pi f\Delta t$  Fourier phase shift of each Fourier component. Spectral components are stored as two volumes – amplitude and phase. The magnitude experiences abrupt discontinuities in slope when the magnitude approaches zero, while the phase experiences discontinuities as progresses from  $-180^{\circ}$  to  $+180^{\circ}$ . In contrast, the real and imaginary parts of a complex number are continuous. For this reason, stratal slicing of complex spectra in preparation for Q estimation needs to be generated from complex input, requiring two input and two output volumes. Internal to program `complex_stratal_slice`, all interpolation is done on the continuous real and imaginary components.



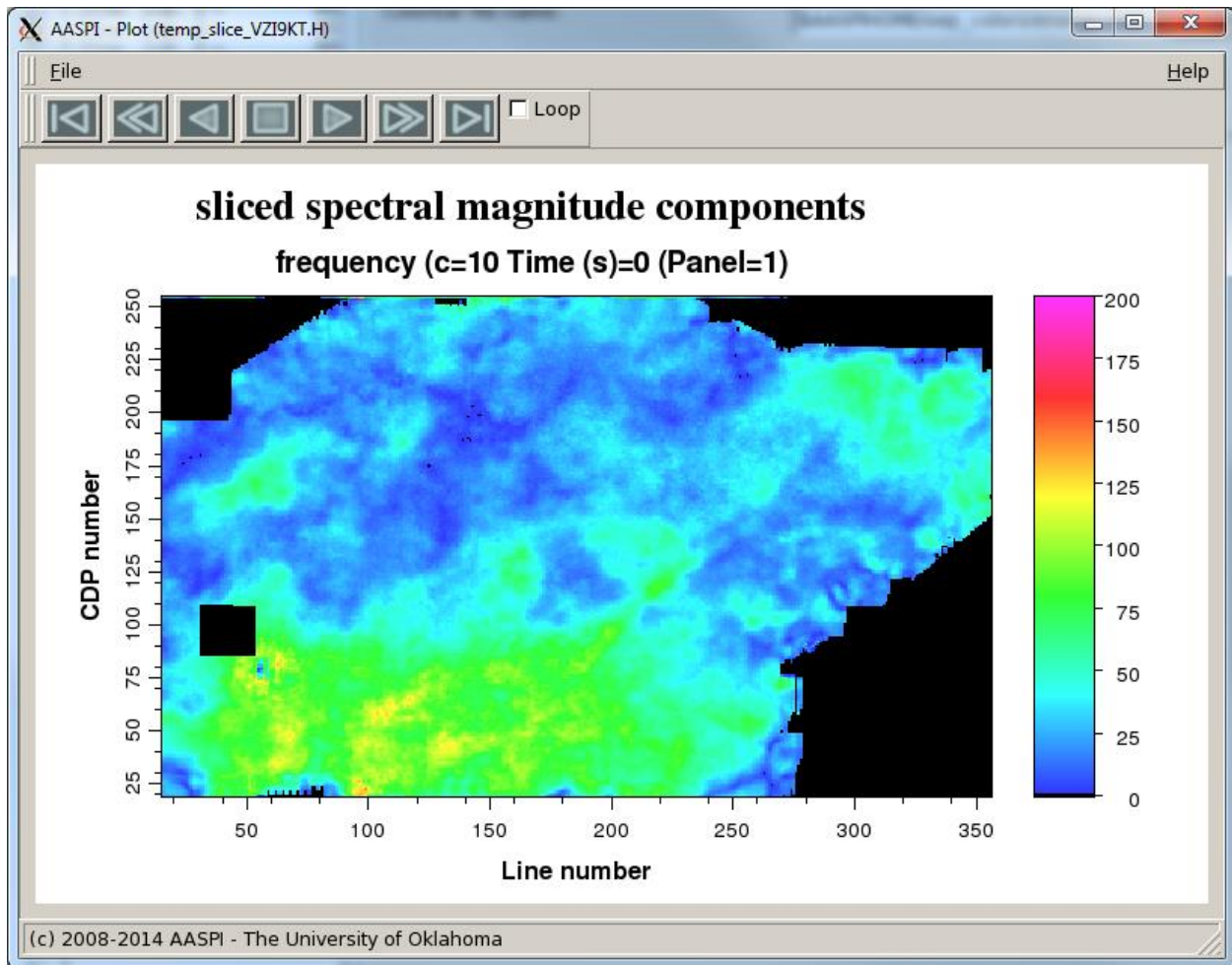
## XX. Complex Stratal Slice Extraction – Program **complex\_stratal\_slice**

The input to program **complex\_stratal\_slice** are (1) the 4D spectral magnitude and (2) 4D spectral phase components generated from programs **spec\_cmp**, **spec\_cwt**, or **spec\_clssa**. As in the previously described real **stratal\_slice** program, there is an (3) upper and (4) lower user-defined horizon in Earth Vision format. The primary use of program **complex\_stratal\_slice** will be to define 4D complex spectral along (and possibly between) target horizons, so that the default time shift (5) above and (6) below the picked horizons is 0.0 s. The output will be 4D sliced spectral magnitude and phase volumes.

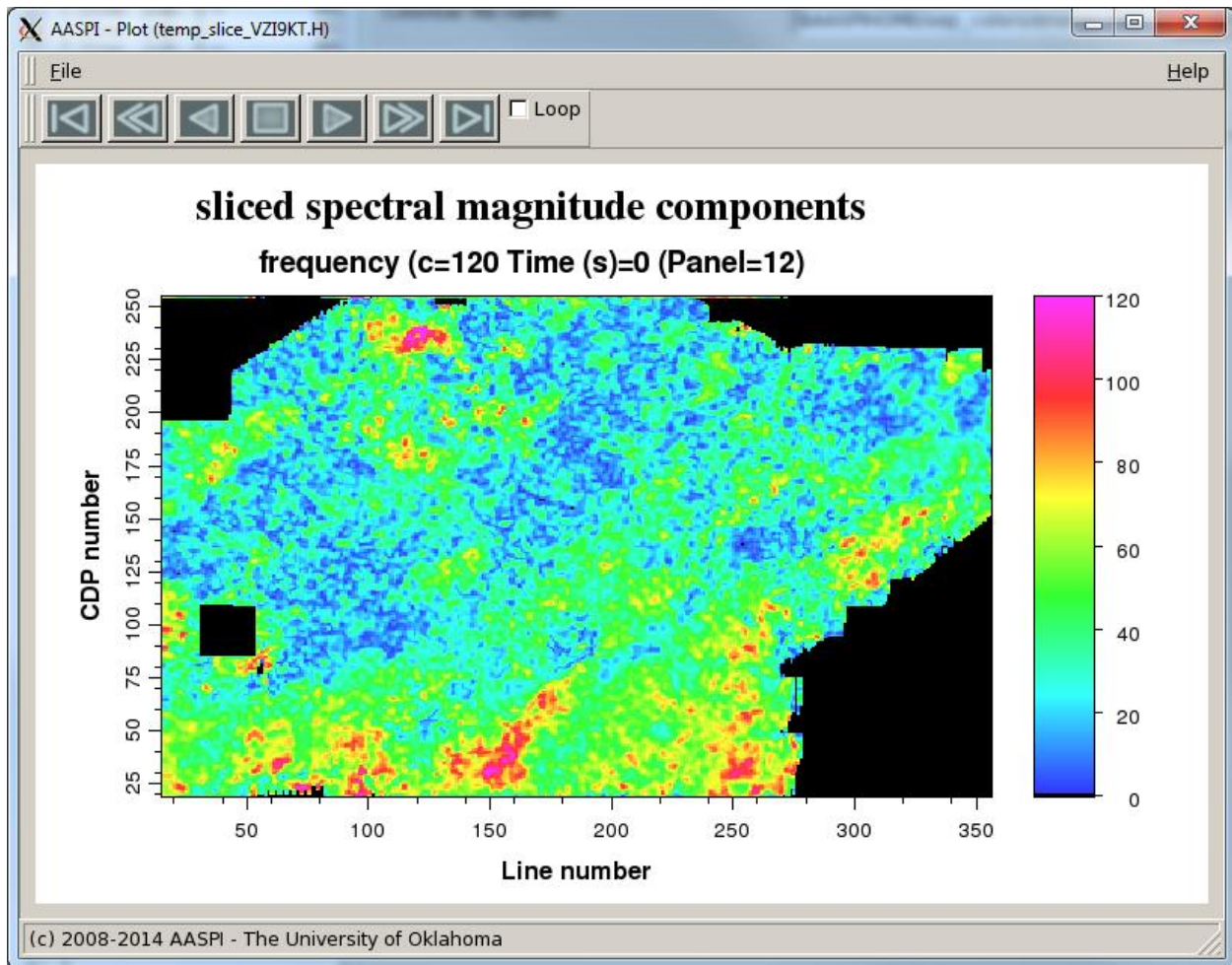


```
li2189@hematite:/raid5/li2189/FV
[li2189@hematite FV]$ ls *stratal_slice*.H
spec_mag_4d_stratal_slice_fairview_0.H  spec_phase_4d_stratal_slice_fairview_0.H
[li2189@hematite FV]$
```

XX. Complex Stratal Slice Extraction – Program `complex_stratal_slice`



XX. Complex Stratal Slice Extraction – Program `complex_stratal_slice`



XX. Complex Stratal Slice Extraction – Program `complex_stratal_slice`

