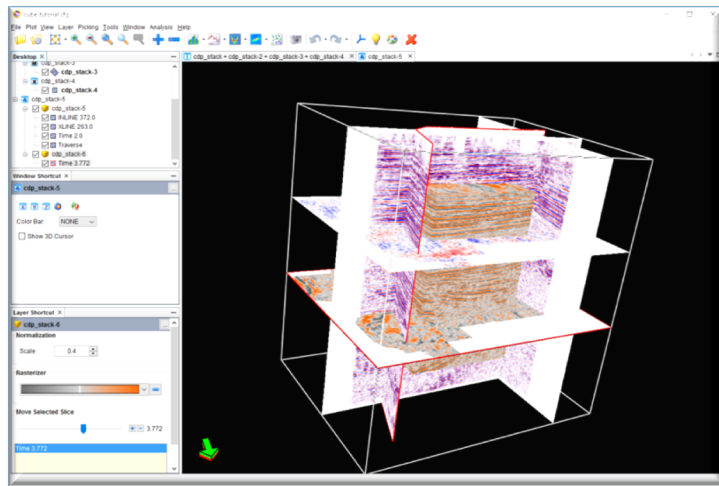# INTViewer 3D Tutorial

This tutorial demonstrates how to use the 3D viewing capabilities of INTViewer. To work with this tutorial, you must first complete the Cube tutorial.

This tutorial guides you through the creation of a view like the one shown below. This view shows slices and probes from two slice volumes.



## Step 1 – Load the saved session from Cube Tutorial

From the INTViewer main window, select this option:

**File → Open Session...**

Select the session file that you created at the end of **Cube Tutorial**. You will obtain a display similar to the one in Figure 1:
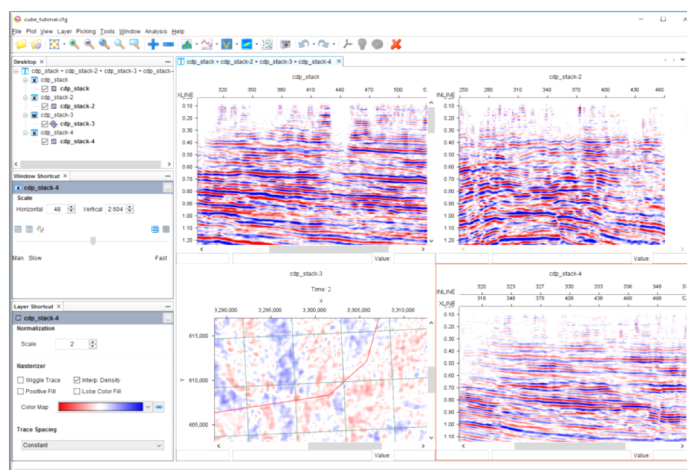


**Figure 1: An Opened Cube Session**

# Step 2 – Create the 3D View

Start the 3dViewer using option:

**File → New 3D Window**

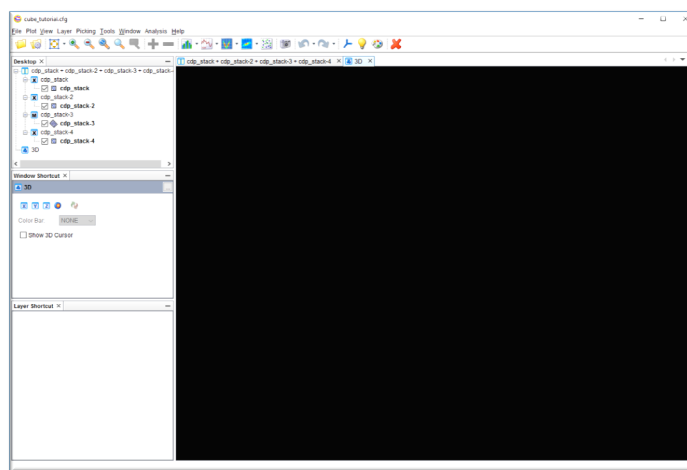You will obtain an empty 3D view window as shown below:



**Figure 2: The 3D View window**

The Icons relating to 3D options on the tool bar are now activated. This window can be undocked and moved off of the main window by right-clicking on the **3D** item in the desktop window and selecting **Float,** or by selecting **Window → Float Window.**

On the 2D view, click on the XSection window containing the inline view, then drag and drop the INLINE layer name from the Desktop window into the 3D window. You will obtain the display shown in Figure 3. Note that the **Window Shortcut** window **Show 3D Cursor** is toggled on to display a 3D cursor, which can be seen in red.
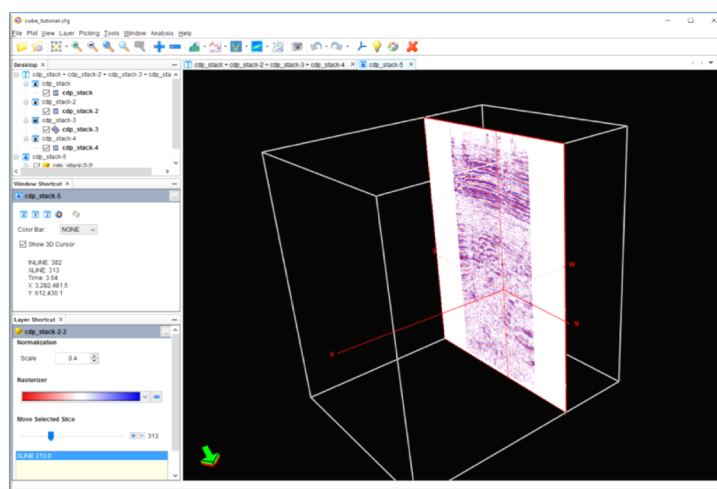


**Figure 3: An XSection in 3D View**

Replicate the same operation for the other 2D views (time slice, Xline and arbitrary line).

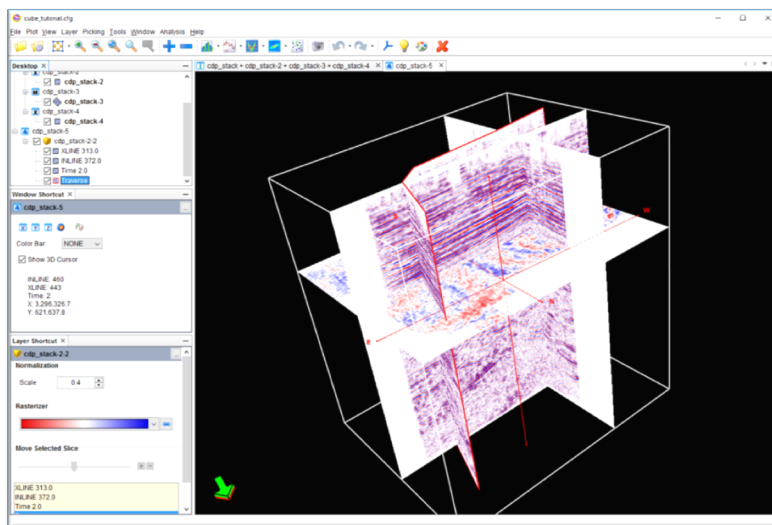You should now have a display similar to the one in Figure 4:



**Figure 4: 3D View with Time Slice, INLINE, XLINE and Arbitrary Traverse**

## Step 3 – Edit the 3D View

The 3D view can be manipulated as follows:

- o Left Button down and drag – to select a Slice and/or rotate the view
- o Left Button + X, Y, or Z key down and drag – rotate around the X, Y or Z direction
- o Double click with Left Button – pops up the **Seismic Properties** editor for the selected object
- o Middle Button down and drag (or Left and Right Buttons simultaneously if two buttons only) – Resize the view
- o Single click and hold down with Right Button – locator function

Double click the left mouse button on the cube layer name in the upper left corner. This will activate the **Seismic Properties** editor dialog as shown in Figure 5:
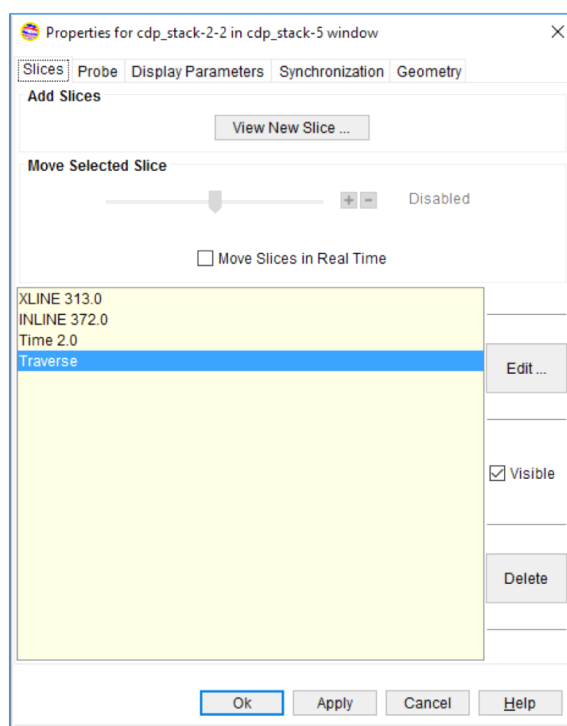
**Figure 5: Properties Dialog showing Slice Tab**

First, select an object in the list (**Inline** for example). Move the slider and see how the slice moves along. Please note that the slice is actually updated only when you release the slider. Also, notice how the corresponding view in the 2D display is also updated (synchronization feature).

You can experiment with synchronization between the 2D and 3D views using double click of Right Mouse button (on 2D view or 3D view).

Next, select the **Edit...** option in the **Seismic Properties** editor.
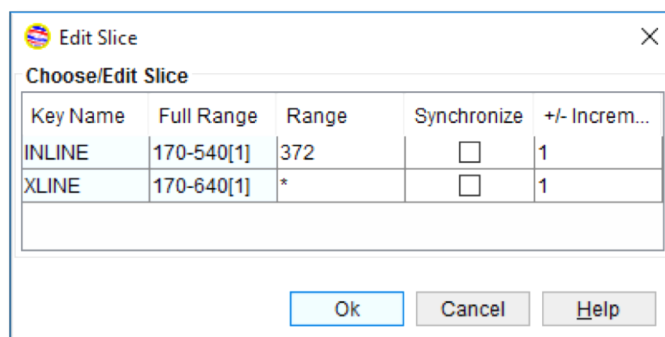


**Figure 6: Edit Slice Dialog**

Notice how you can control synchronization using the **Synchronize** toggle button like in the 2D views.

Finally, experiment with the **Display Parameters** and **Synchronization** tabs of the **Seismic Properties** editor. They work the same way as for the 2D views.

# Step 4 – Add another volume to the 3D View

The 3dViewer lets you display multiple 3D volumes in the same view.

To add another volume to the display, select in the 3dViewer File option:

> **Layer → Add Layer → Seismic Volumes...**

Next, select the volume using the file selection dialog (*cdp_stack.xgy* in this example). We get the following dialog window:
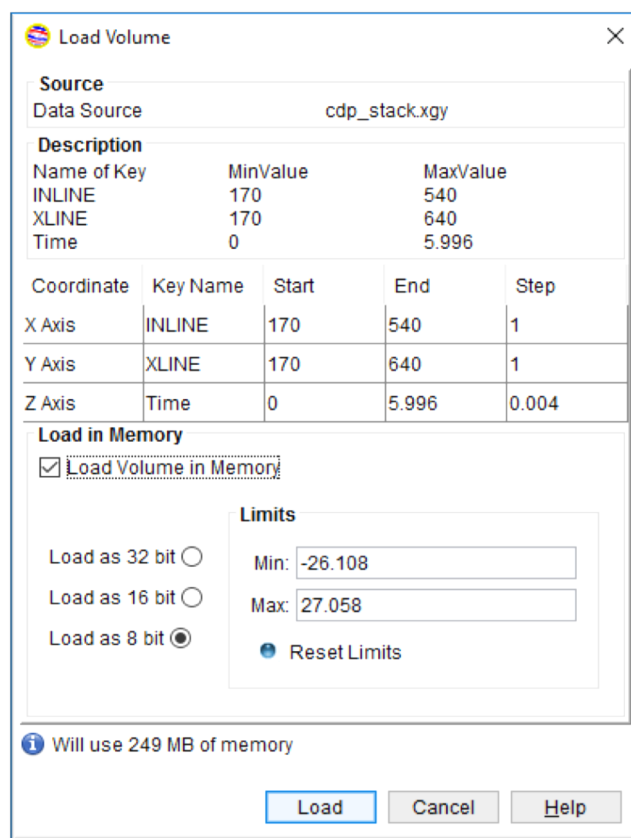


**Figure 7: The Load Seismic... Dialog**

Note that the transposed dataset is automatically picked up by the application assuming it has the *_transposed* suffix. It is also possible to load a seismic volume without having a transposed version - you just won't be able to create or view time slices.

Select **Load**. The display will update with a mid-section for each dimension of the attribute data. A new 'cdp_stack-6' object has also been added to the Desktop window. Right-click on the cdp_stack-6 item, and select Properties to get the Properties dialogue. Here you can add, edit, or delete displayed sections. Delete the Inline and Xline sections, leaving just the timeslice.
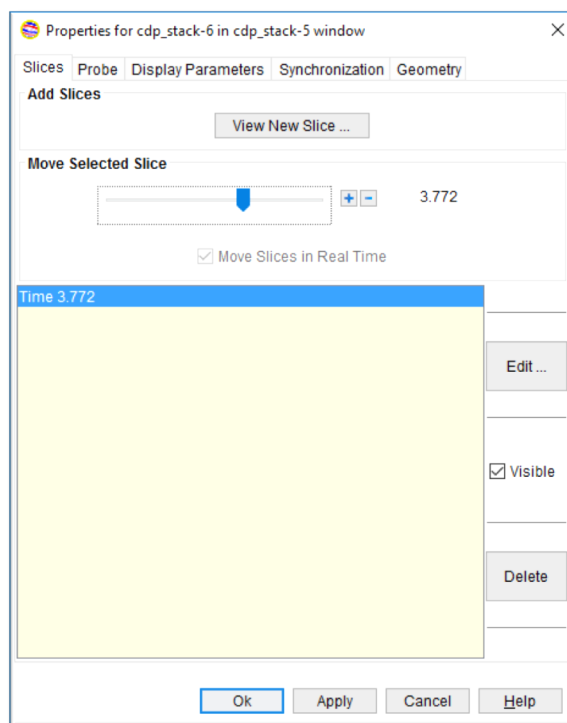


**Figure 8: The Properties dialog for a new dataset**

To create and display a new slice, select option **View New Slice**… In the View New Slice dialog click on the down arrow to see **New Slice Type** options and select the type of slice you want then select **Ok**.

Next create a color map that is different from the color map used in the other slices. However, before you change the color map select the **Synchronization** tab and make sure that the **Broadcast** option is turned off, as well as the **Listen to Color Map** option. This will prevent the 2D and 3D seismic displays from inheriting the new color map created for the attribute cube.

Select the **Display Parameters** tab and then select option **Color Map...** by clicking on the down array of the current color bar, then selecting **Color Map...** from the list. Note that you can save and restore color maps using the **File** menu option in the **Colormap Editor** dialog window.
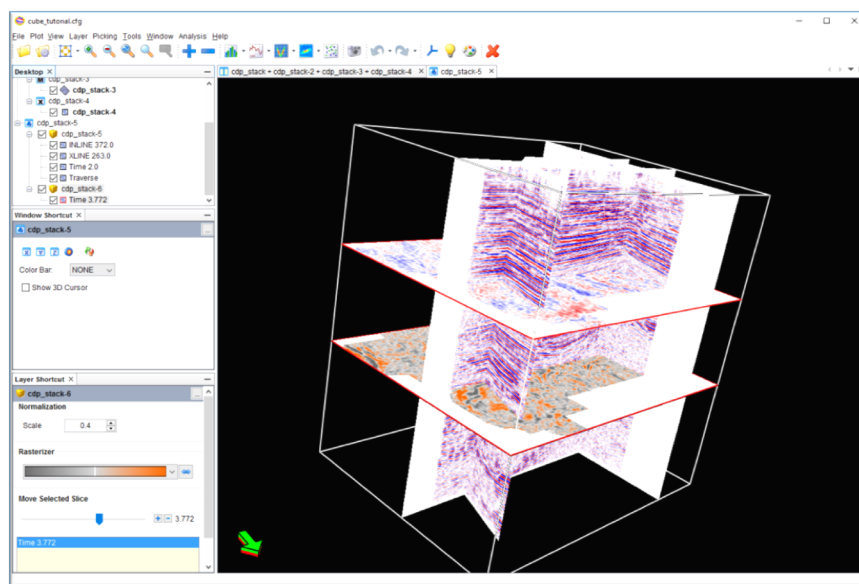
We now obtain the following display:



**Figure 9: 3D View with new Time Slice Added**

## Step 5 – Add a probe to the Seismic Volume

Double click with Left Mouse button on the attribute cube object in the **Desktop Window**. In the **Seismic Properties** dialog, select the **Probe** tab. Select toggle **Show Probe** and then **Apply**. Move and resize the probe using the sliders under **Position** and **Size**.
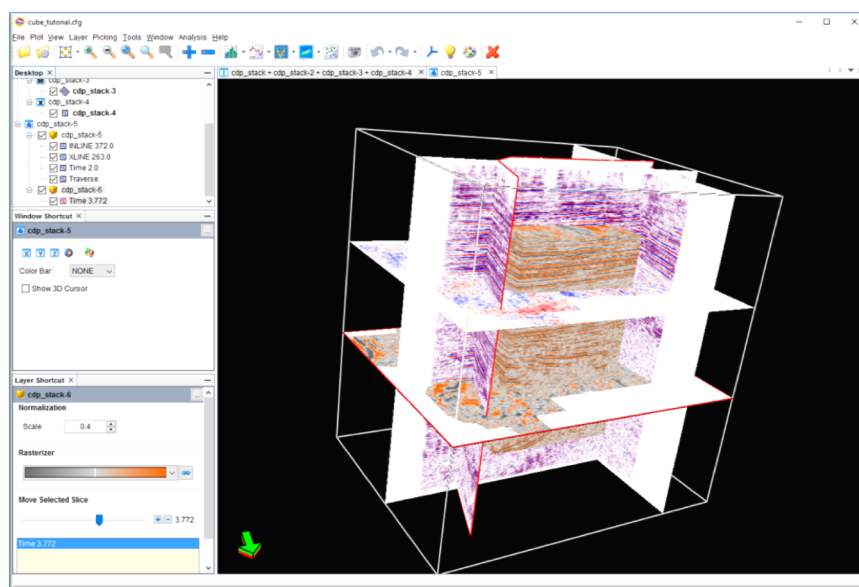


**Figure 10: 3D View with Attribute Probe Displayed**

# Step 6 – Saving your work

As in the Cube tutorial, you can easily save the entire display you just created using option **File** ➔ **Save Session...** in the INTViewer main window. You will be prompted for a filename where to save the session. The session can be restored using option **File** ➔ **Open Session...** It will be restored exactly as you saved it.