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Altair HyperView 2019 Tutorials

HV-3020: Viewing Iso Values

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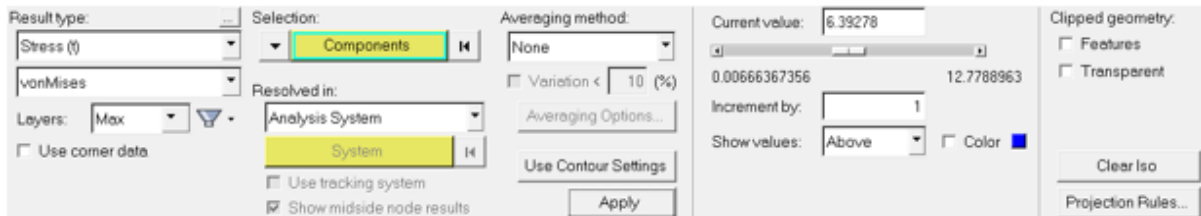
In this tutorial, you will learn how to:

- View multiple iso values in the **Contour** panel
- View a single iso value in the **Iso** panel using **Contour** panel settings
- View iso values using displacement results

Tools

To access the **Iso** panel:

- Click the **Iso** panel button  on the **Result** toolbar.
- OR
- Select **Results > Plot > Iso** from the menu bar.




The iso surfaces can be viewed from the **Contour** panel as well as the **Iso** panel. Choosing **Show Iso Value** from the **Contour** panel will allow you to view the iso surfaces according to the contour legend settings for the applied result type. On the other hand, the **Iso** panel allows you to automatically mask elements based on a user defined value for the result type that is applied in the panel. By using the option **Use Contour Settings** in the **Iso** Panel, you can view the iso surfaces for the results as applied in the **Contour** panel.

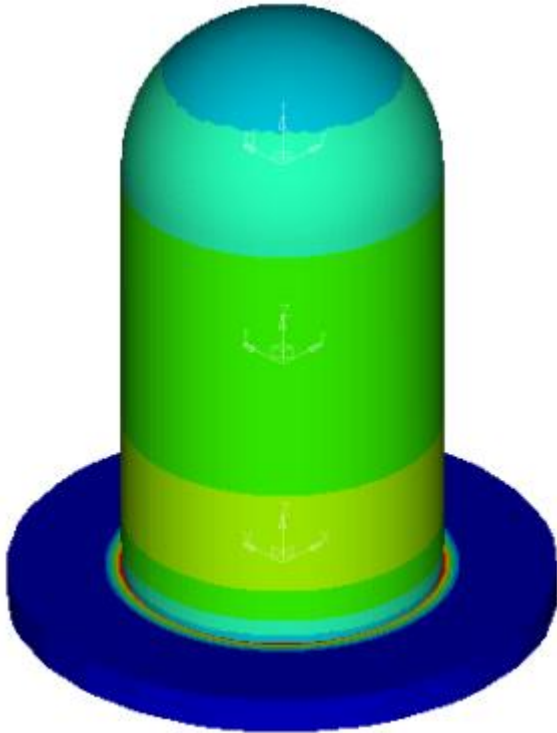
Exercise: Using the Iso Panel

This exercise uses the model file, `bullet_local.op2`.

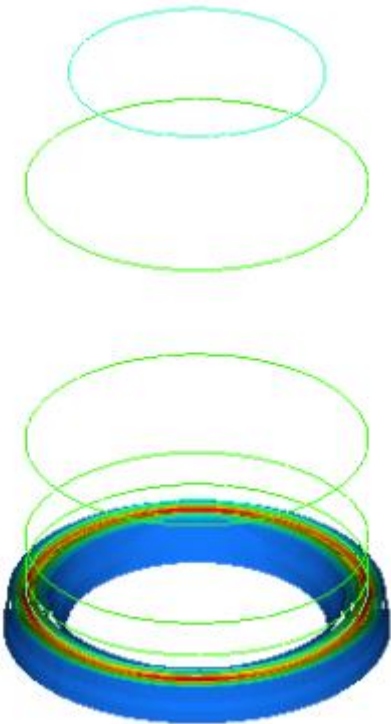
Step 1: Viewing iso surfaces from the Contour panel.

1. Load the `bullet_local.op2` file, located in the `animation` folder.
2. Click the **Contour** panel button  on the **Result** toolbar to enter the **Contour** panel.
3. Contour the model for **vonMises** stresses, using **Simple** averaging.

4. Click **Apply**.




5. Click **Show Iso Value** to view the iso surfaces while remaining in the **Contour** panel.

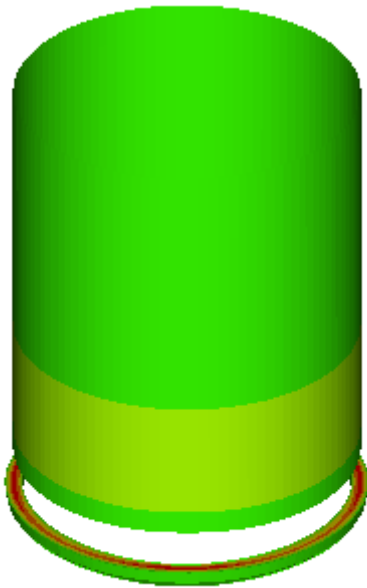


6. Click **Clear Iso Value** to return the model to the original shape.

Step 2: Viewing iso surfaces in the Iso panel using Contour settings.

After you have created a contour of a model, you can view a single iso surface in the **Iso** panel.

1. Click the **Iso** panel button  from the **Result** toolbar to enter the **Iso** panel.
2. Click the **Use Contour Settings** button (located in the middle of the panel) to use the settings that you previously entered in the **Contour** panel.
3. Verify that **Show values** is set to **Above**.
4. Click **Apply**.



– Show the model above the iso values and adjust the view using the slider bar.

5. Move the slider bar under **Current value** to change the iso value of interest.
6. Click in the graphics area and press '**T**' on the keyboard.

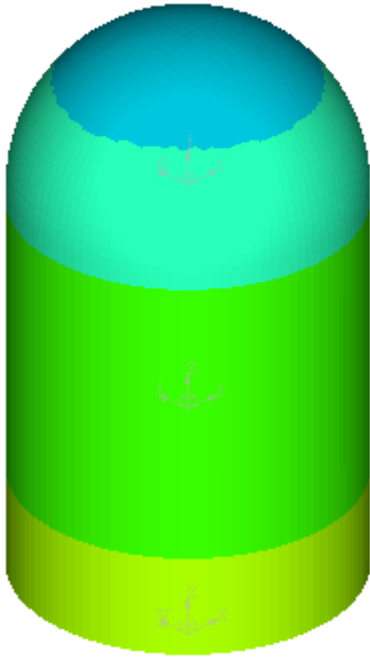
A transparent view of the part of the model that is excluded from the iso surface is displayed.

7. Press '**T**' again to turn off transparent view.
8. Click **Clear Iso** to clear the iso values from the model.

Step 3: View iso values using displacement results.

1. Change the **Result type** to **Displacement (v)**.
2. Click **Apply**.

- For **Current Value** enter $2.468e-06$ and press ENTER.

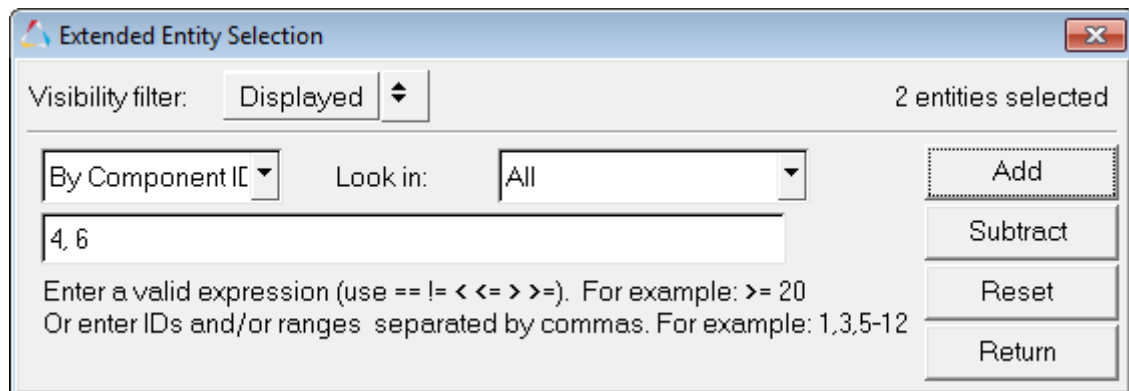


You are viewing the contour in stresses, however the iso is operated using displacements. The movement of the slider bar is controlling the displacement result values while the stresses are displayed on the iso surfaces.

Step 4: View iso values on specified components.

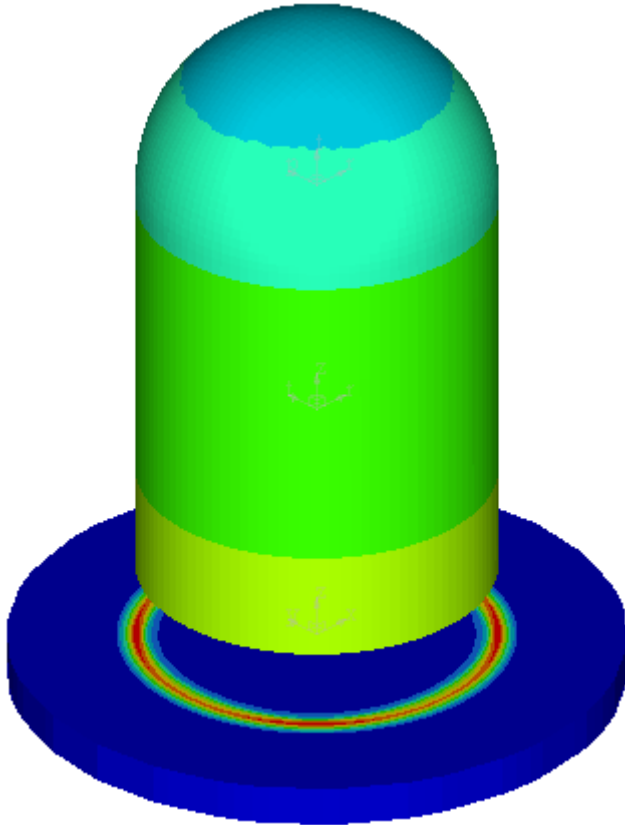
- Under **Selection**, click on the **Components** input collector.
- From the **Extended Entity Selection** menu, click **By ID** (in order to select the specific components to apply the iso surface on).
- Enter the values 4, 6 in the text box and click **Add**.

The **By ID** dialog will show that two entities have been added to the selection (in the upper right corner).



- Click the **Return** button.

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- Click on the **Components** input collector again, and this time select **Reverse**.
This reverses the selection so that all of the components except those with ID 4 and 6 are selected.
 - Click **Apply** to apply the iso surface to only the selected components.
 - Update the **Current Value** to $2.468e-06$ and press ENTER.
Notice how the iso value plot is only applied to the selected components.



- Compare this plot to the previous plot. Observe that the two components which were not selected are shown and have not been removed from the iso plot.