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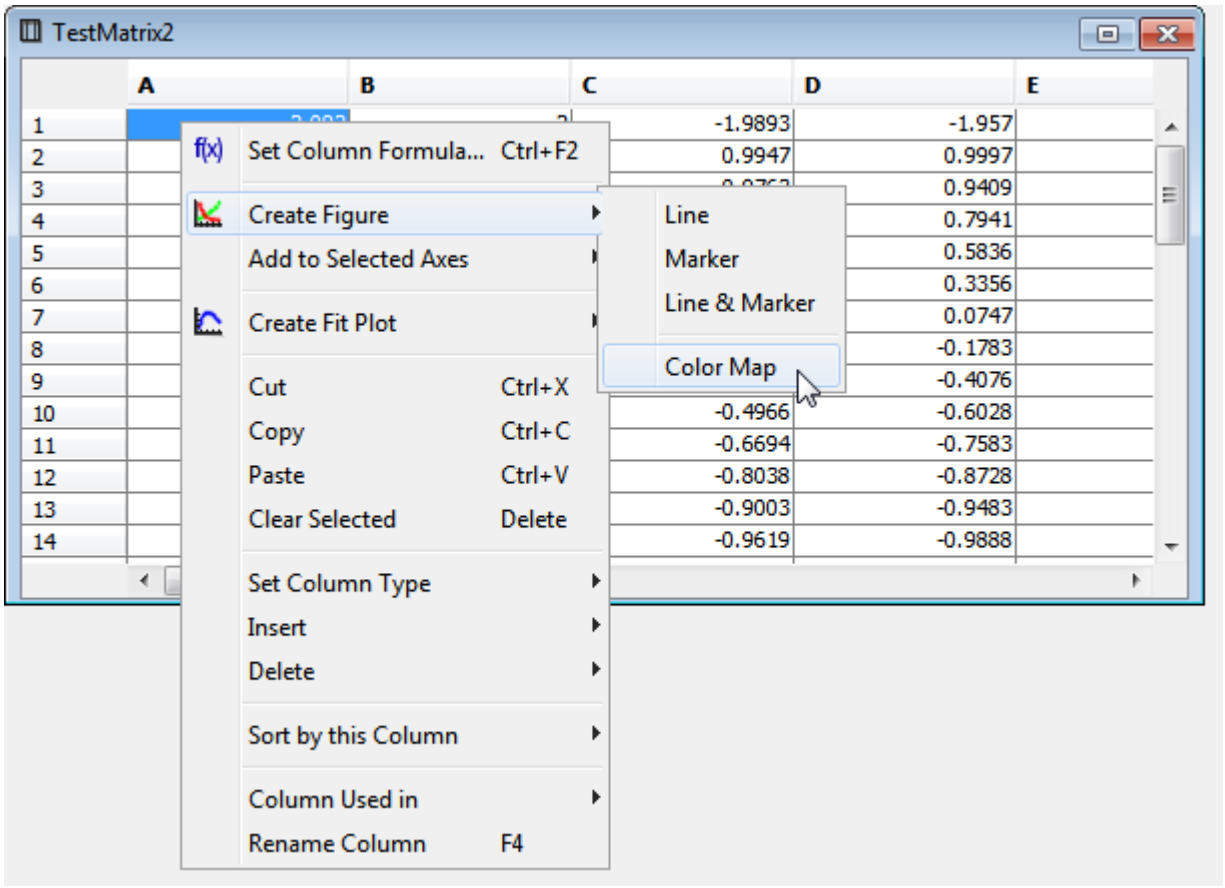
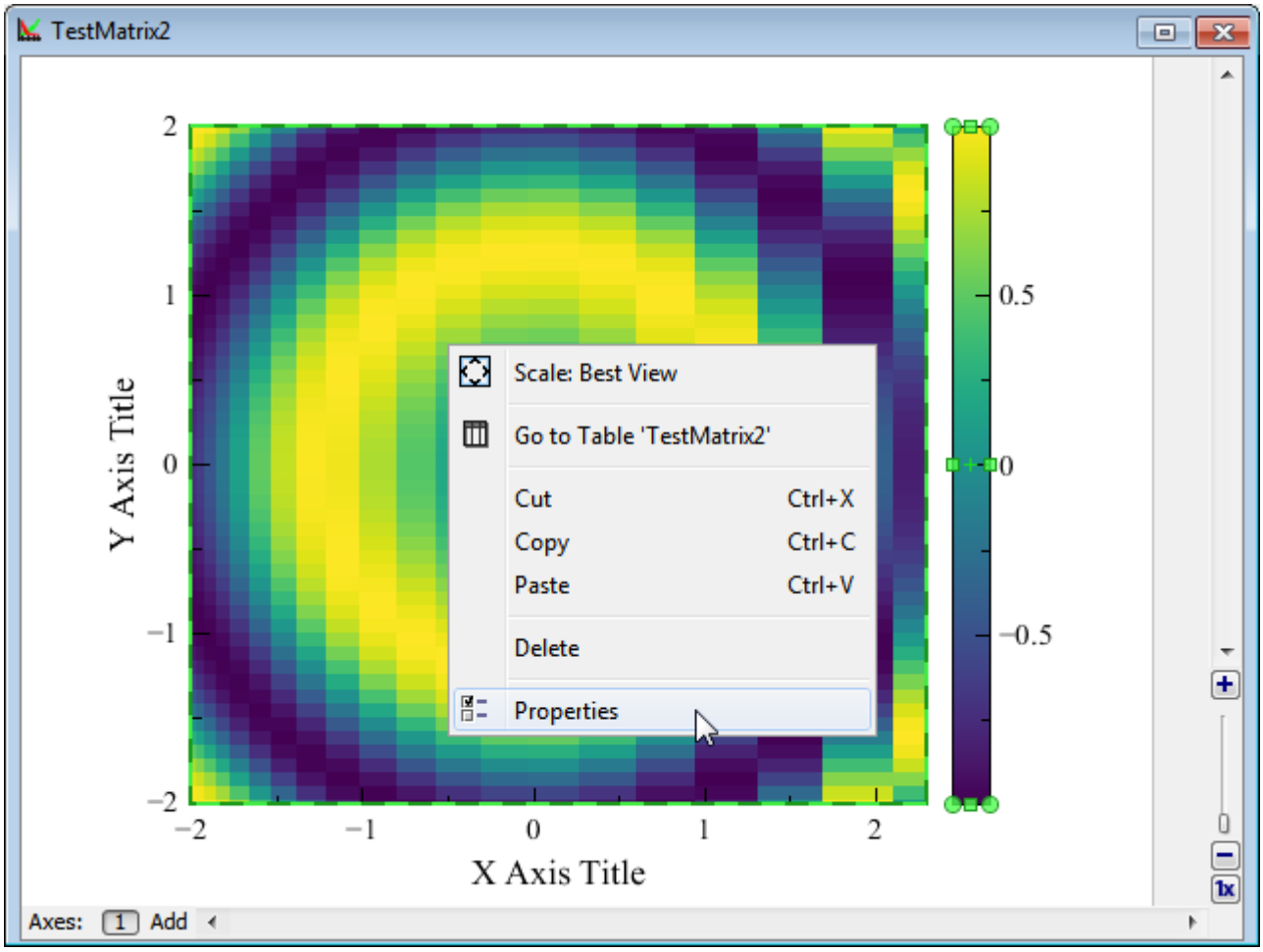
Color Map Plots

To create a Color Map Plot, open the Table with matrix data, open a context menu and select `Create Figure` → `Color Map` item or use `Create Figure` button on the Toolbar. Color Map Plots are available in Pro edition only.

Selection in the table is ignored, the whole table is used for plotting matrix.



The Color Map Plot can be configured in the Properties dialog which can be opened by double click on the Color Map or using the context menu.

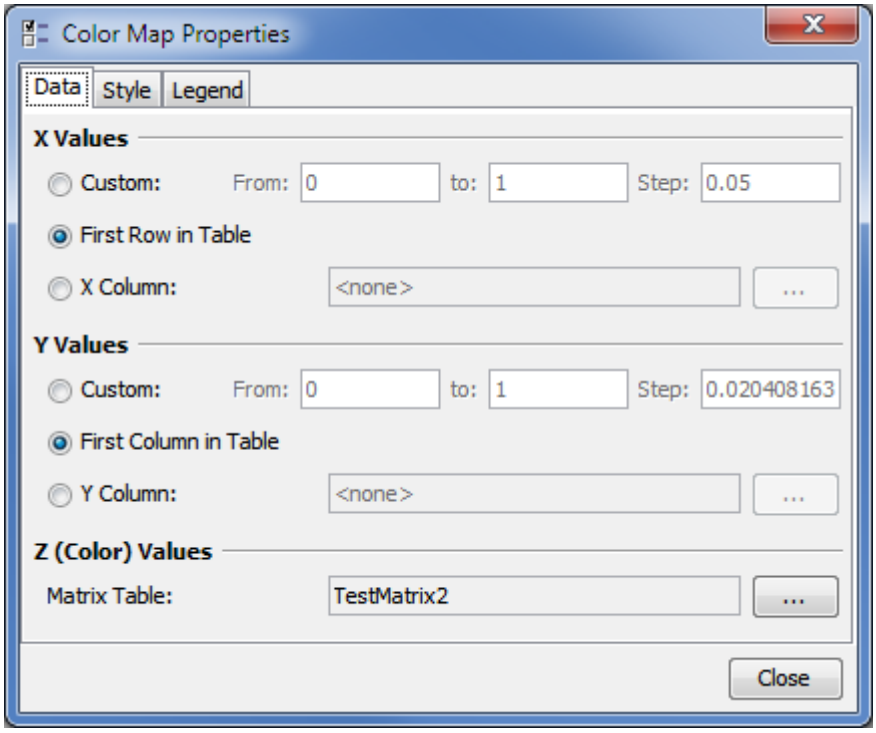


Specifying X/Y Data for Color Map Plot

X and Y data for plotting can be specified in the 'Data' tab of the Properties dialog. MagicPlot supports 3 alternatives for X and Y values for the plotting matrix:

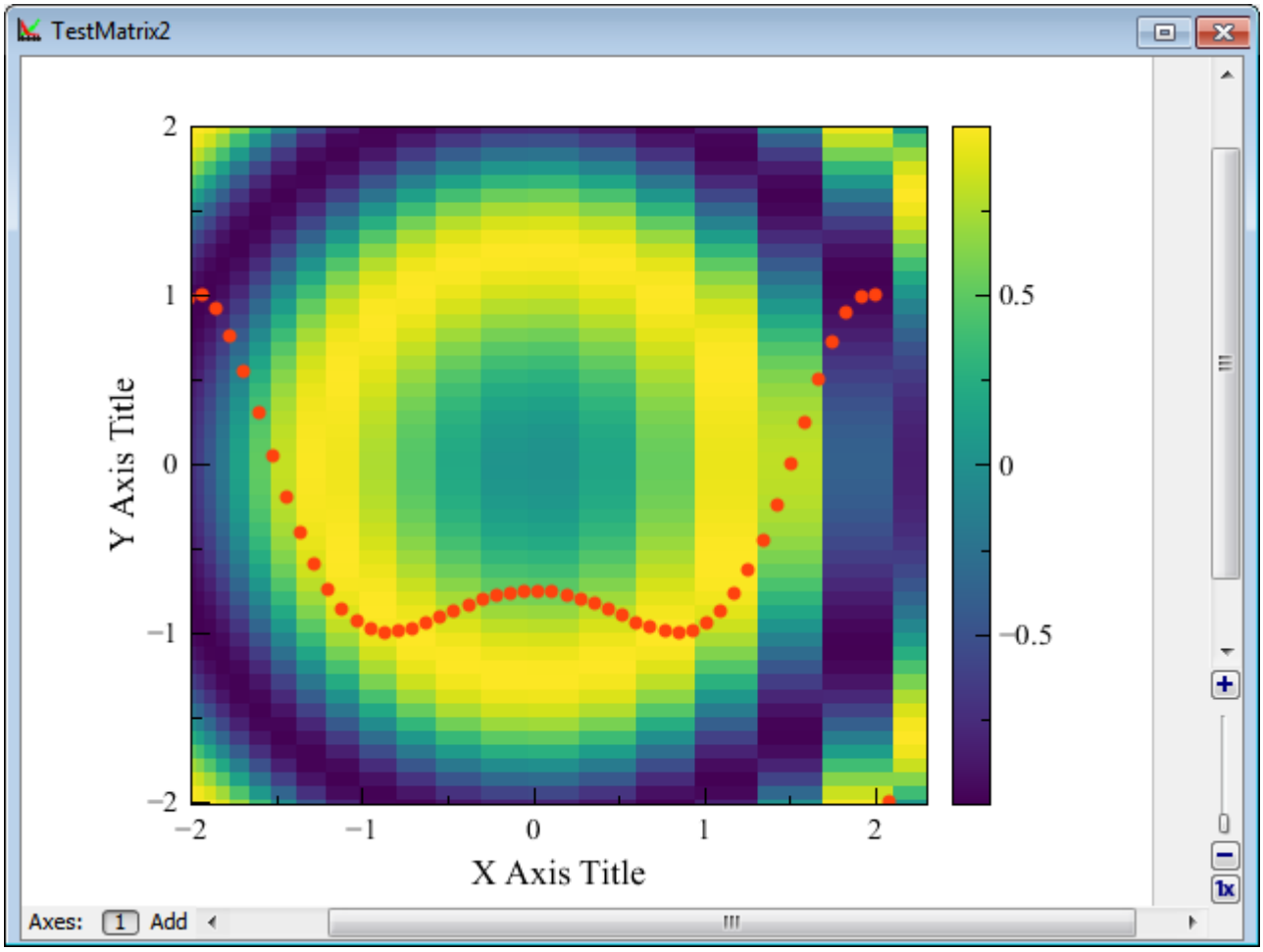
1. Manual range
2. Values from first row or column
3. Column from another table

The non-uniform (not equally spaced) data in the X/Y columns is supported. The values can also be unsorted.



Color Map Plots and other Curves

In MagicPlot the Color Map Plot is treated as a generalized 'curve', so it can be combined on a one plot with other curves in a one Axes box. The Color Map Plot is shown in 'Components' list in Figure properties dialog. The drawing sequence can be changed in this list. You can copy and paste Color Map Plots between Figures and Axes boxes.


TestMatrix2
2
1
0
−1
−2
Y Axis Title
−2
−1
0
1
2
X Axis Title
0.5
0
−0.5
Axes: 1 Add

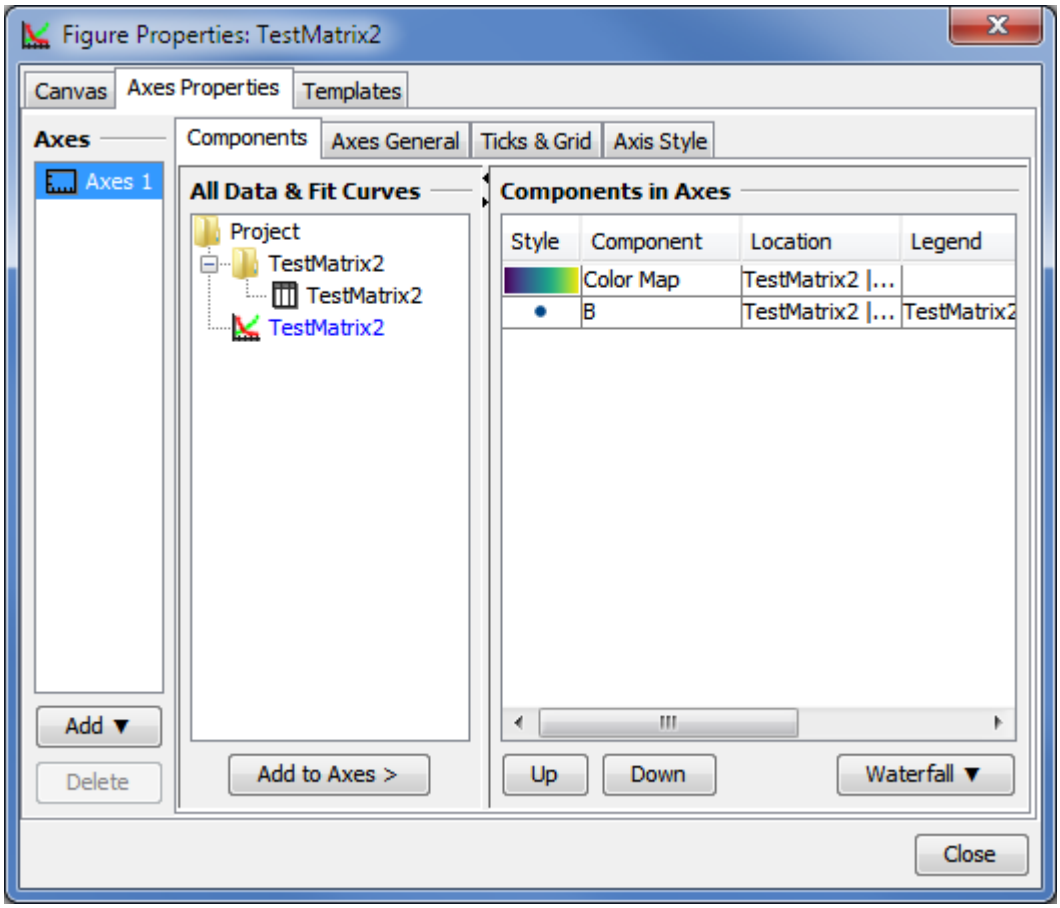
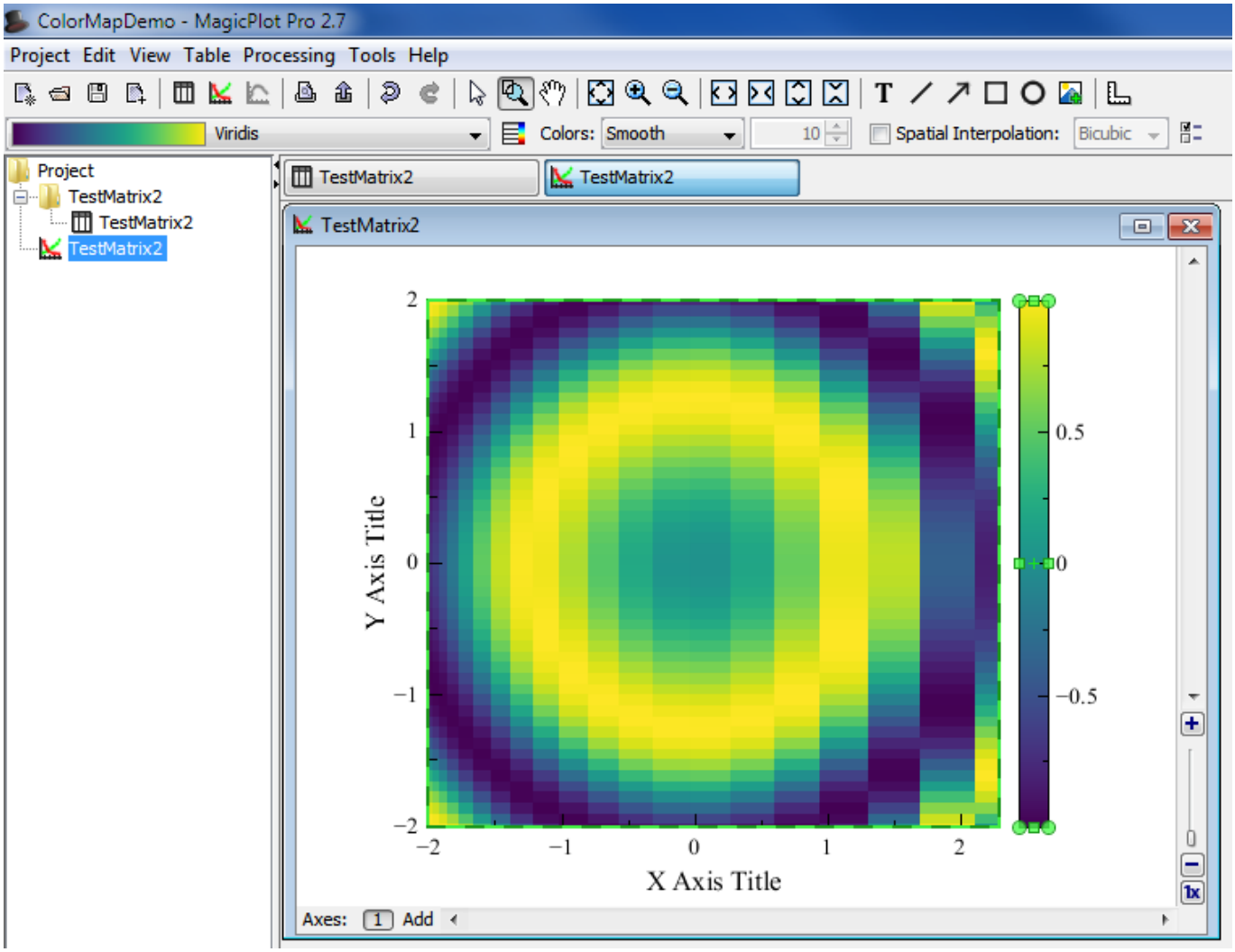


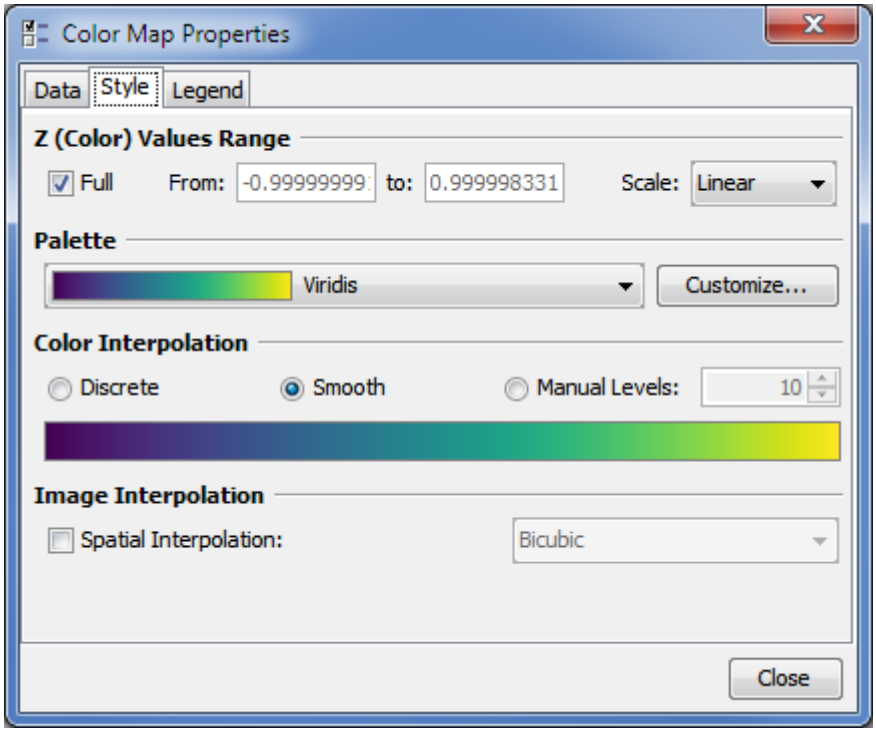
Figure Properties: TestMatrix2
Canvas
Axes Properties
Templates
Axes
Components
Axes General
Ticks & Grid
Axis Style
Axes 1
All Data & Fit Curves
Project
TestMatrix2
TestMatrix2
TestMatrix2
Components in Axes
Style
Component
Location
Legend
Color Map
TestMatrix2 |...
B
TestMatrix2 |...
TestMatrix2
Add ▼
Delete
Add to Axes >
Up
Down
Waterfall ▼
Close

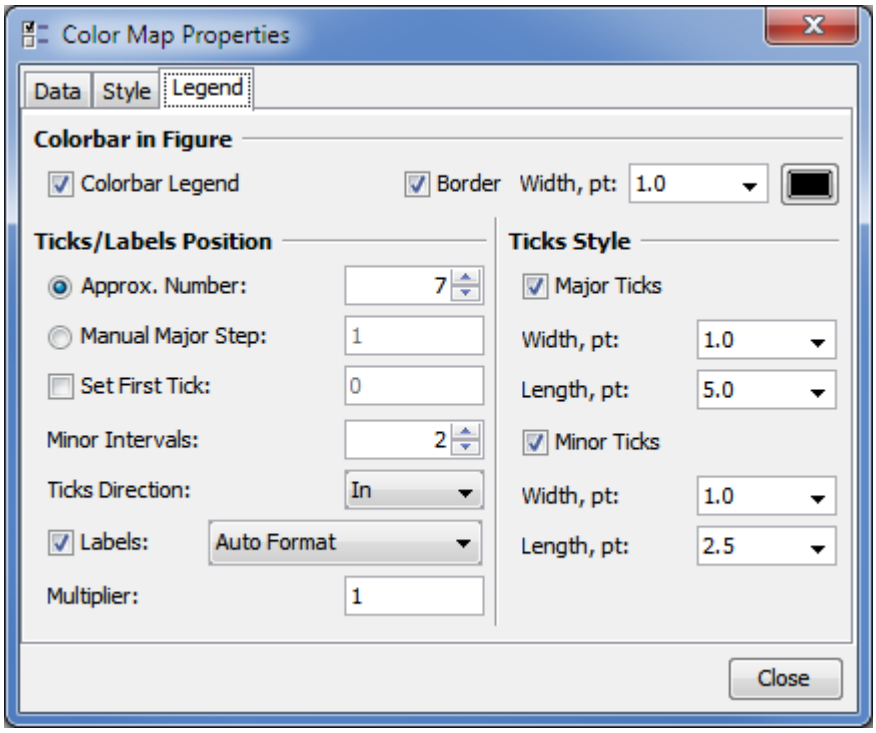
Customizing Color Map Plot

The most often used properties of a Color Map Plot can be changed on the Inspector toolbar (the second row of main window toolbar). The full settings list is available in the Properties dialog which can be opened by double click on the Color Map or from context menu.



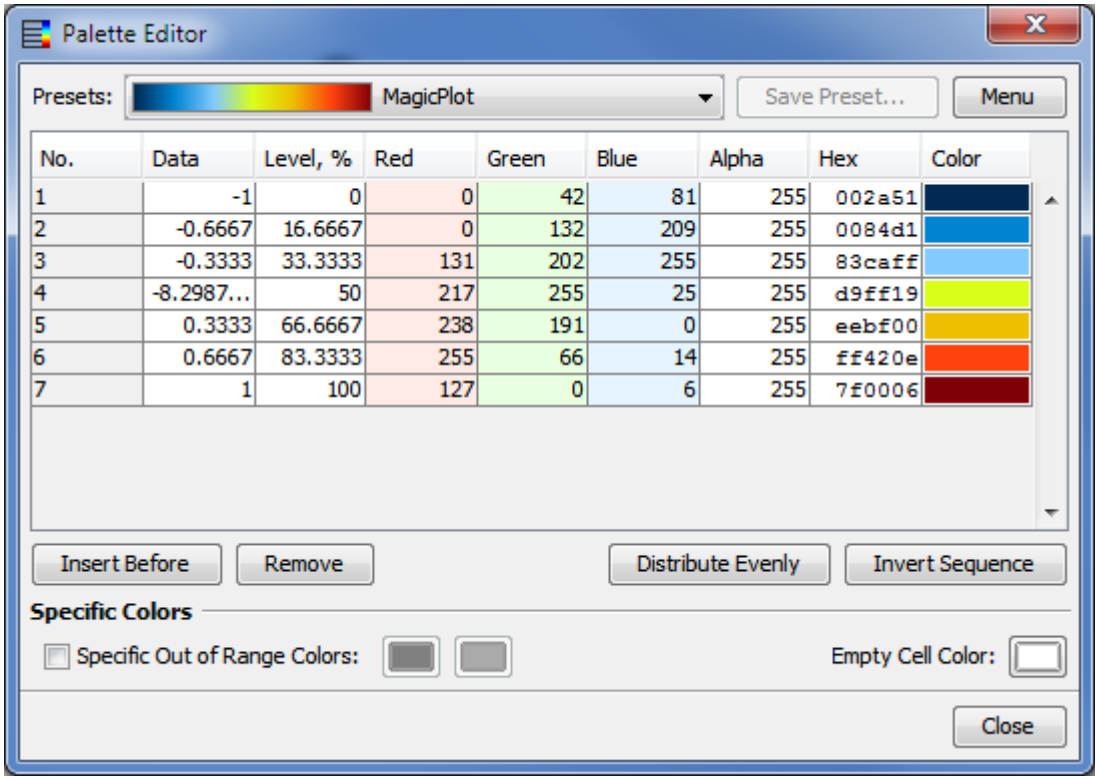
The Color Map style and the legend color bar style can be edited in the Color Map Properties dialog:





Customizing Color Map Palette

The Color Map palette can be customized by pressing the 'Customize' button on the 'Style' tab of the Color Map properties dialog.



Color Map Palette Presets

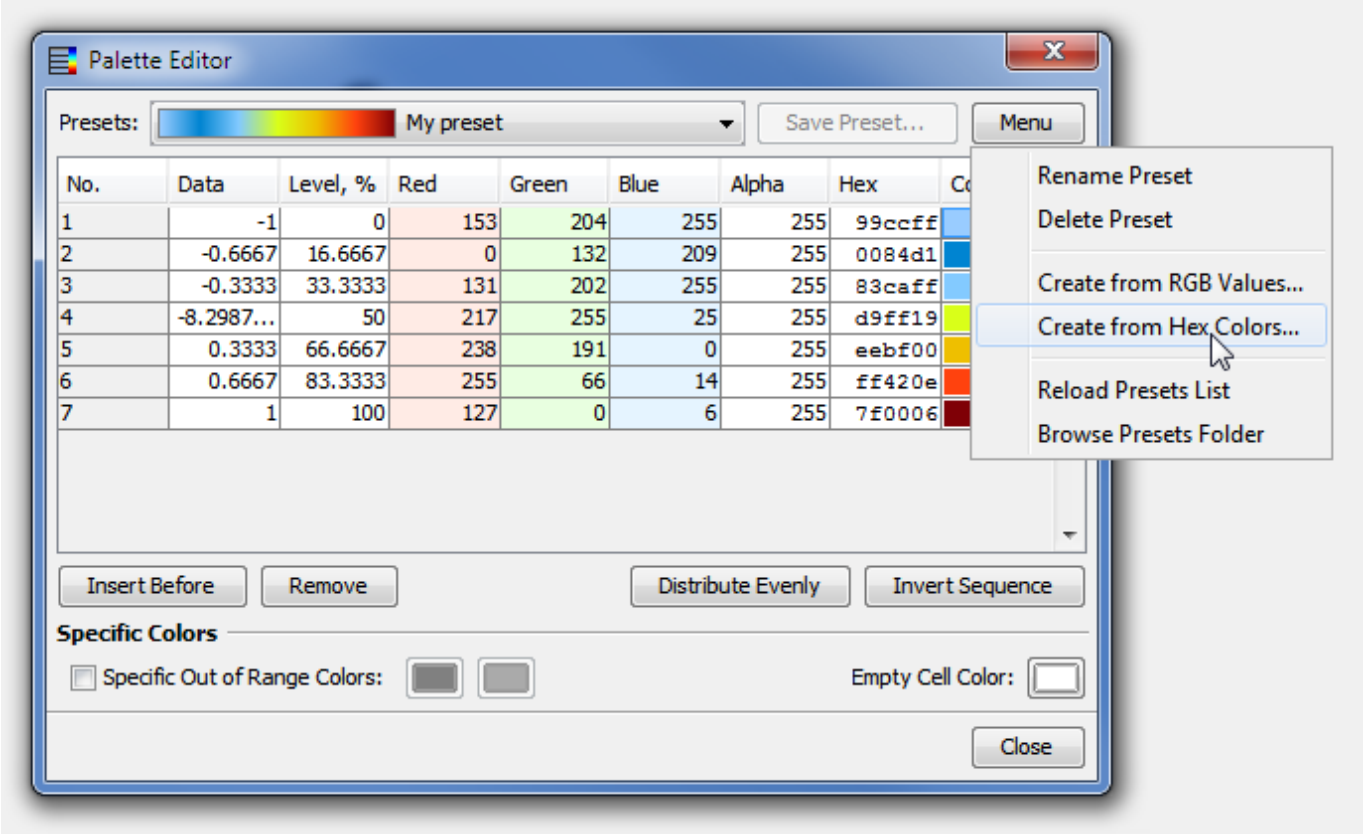
MagicPlot contains several build-in palette presets. After editing a palette you can also save your own preset by pressing the 'Save Preset' button. The selected preset can be renamed or deleted using 'Menu' button.

Custom presets are saved in files with the .mppc extension. You can open the folder which contains custom preset files using the 'Menu' button. Use the 'Reload Presets List' menu item after adding new files in the presets folder.

Creating Palette from Color List

You can import a palette from other applications or text files using the 'Menu' button. MagicPlot supports RGB values and hexadecimal color codes.

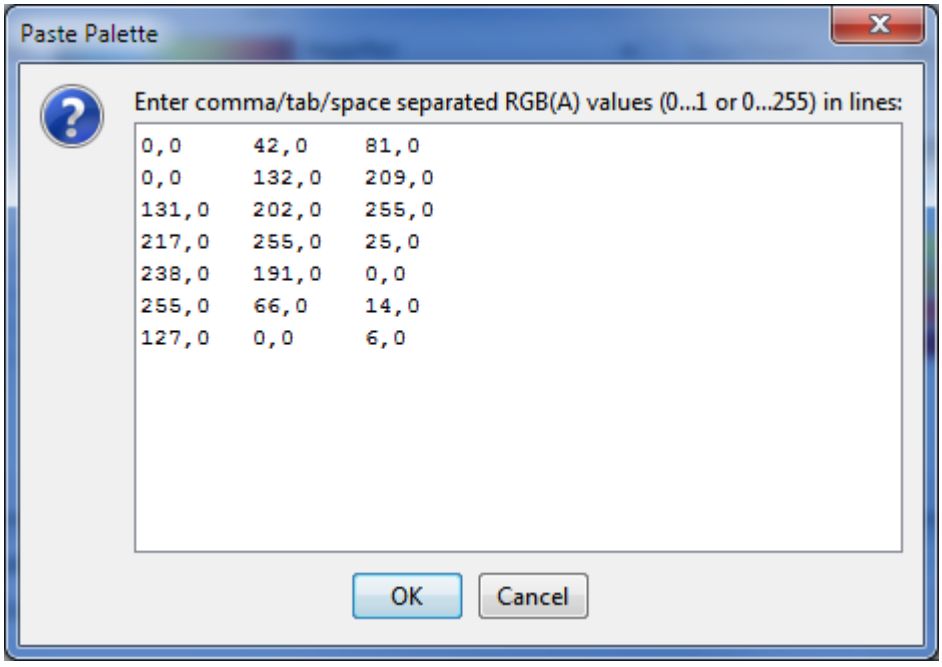
The current palette setting will be overridden (this operation can be undone).



Pasting RGB(A) Values

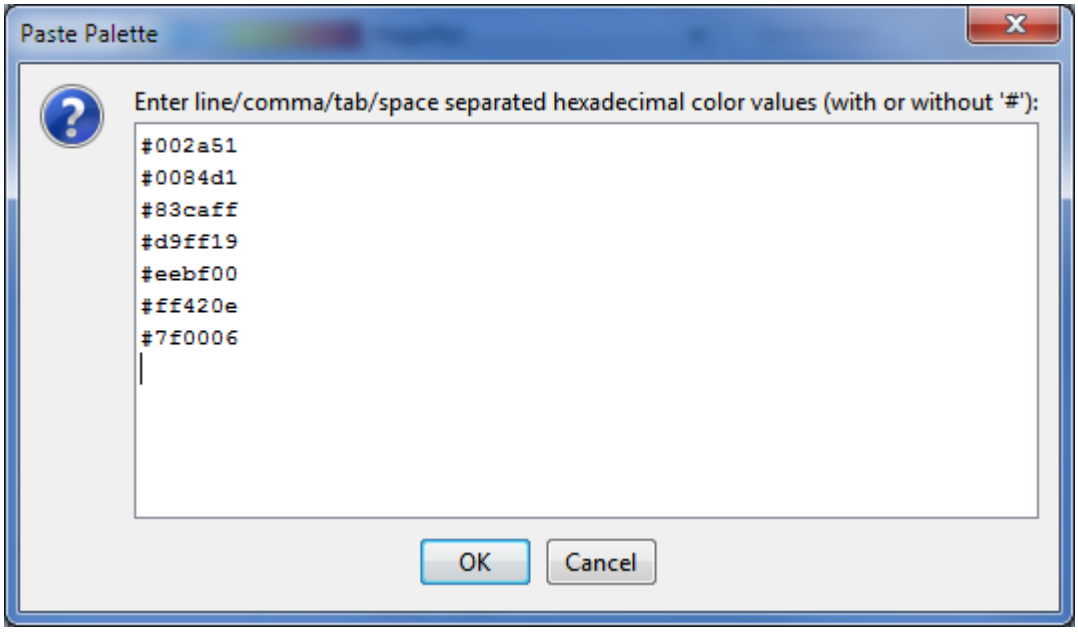
You can paste `red, green, blue` values or `red, green, blue, alpha` values in the opened dialog box. The values must be separated by comma, semicolon, tab or space, one color per line. The both 0...1 and 0.255 values are automatically supported.

The comma as a decimal separator is supported only if values are separated by tabs or semicolons. Otherwise the dot only must be used as a decimal separator.



Pasting Hexadecimal Color Codes

Paste hexadecimal color codes in the opened window. The values can be with or without the '#' prefix. The values must be separated by the new line, comma, semicolon, tab or space characters.



Technical notes

Exporting of Vector Image

MagicPlot renders the color map plot as a high-resolution raster image which is included into the vector image file (EPS, PDF, SVG, EMF). Therefore the file size does not depend on the data matrix dimensions. The resolution of the color map image is set by the DPI value in the 'Canvas' tab of the Figure properties dialog.

The Postscript (EPS) and EMF image format does not support the transparency in the color maps.

Color Interpolation

In the 'Smooth' and 'Manual Levels' color interpolation modes MagicPlot interpolates colors linearly in the sRGB color space.

Bicubic Image Interpolation

MagicPlot supports 3 color map spatial interpolation modes: off (nearest neighbor), bilinear and bicubic.

MagicPlot performs the bicubic interpolation using the Wcubic Hermite spline. For uniform (equally spaced) x or y values this method is equal to the conventional bicubic interpolation algorithm (which is widely used for the image resizing) with the coefficient `a=-0.5`.

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