UseCase.0046

**Creating Nice 2D-Diagrams**

**Keywords:** 2D view, $z=f(x,y)$, axis, axes, bitmap, mesh, contour, plot, font size, color lookup table, presentation
Description

• This use case demonstrates how to configure diagrams in a way they meet the demands of an appealing presentation.

• The configuration of 2D-diagrams (used for $z=f(x,y)$) will be shown here.
Standard View Parameters

After loading the 2D sample diagram, it will be shown using the standard view parameters.
Window Size

The window size can be defined by just dragging one of the corners as well as by entering the desired size into the Property Browser.
Font Size

Increasing the font size improves the readability of the axes labels and the tick labels.
Coordinate Range

If a certain coordinate range shall be shown, this can be specified via Property Browser too.
Width of the Color Legend

If the color legend needs more space, the color bar can be dragged to the desired horizontal position via mouse.
The color lookup table can be changed via View ribbon > Color Lookup Table.
Color Lookup Table II

- It may be necessary to use a non-linear lookup table in order to see some features.
- The context menu (Color Lookup Table > Edit Color Lookup Table) provides a dialog for this change.
• Defining a logarithmic function with a parameter of 15…

…will highlight some features.
Color Lookup Table IV

Using stepped colors instead of interpolated colors will produce some kind of contour plot.
Selection Based Scaling I

- Local features can be highlighted even with a linear color scale if we map the complete color map to a local value range.
- With an activated rectangular marker…
- …we have to mark the range that shall be used for rescaling.
Selection Based Scaling II

- Choosing “Selection Based Scaling“ will lead to a rescaled color legend where the available color range is used completely by the selected data range.
- The range marker can be deactivated, then.

![Diagram of Selection Based Scaling](image-url)
Number of Axis Ticks

The number of ticks for the x-axis (for the y-axis as well) can be increased by setting a higher value for „Minimum Number of Ticks“ in the Property Browser.
• After setting the scaling back to automatic…
• …and zooming out via „Show All“…
• …we have to activate the line marker.
1D Intersection II

Drawing the line marker will create a 1D cross section profile below the 2D view.
1D Intersection III

The horizontal splitter line can be used to change the height ratio of 2D-view and 1D-view by dragging via mouse.
Copy View Settings I

- The view configuration of one diagram can be transferred easily to another one.
- While the diagram the settings shall be copied to is activated, „View > Copy View Settings“ has to be called.
Copy View Settings II

- After selecting the diagram the settings shall be copied from,…
- …the view configuration is transferred automatically.
Changing to 3D View Mode

Starting from the standard view parameters as used after loading the 2D sample diagram, the 2D view mode can be called by switching from „Diagram in 2D Mode“ to „Diagram in 3D Mode“.
3D Perspective I

- The diagram size can be changed just as described before.
- Entering some Camera Rotation Angles will change the perspective. (This can be achieved by just clicking and dragging inside the diagram as well.)
Setting the Camera Distance Parameter to a large value will make the axes parallel.
Texture

Changing the Zone Method from 'Cells' to 'Contours' improves the smoothness of the surface.
Emphasizing Contours I

In order to emphasize contours in the plot, the Color Lookup Table should be changed.
Emphasizing Contours II

Now the contour borders can be highlighted as well.
Font Size inside the 3D View

A special 'Font Size Factor' can be used to get diagram labels which are better readable.