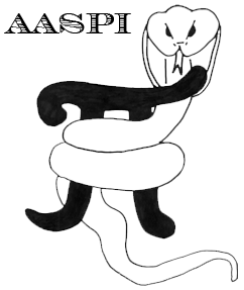
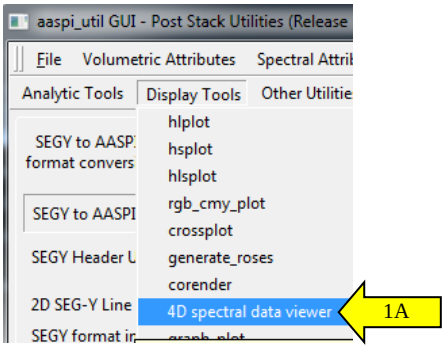


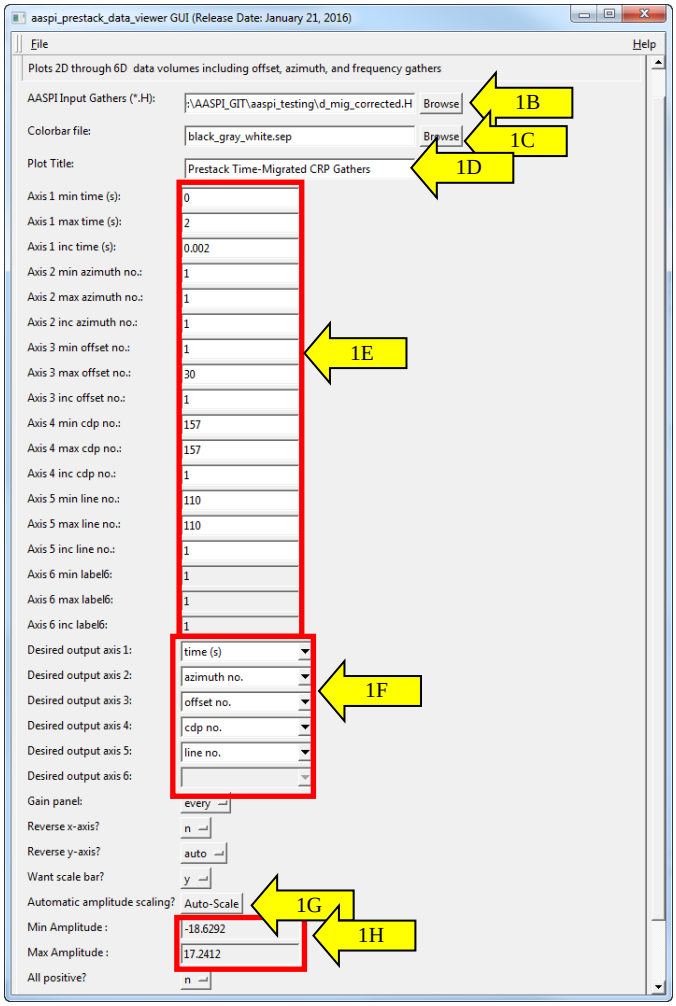
PLOTTING HIGHER DIMENSION VOLUME – PROGRAM aaspi_aaspiveiwer_prestack

Contents

4D Spectral data viewer

This tool is designed to plot volumes that have more than three dimensions, such as 4D spectral component volume, 5D migrated gather, or even 6D spectral component of prestack migrated data. In AASPI main utility GUI, go to *Display Tools* → *4D Spectral Data Viewer* (1A). This is the same program with the AASPI Prestack Data Viewer in AASPI Prestack Utility GUI and is very similar in structure with the AASPI Post-Stack QC Plotting Tab in the main utility GUI. The panel below appears.



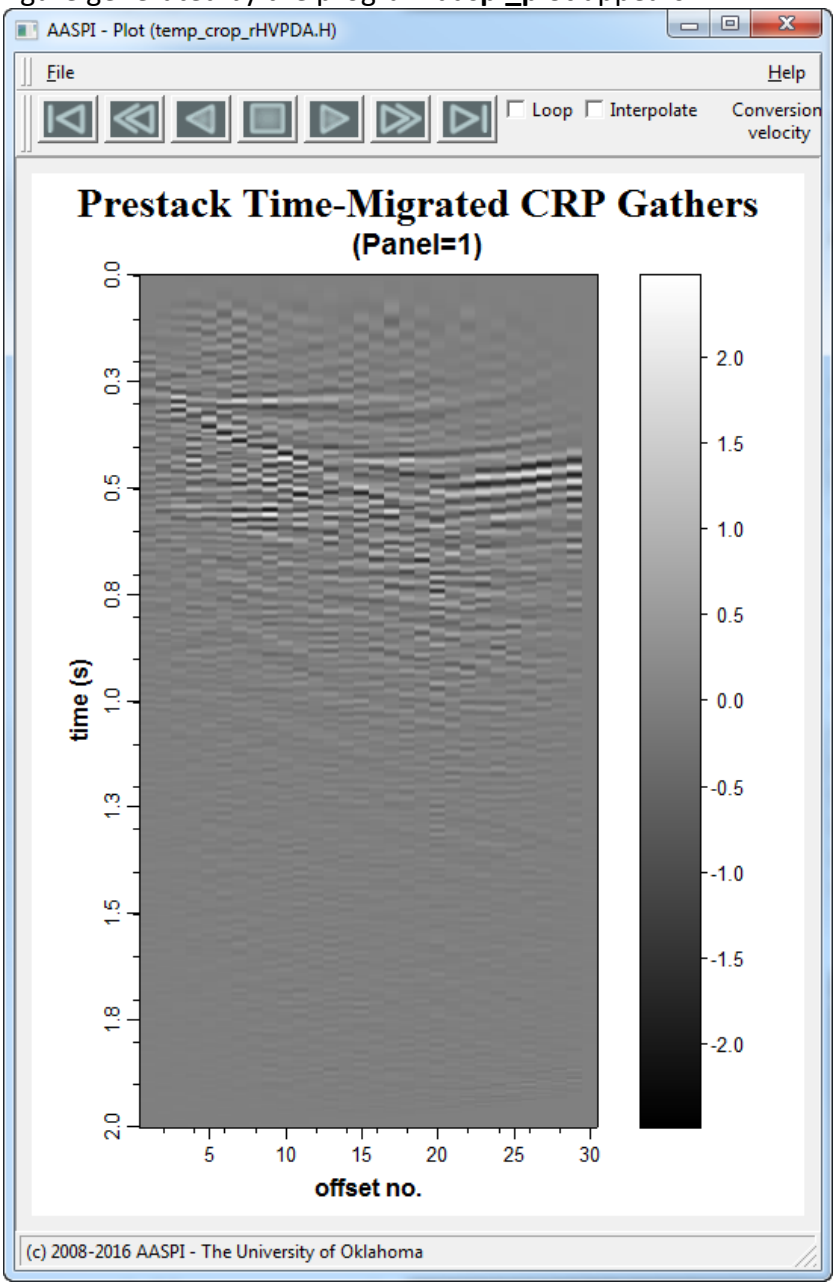


(1B) Click Browse and select the AASPI-format file (*.H) that you want to display. After you browse the file, the *Colorbar* file name (1C), plot title (1D), and all axes parameters (1E) are automatically loaded. You can change all those fields to your need.
Similar to the post-stack QC Plotting, you can change the order of the axis to be plotted (1F). Normally, for a 5D migrated data set (time, azimuth, offset, cdp, and inline), if you want to plot a gather in offset view for one azimuth only, please make sure minimum and maximum azimuth are set to be equal to the azimuth of interest, and the order of axis are time, azimuth, offset, cdp, and line.

By default, auto-scaling is active (1G). This means the program will use statistical percentage clip to scale the data to an appropriate color level. The default percentage histogram clip is 98, meaning only values between 1% and 99% of the data statistical distribution will be taken into the scaling process. The data that falls below 1% or above 99% of the distribution would be clipped. Anything between 1% and 99% distribution will be scaled. This is useful when you are comparing seismic amplitude data with different processing flows or different surveys that have different range of values.

Click on (1G) would switch between auto-scaling and fixed-scaling modes. In fixed-scale mode, you need to define minimum and maximum values (1H). These values are automatically loaded when you browse the input file and you can always change them to your need. Data that falls below the minimum or above the maximum would be clipped. The display color would be scaled linearly from minimum value to maximum value.

After all the parameters are set, click *Execute*.
The following figure generated by the program **aaspi_plot** appears:



Here I show one CMP gather at one azimuthal direction (azimuth number #1): thus, I need to make sure I set the maximum and minimum azimuth to 1 in the *AASPI Prestack Viewer* GUI.