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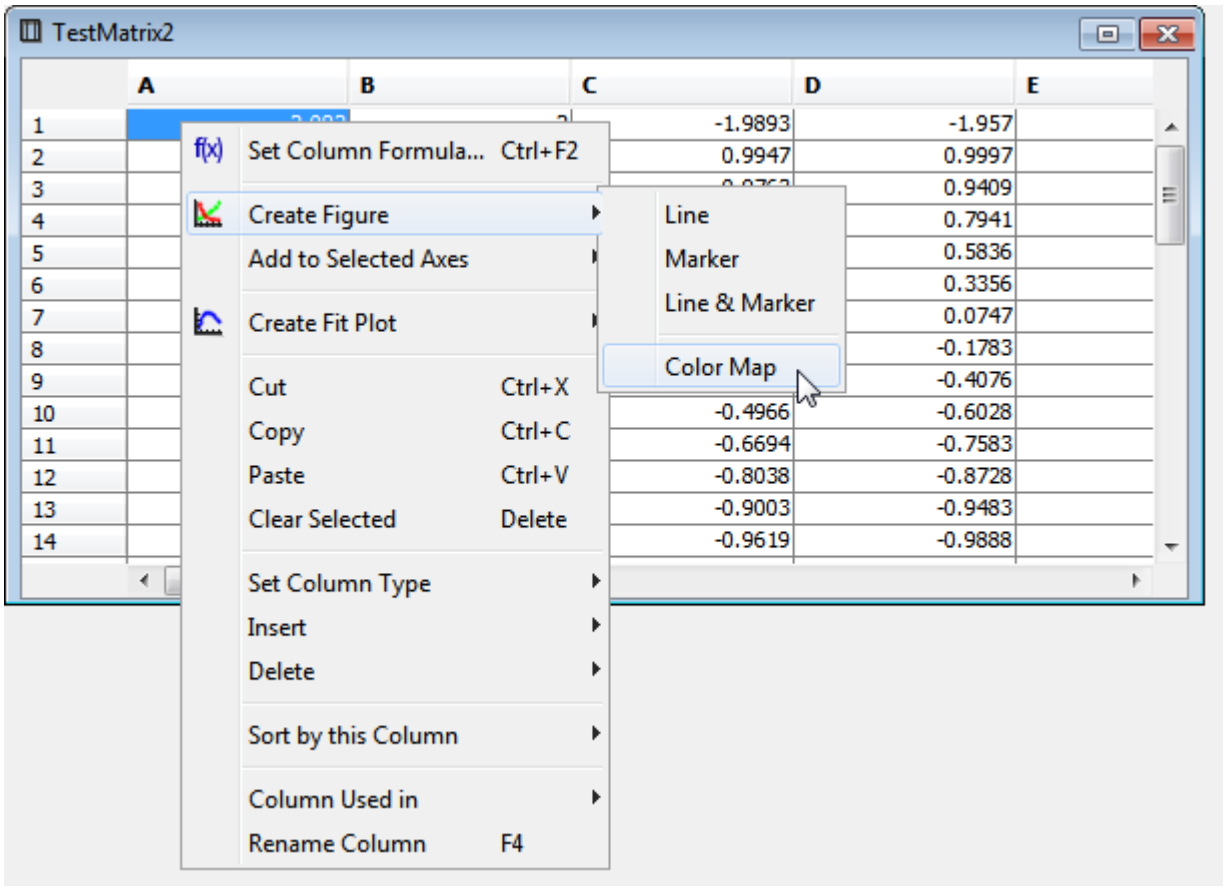
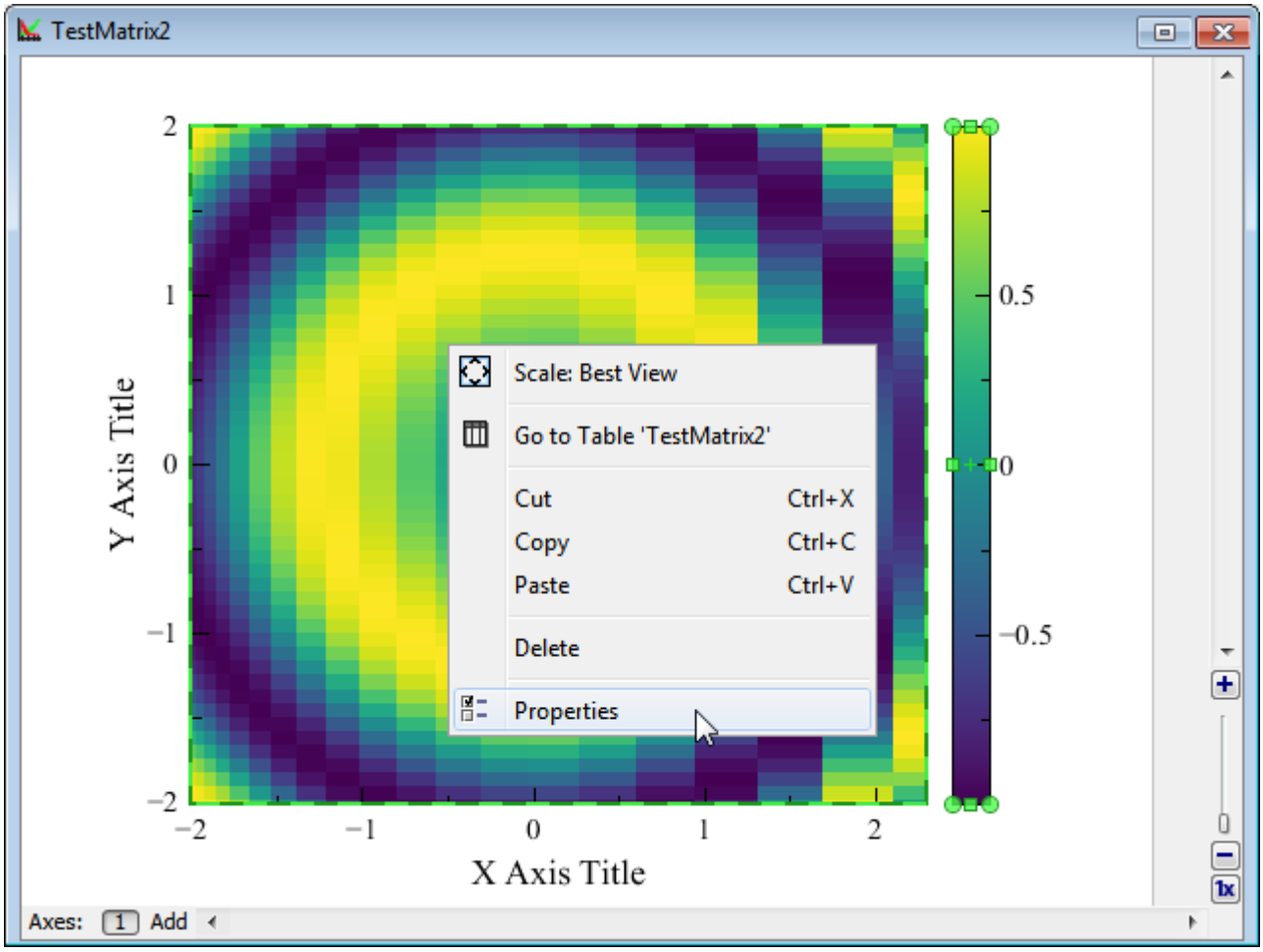
Color Map Plots

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

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



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

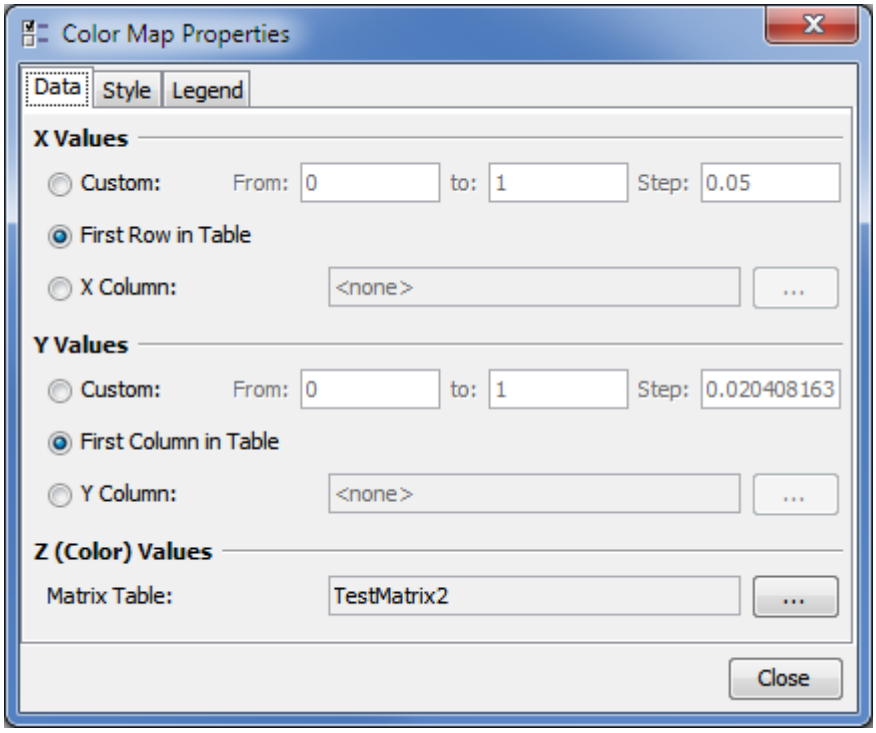


Specifying X/Y Data for Color Map Plot

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

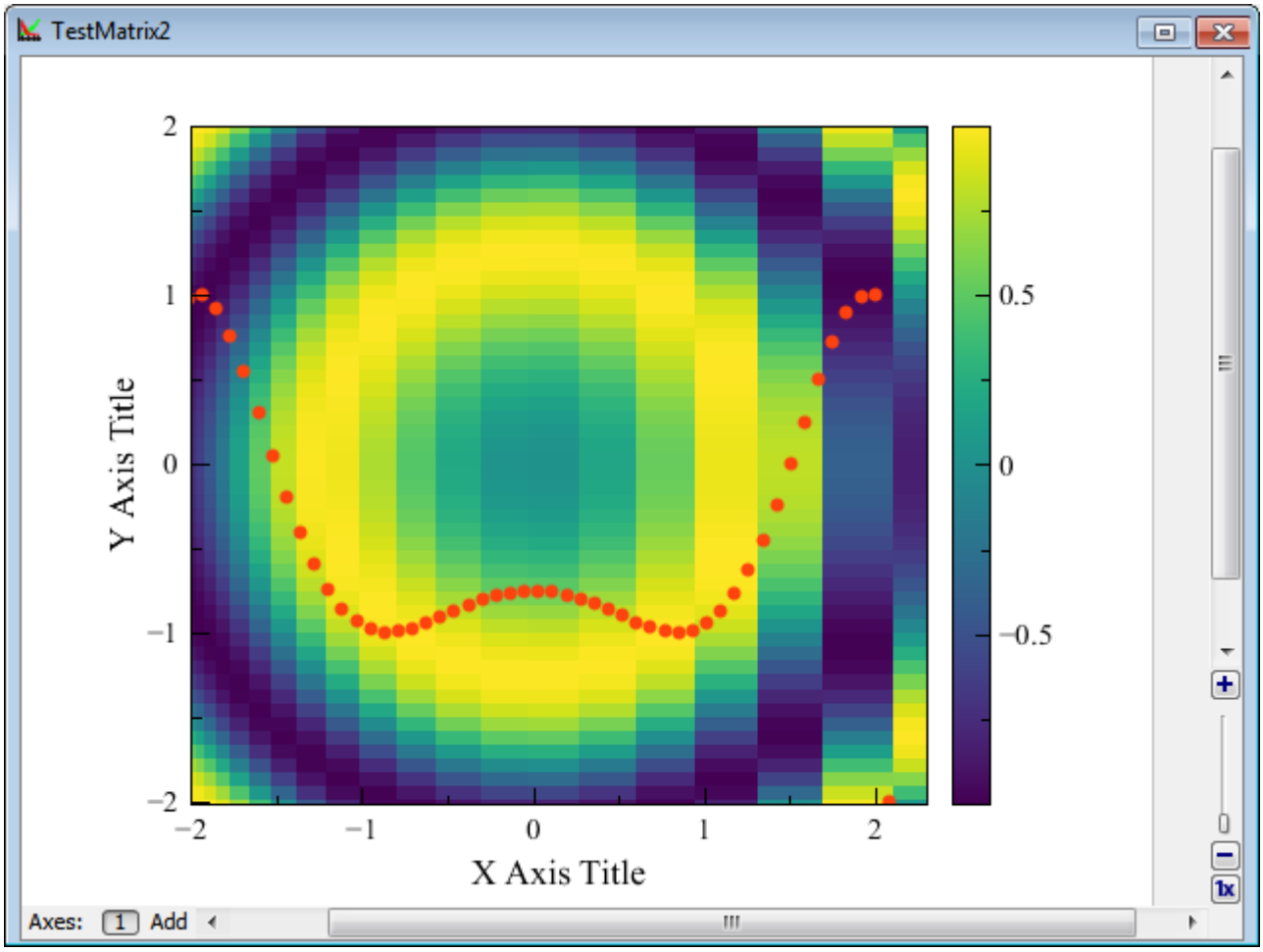
1. Manual range
2. Values from first row or column
3. Column from another table

Non-uniform (not equally spaced) data in X/Y columns is supported. Values can also be unsorted.



Color Map Plots and other Curves

In MagicPlot Color Map Plot is treated as generalized 'curve', so it can be combined on one plot with other curves in one Axes box. 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

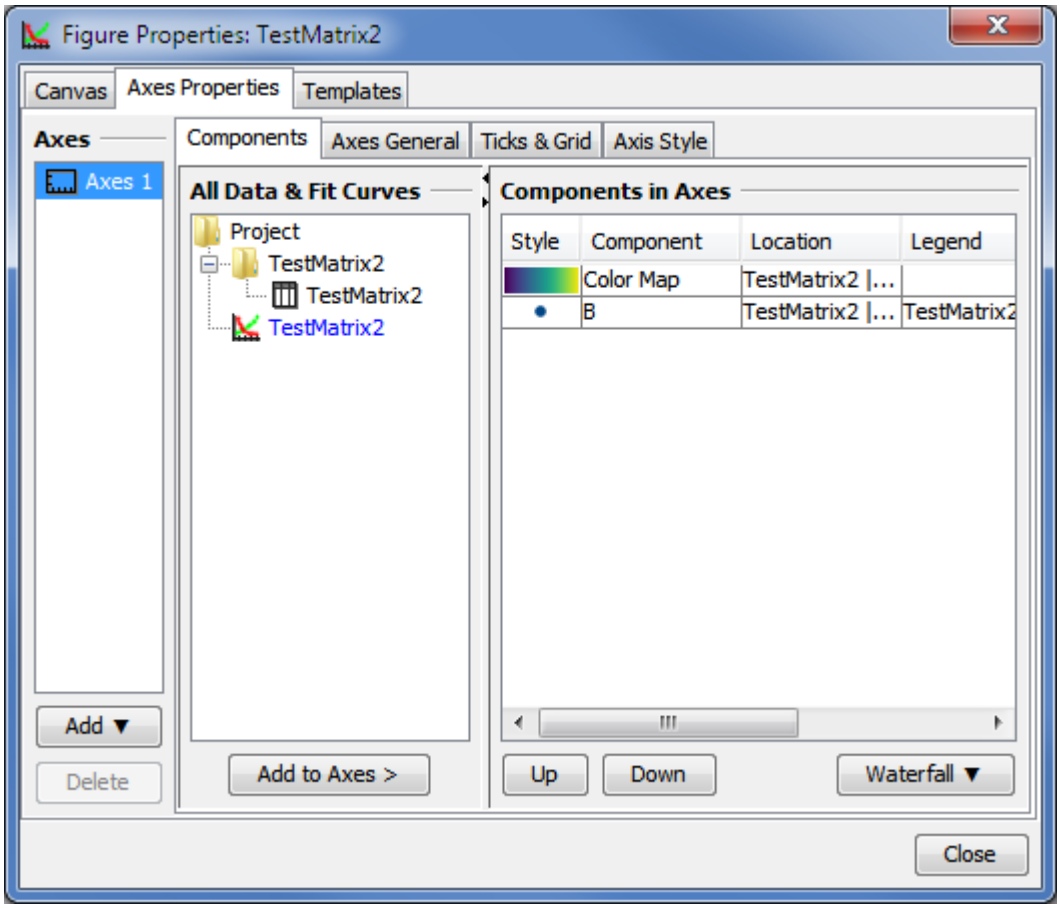
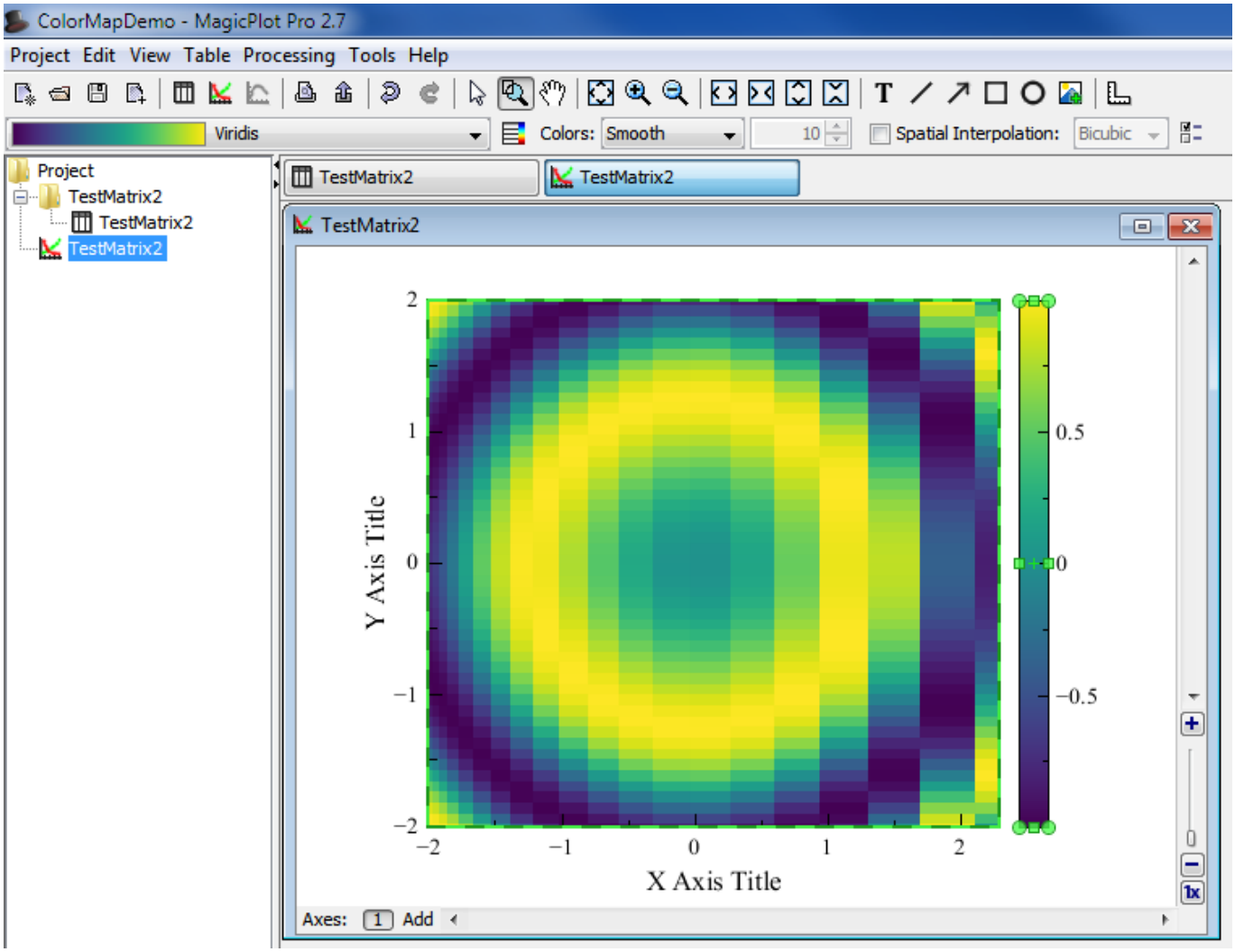


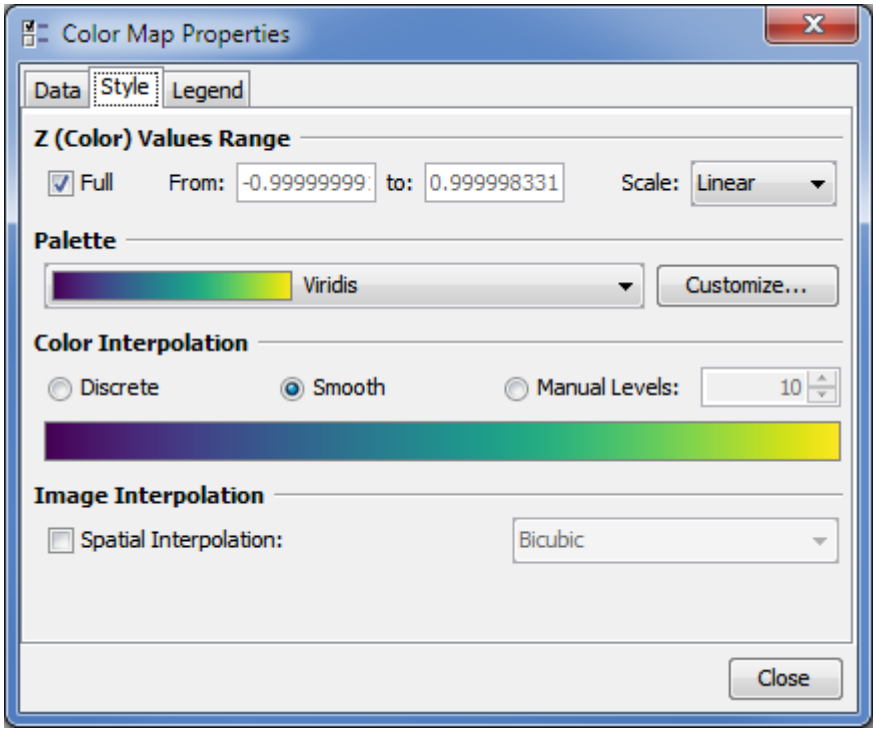
Figure Properties: TestMatrix2
Canvas
Axes Properties
Templates
Axes
Components
Axes General
Ticks & Grid
Axis Style
Axes 1
All Data & Fit Curves
Project
TestMatrix2
TestMatrix2
TestMatrix2
Components in Axes
Style
Component
Location
Legend
Color Map
TestMatrix2 |...
B
TestMatrix2 |...
TestMatrix2
Add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

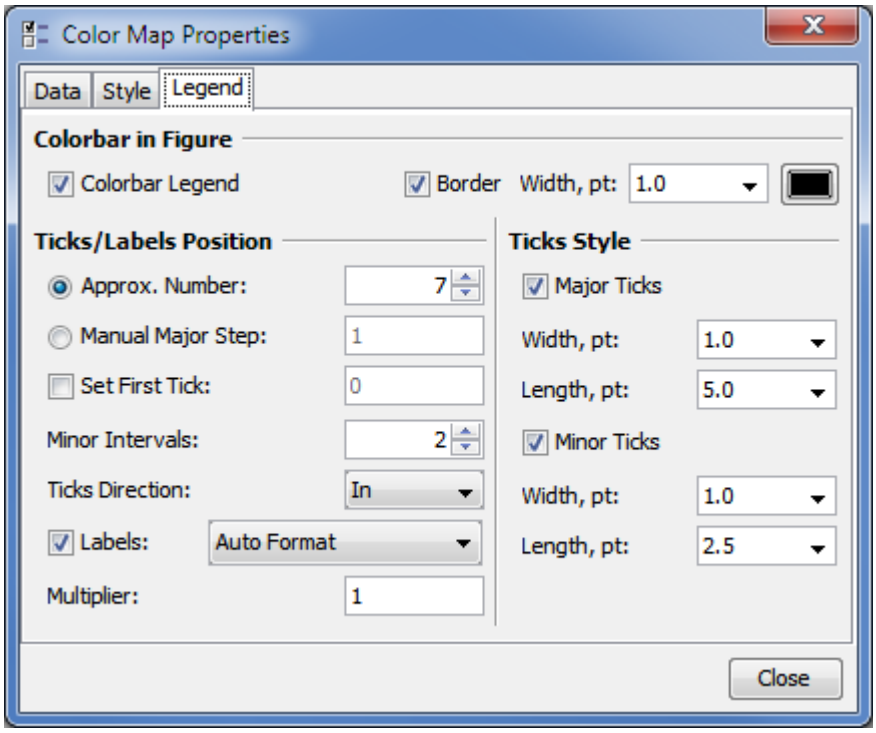
Customizing Color Map Plot

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



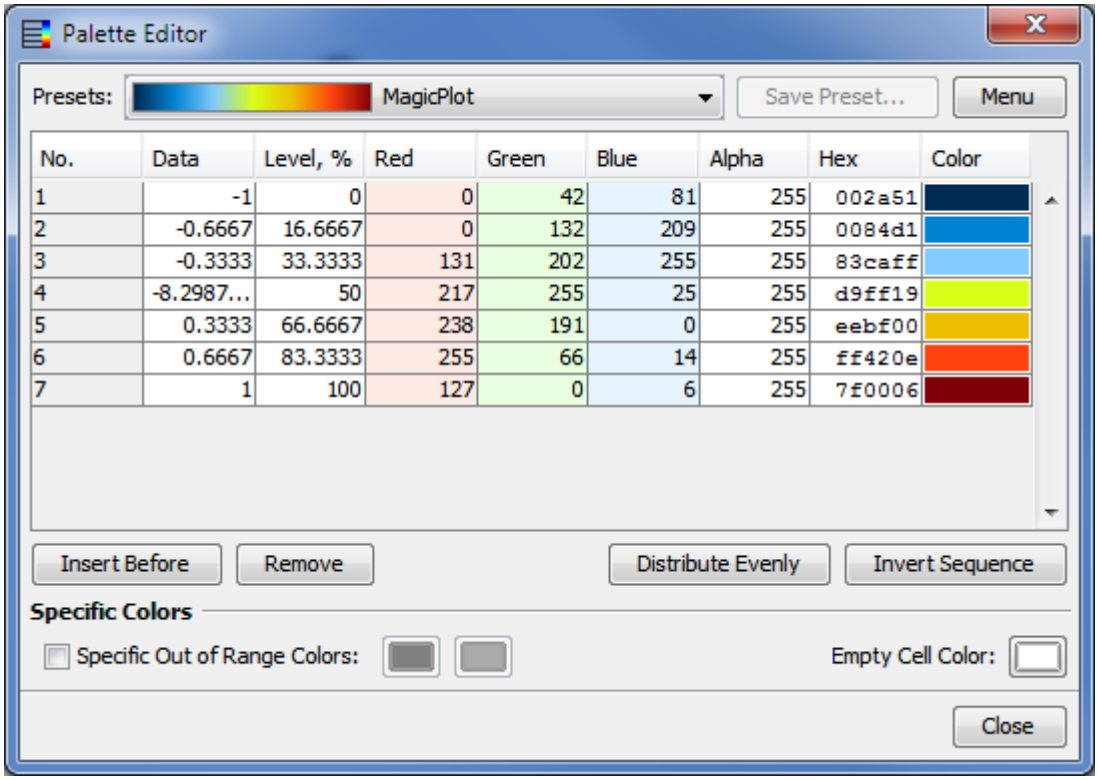
Color Map style and legend color bar style can be edited in Color Map Properties dialog:





Customizing Color Map Palette

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



Color Map Palette Presets

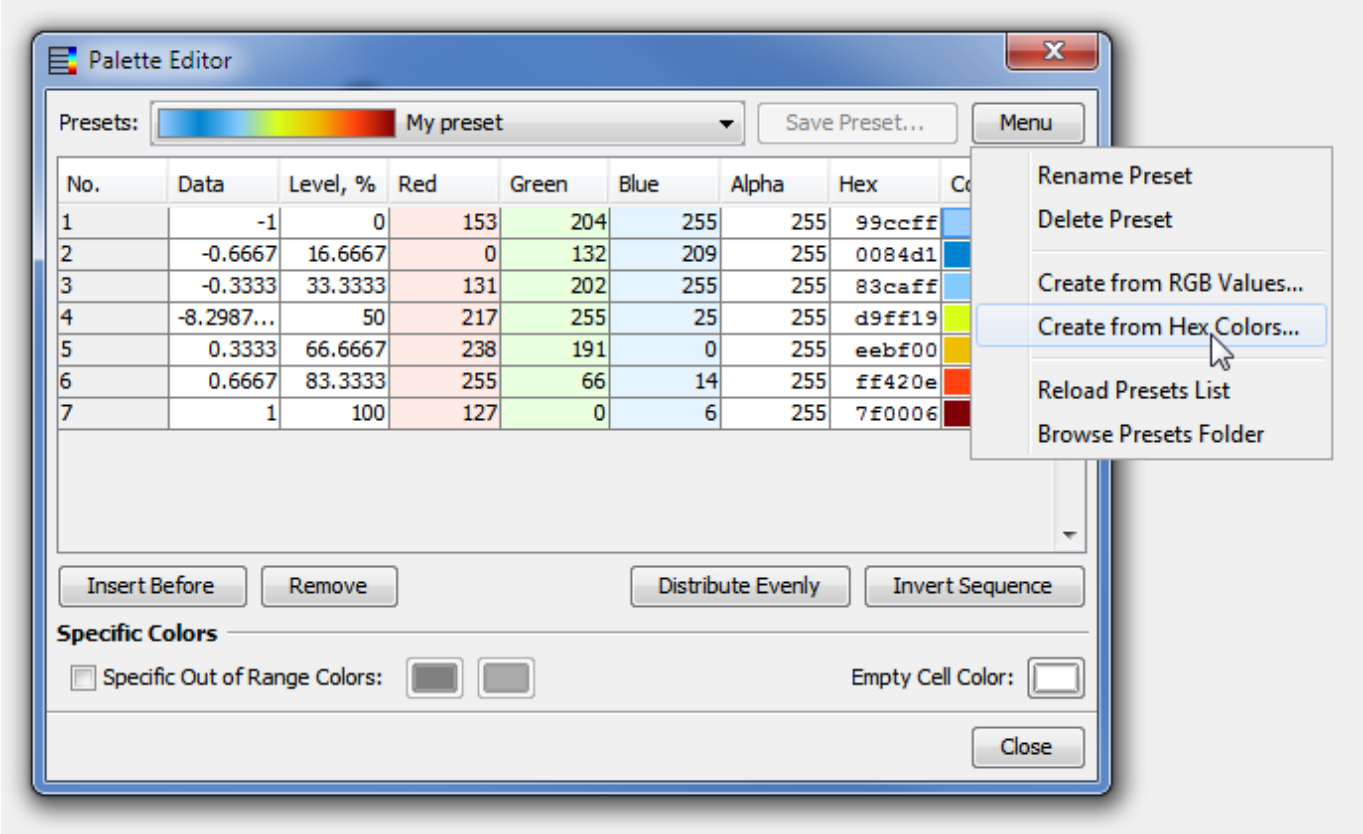
MagicPlot contains several build-in palette presets. After editing palette you can also save your own preset by pressing 'Save Preset' button. Selected preset can be renamed or deleted using 'Menu' button.

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

Creating Palette from Color List

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

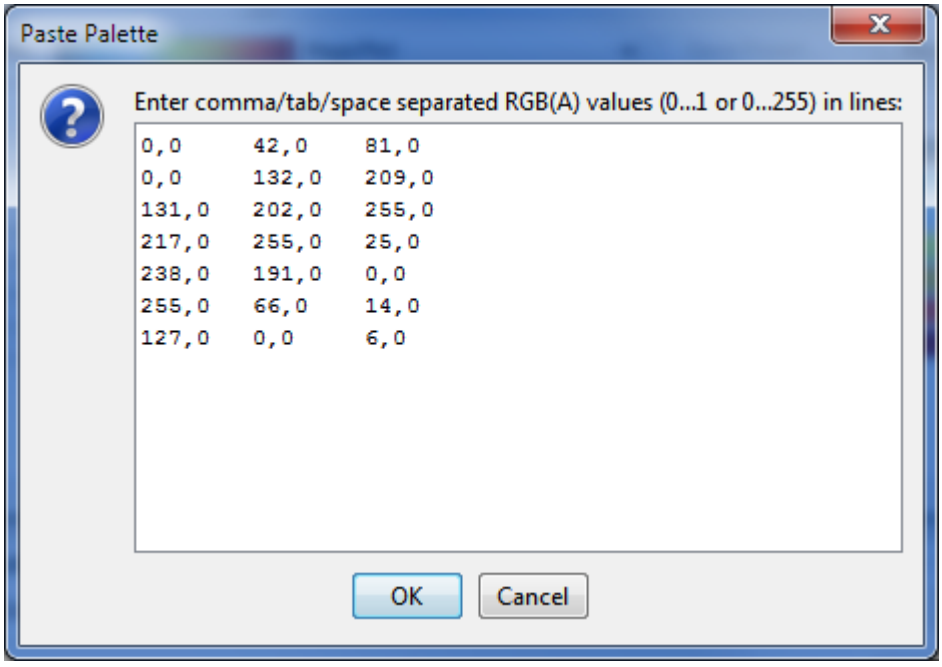
Current palette setting will be overridden (this operation can be undone).



Pasting RGB(A) Values

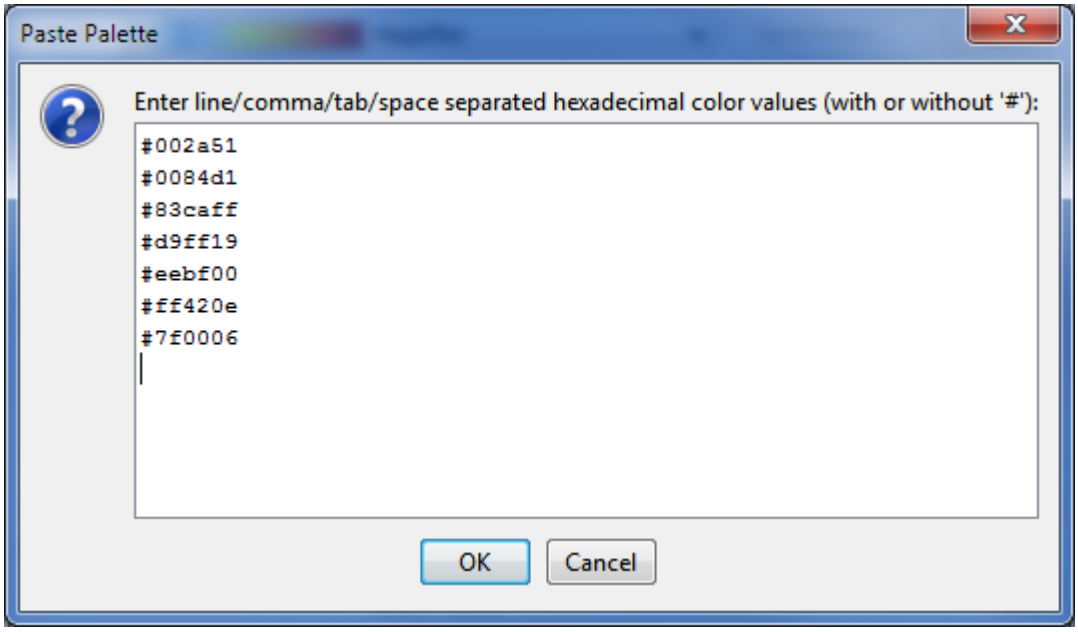
You can paste `red, green, blue` values or `red, green, blue, alpha` values in opened dialog box. Values must be separated by comma, semicolon, tab or space, one color per line. Both 0…1 and 0.255 values are automatically supported.

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



Pasting Hexadecimal Color Codes

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



Technical notes

Exporting of Vector Image

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

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

Color Interpolation

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

Bicubic Image Interpolation

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

MagicPlot performs bicubic interpolation using 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 image resizing) with coefficient `a=-0.5`.

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