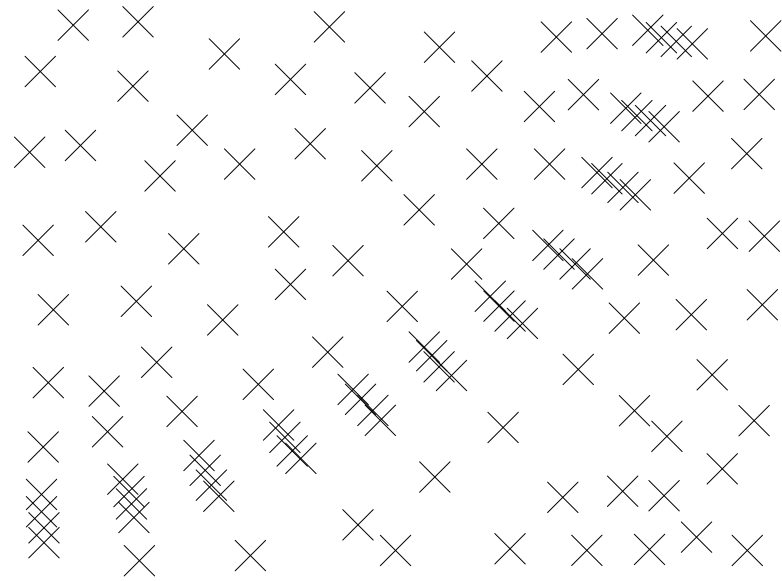


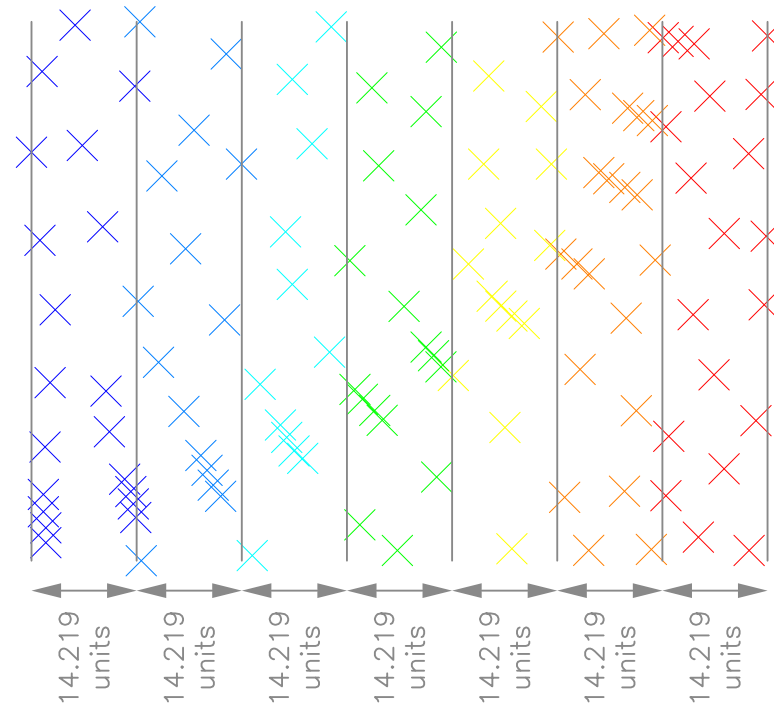
# COLOURBYX

Applies colours to 3D points according to their x coordinates. Colours can be applied by value bands, by quantity bands, minimum and maximum limits, and regular intervals (more meaningful with COLOURBYZ)

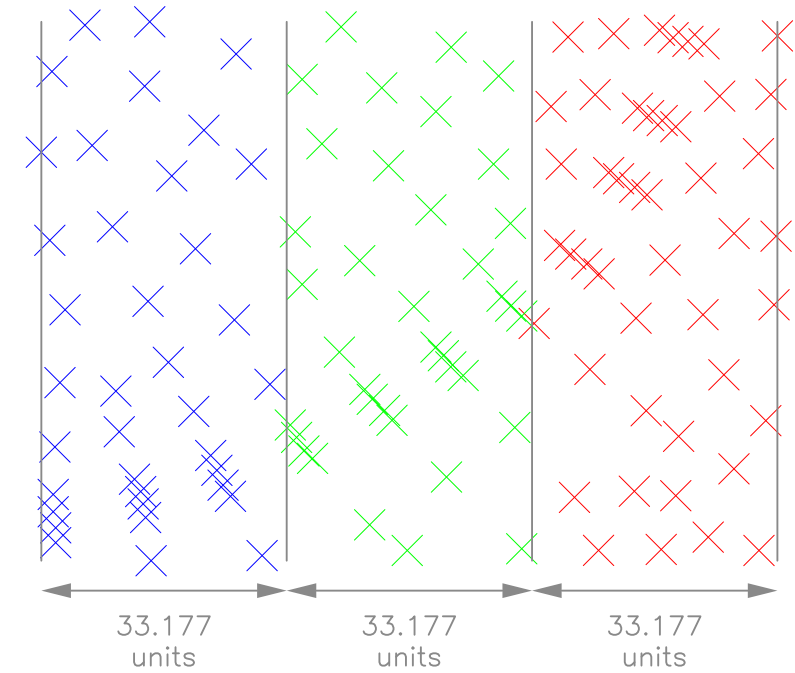
Before



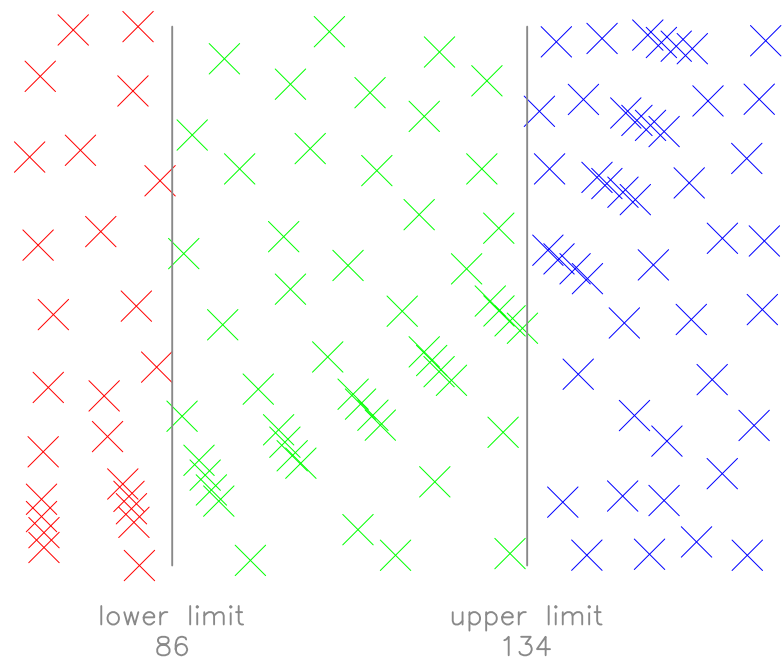
Example 1: Points coloured by 7 value bands (each band has the same width)



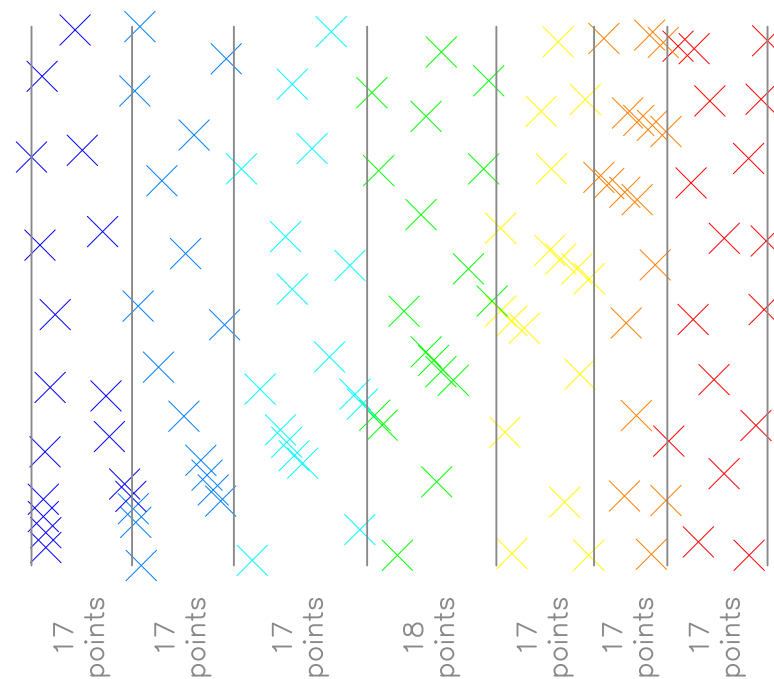
Example 2: As example 1, but with 3 value bands



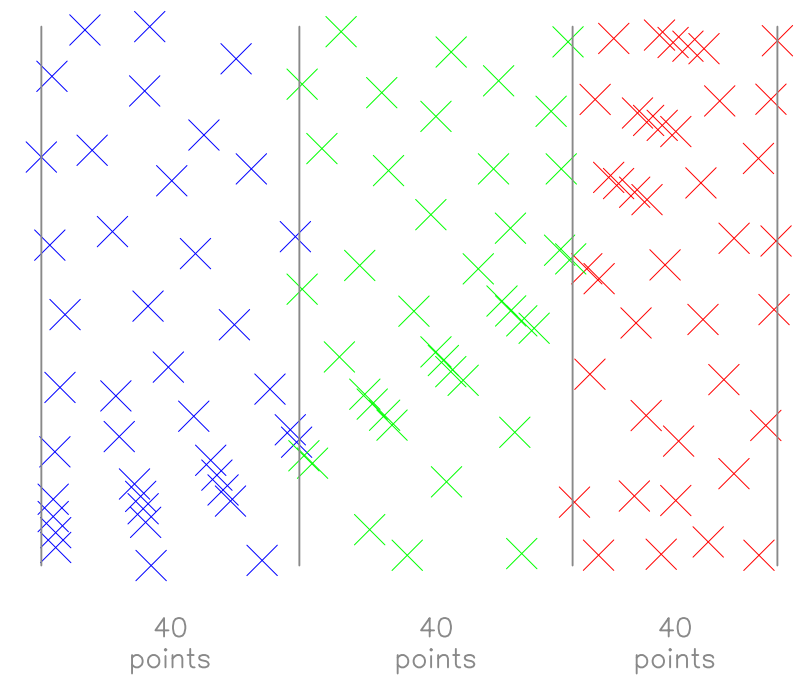
Example 3: Points coloured by minimum and maximum limits



Example 4: Points coloured by 7 quantity bands (i.e. roughly same number of points in each band)



Example 5: As example 4, but with 3 quantity bands

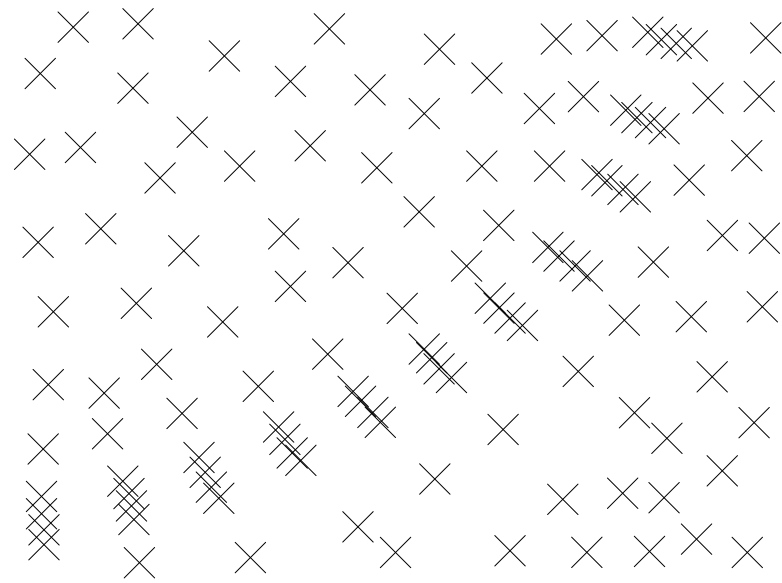


(N.B. Vertical lines and annotation have been added to show edge of each band and band parameters. COLOURBYX does not create these lines, but it does display band data in the command text window)

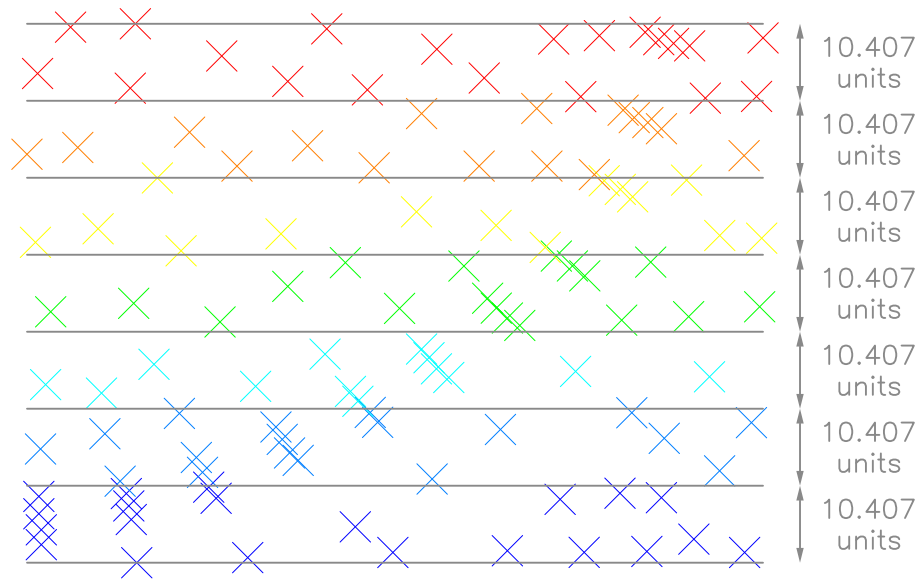
# COLOURBY

Applies colours to 3D points according to their y coordinates. Colours can be applied by value bands, by quantity bands, minimum and maximum limits, and regular intervals (more meaningful with COLOURBYZ)

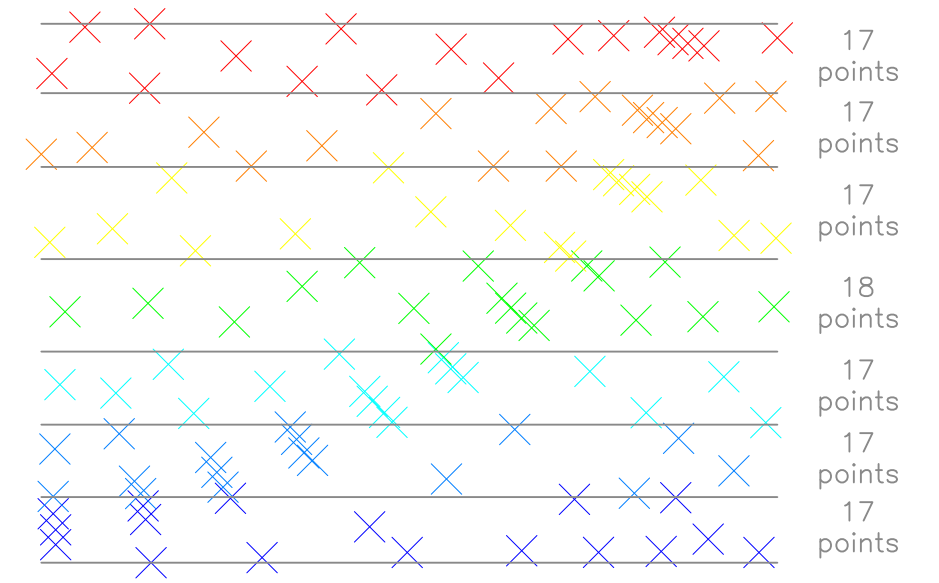
Before



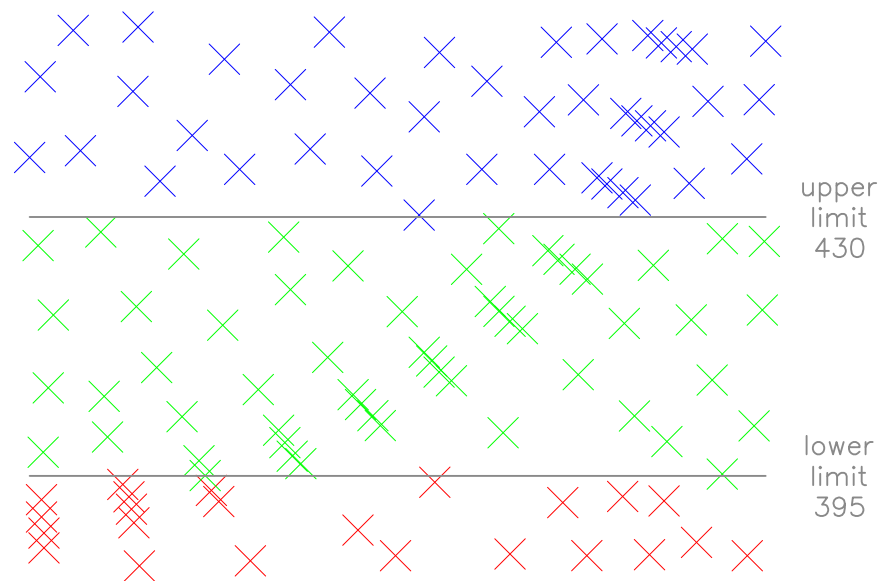
Example 1: Points coloured by 7 value bands (each band has the same height)



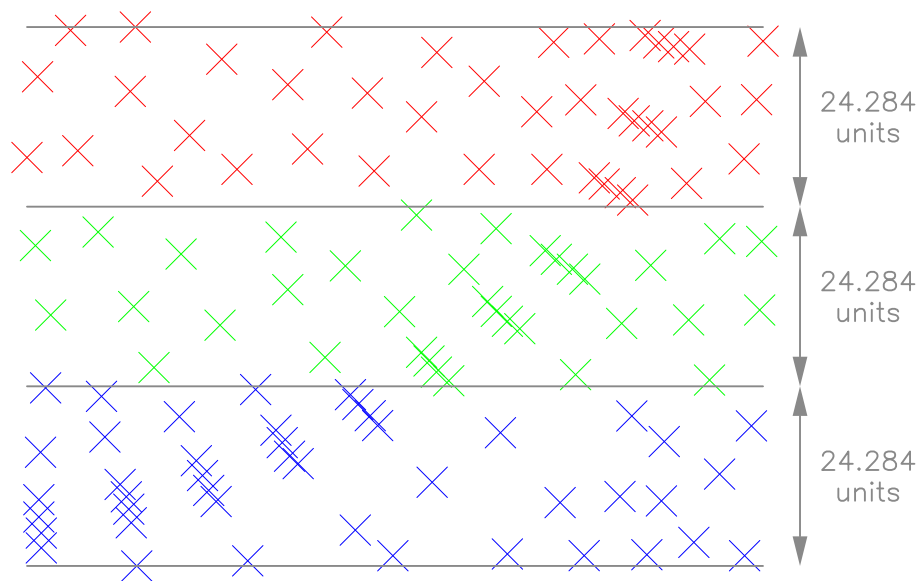
Example 2: Points coloured by 7 quantity bands (i.e. roughly same number of points in each band)



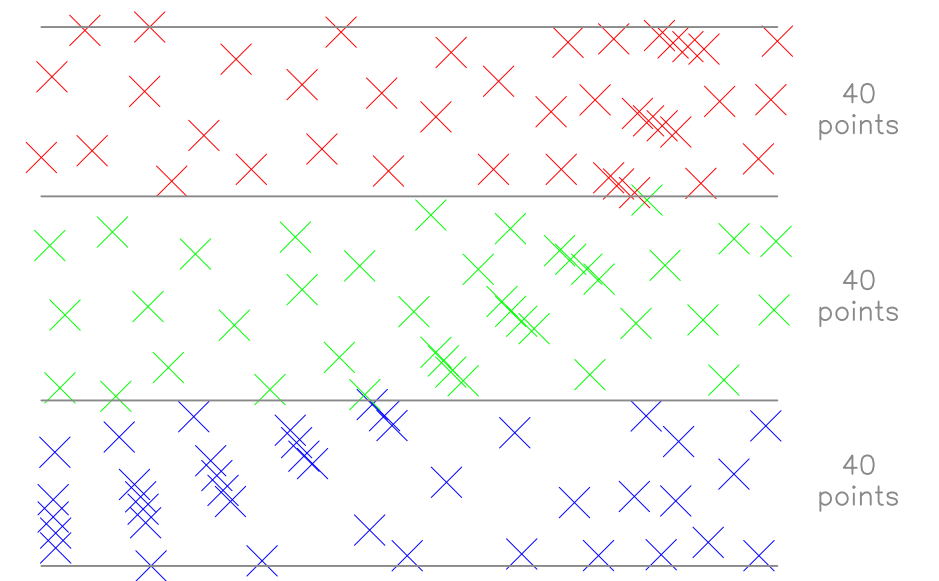
Example 3: Points coloured by minimum and maximum limits



Example 4: As example 1, but with 3 value bands



Example 5: As example 2, but with 3 quantity bands

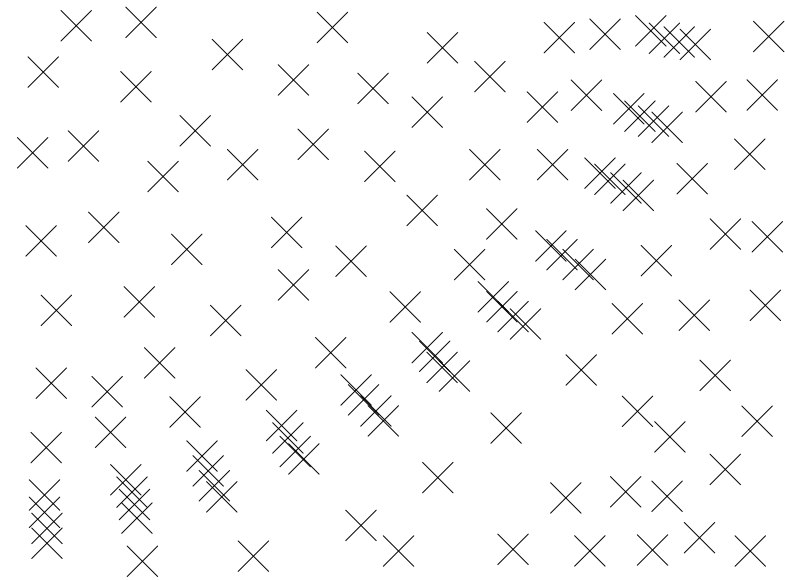


(N.B. Horizontal lines and annotation have been added to show edge of each band and band parameters. COLOURBY does not create these lines, but it does display band data in the command text window)

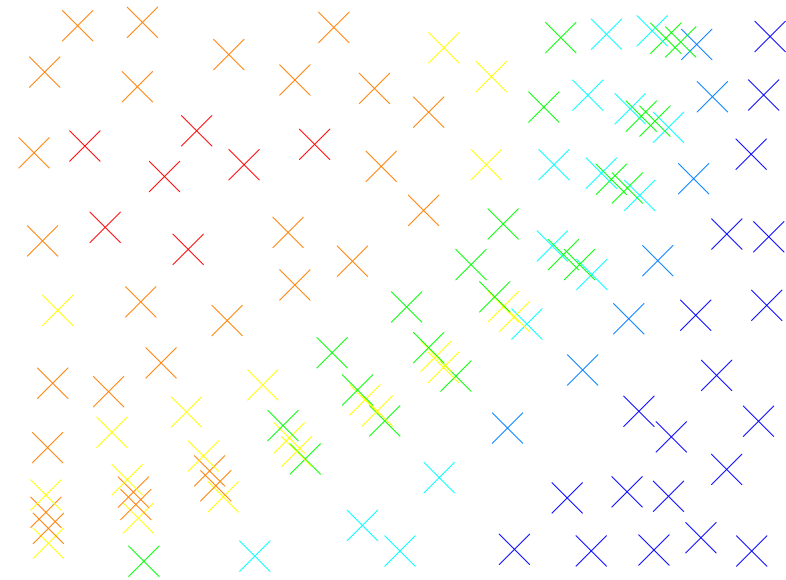
# COLOURBYZ (1 of 3)

Applies colours to 3D points, 2D polylines, 2D lines and 2D solids according to their z coordinates. Colours can be applied by value bands, by quantity bands, minimum and maximum limits, and regular intervals (useful for contour lines)

Before



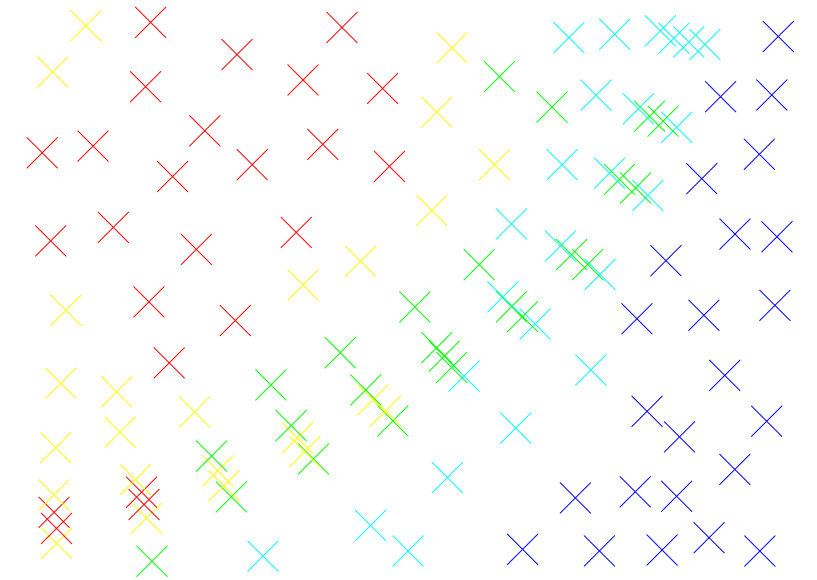
Example 1: Points coloured by 7 value bands (each band has the same elevation thickness)



Data returned by Example 1:

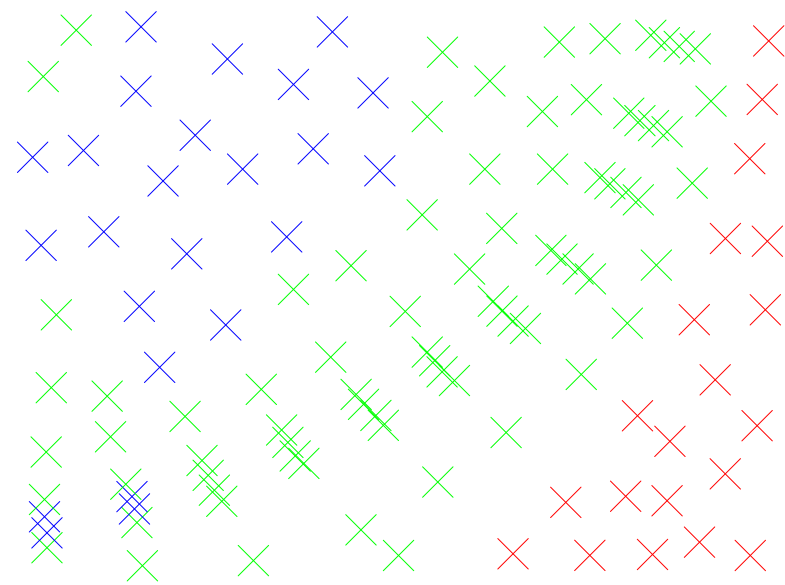
- Band 1: 7.936 to 8.700
- Band 2: 7.171 to 7.936
- Band 3: 6.407 to 7.171
- Band 4: 5.643 to 6.407
- Band 5: 4.879 to 5.643
- Band 6: 4.114 to 4.879
- Band 7: 3.350 to 4.114

Example 2: Points coloured by 5 quantity bands (i.e. roughly same number of points in each band)



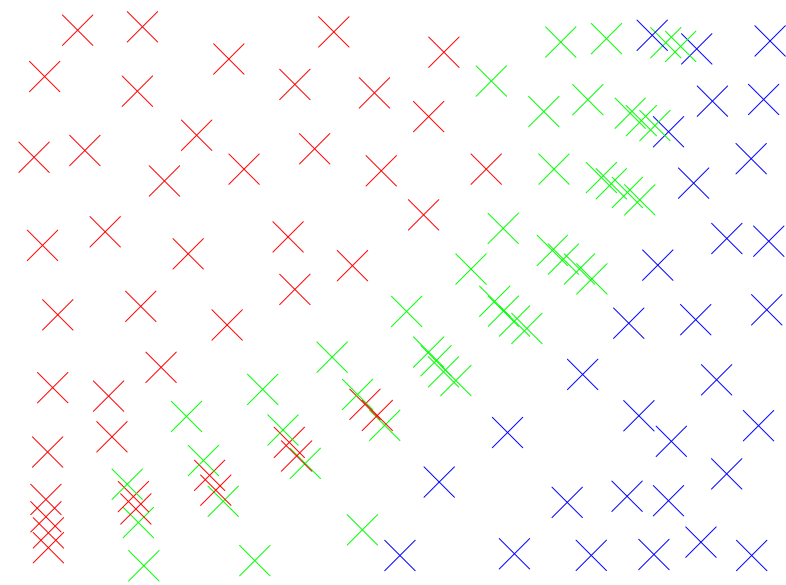
Model is too flat in Example 2 for 7 or 6 quantity bands

Example 3: Points coloured by minimum and maximum limits



Lower limit 4.00  
Upper limit 7.50

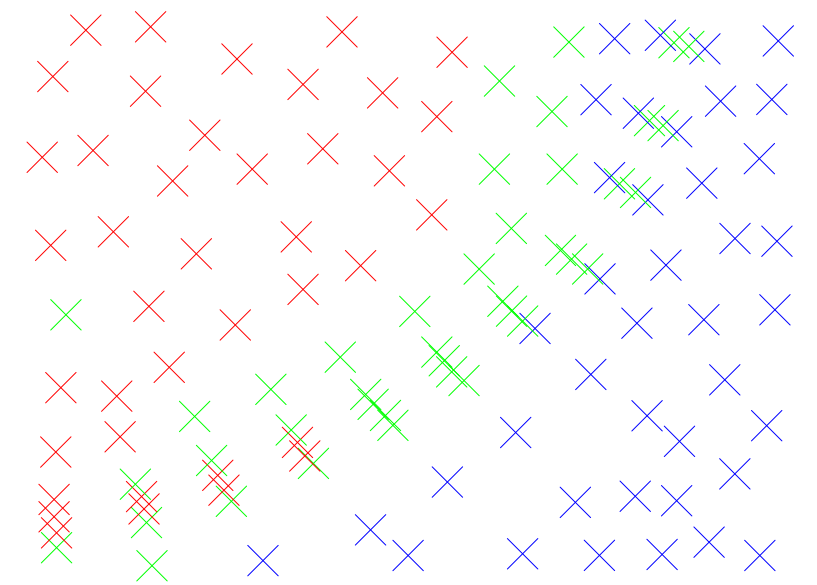
Example 4: As example 1, but with 3 value bands



Data returned by Example 4:

- Band 1: 6.917 to 8.700
- Band 2: 5.133 to 6.917
- Band 3: 3.350 to 5.133

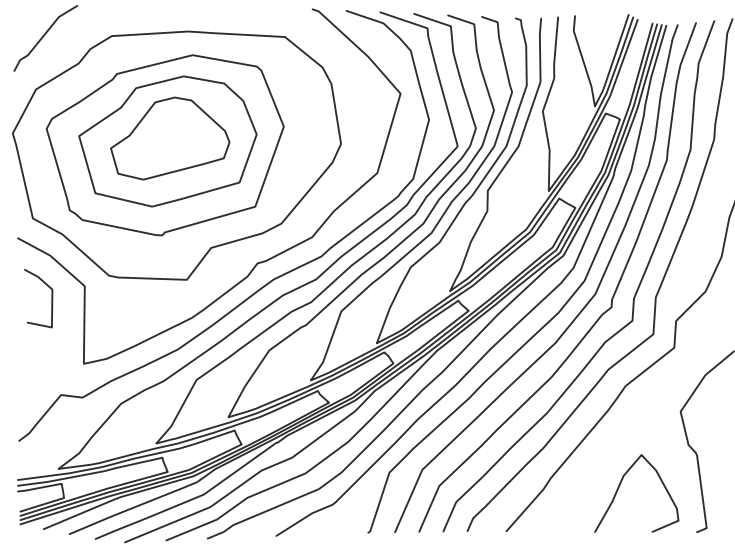
Example 5: As example 2, but with 3 quantity bands



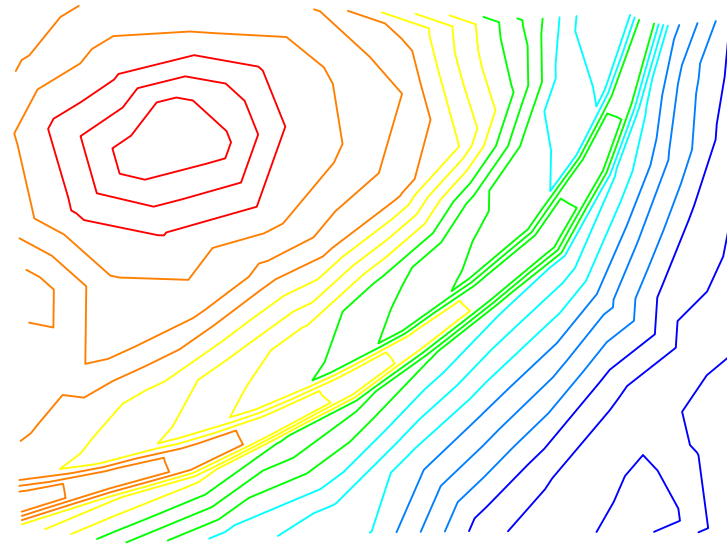
# COLOURBYZ (2 of 3)

Applies colours to 3D points, 2D polylines, 2D lines and 2D solids according to their z coordinates. Colours can be applied by value bands, by quantity bands, minimum and maximum limits, and regular intervals (useful for contour lines)

Before



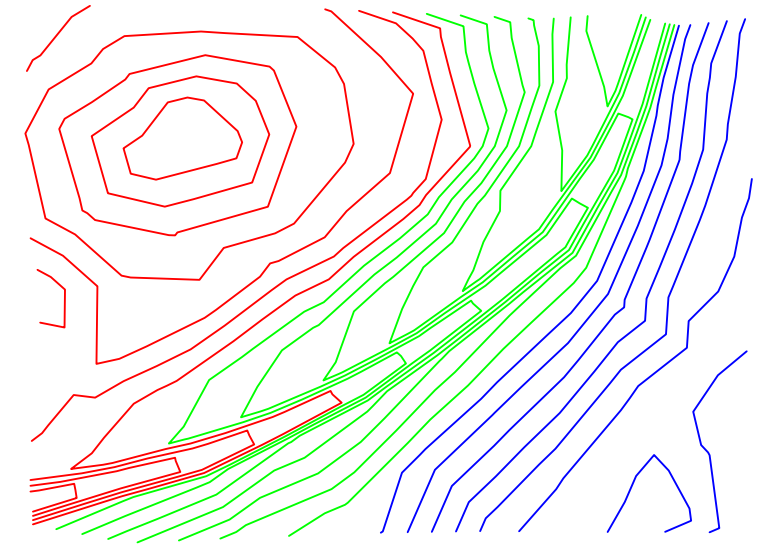
Example 1: 2D polylines coloured by 7 value bands (each band has the same elevation thickness)



Data returned by Example 1:

- Band 1: 7.786 to 8.500
- Band 2: 7.071 to 7.786
- Band 3: 6.357 to 7.071
- Band 4: 5.643 to 6.357
- Band 5: 4.929 to 5.643
- Band 6: 4.214 to 4.929
- Band 7: 3.500 to 4.214

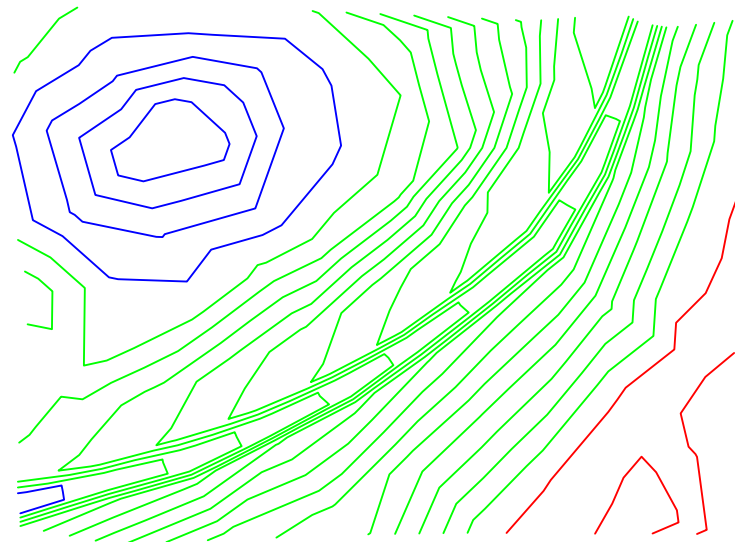
Example 2: As example 1, but with 3 value bands



Data returned by Example 2:

- Band 1: 6.833 to 8.500
- Band 2: 5.167 to 6.833
- Band 3: 3.500 to 5.167

Example 3: 2D polylines coloured by minimum and maximum limits



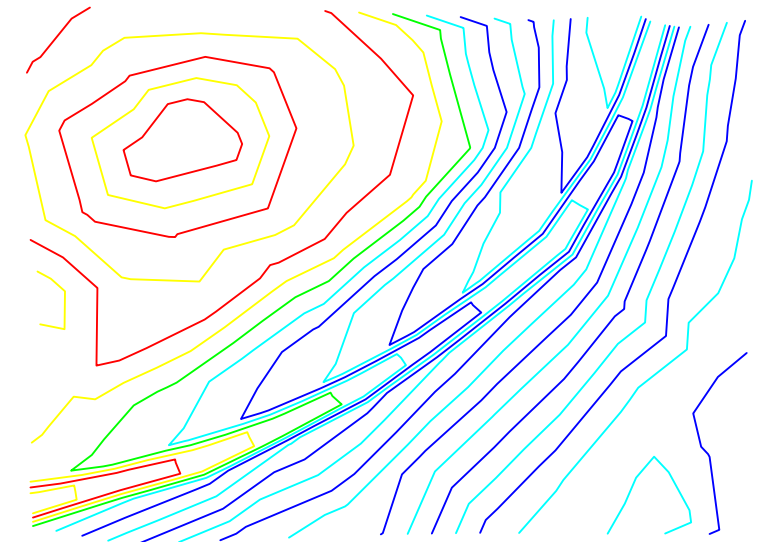
Lower limit 4.00  
Upper limit 7.50

Example 5: 2D polylines coloured by regular intervals



1.0 interval value (for major contours)  
Interval origin at 5.0 units

Example 6: 2D polylines coloured by smaller regular intervals and raised interval origin

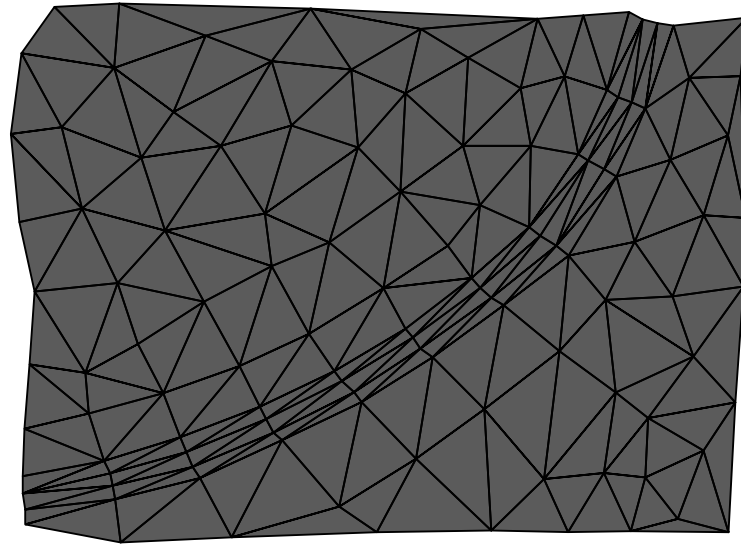


0.5 interval value (for major contours)  
Interval origin at 7.0 units

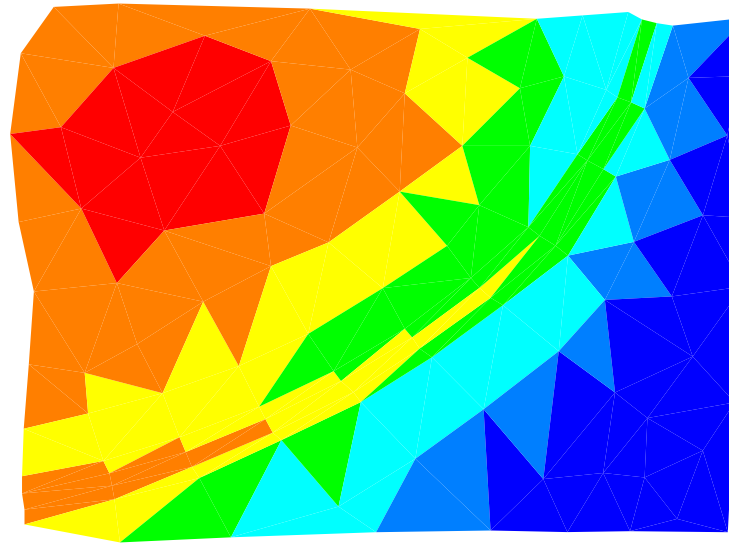
# COLOURBYZ (3 of 3)

Applies colours to 3D points, 2D polylines, 2D lines and 2D solids according to their z coordinates. Colours can be applied by value bands, by quantity bands, minimum and maximum limits, and regular intervals (useful for contour lines)

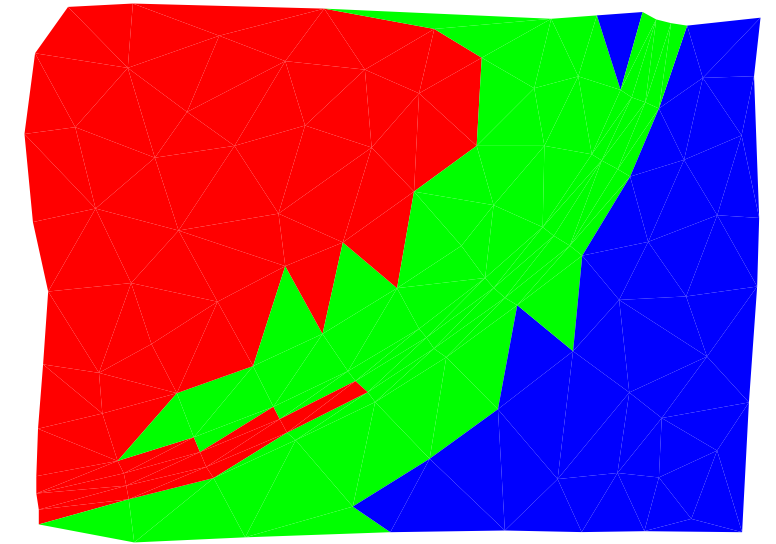
Before  
(Solids have z coordinates based on average z coordinates of each individual source 3D triangle)



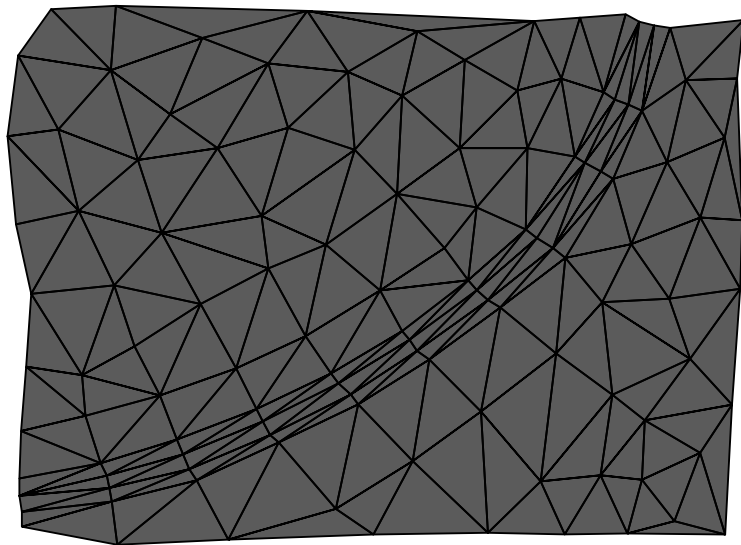
Example 1: 2D solids coloured by 7 value bands to identify higher and lower areas within model



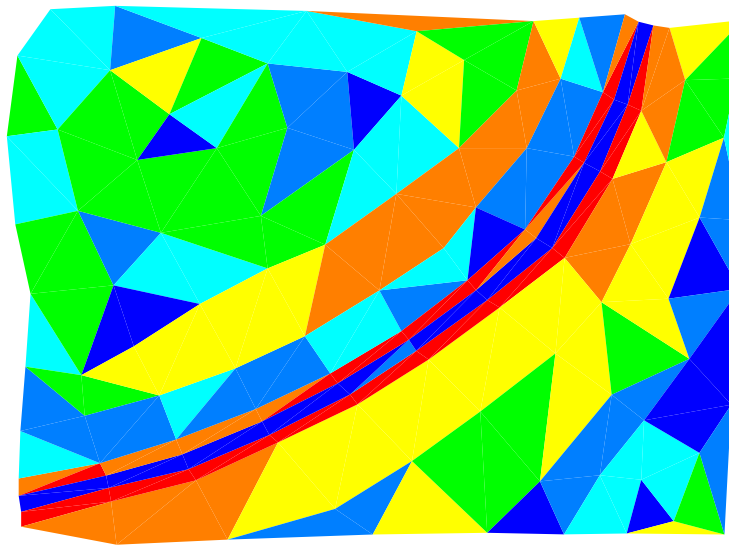
Example 2: As example 1, but with 3 value bands



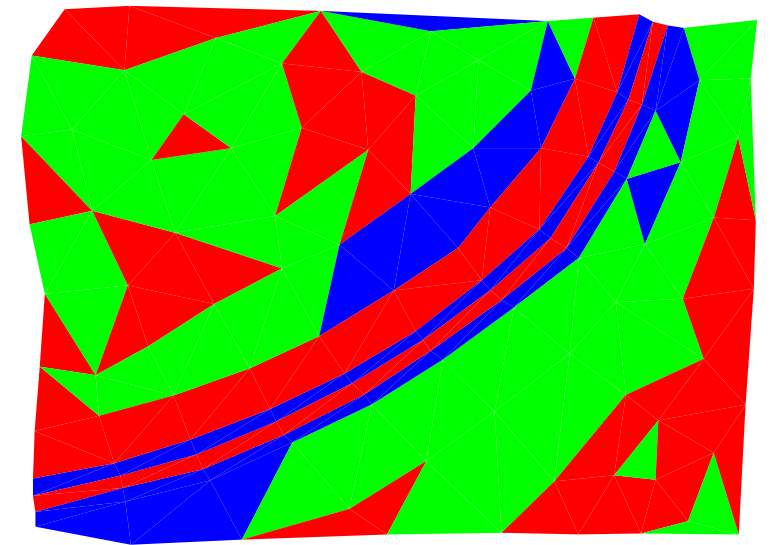
Before  
(Solids have z coordinates based on maximum slope of each individual source 3D triangle)



Example 3: 2D solids coloured by 7 quantity bands to identify steeper and flatter areas within model



Example 4: 2D solids coloured by minimum and maximum limits to identify areas which are steeper or flatter than limits



Lower limit 5.0 (i.e. 5.0% or 1 in 20)  
Upper limit 12.5 (i.e. 12.5% of 1 in 8)

# COLOURBYCHART

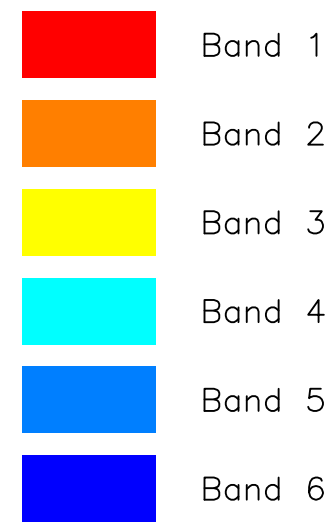
Draws charts to display what colours are used for each command. These charts can be edited so that the text is more relevant to the project, and the colours can be edited and used by COLOURBYSET to set which colours are used going forward

Example 1: Default colour charts created for 'value' option (same for 'quantity' option) for each 'number of bands' value (from 7 to 2)

Colour by Value Bands



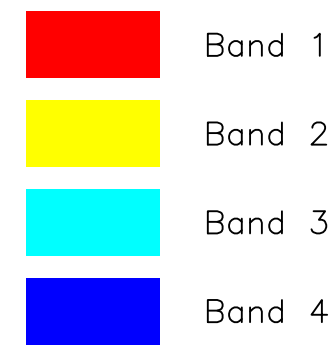
Colour by Value Bands



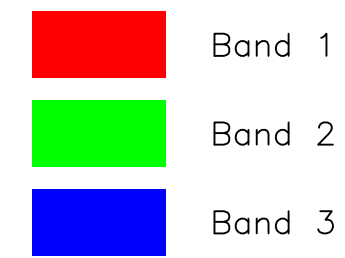
Colour by Value Bands



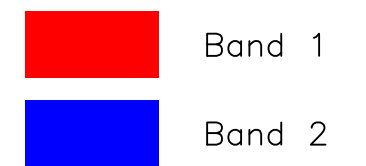
Colour by Value Bands



Colour by Value Bands

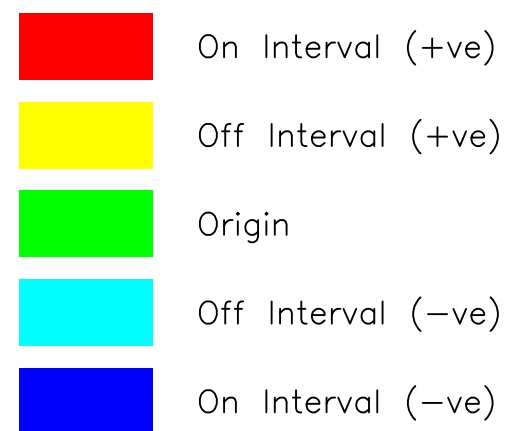


Colour by Value Bands



Example 2: Default colour charts created for 'interval' and 'limits' options

Colour by Regular Intervals



(always 5 colours)

Colour by Minimum and Maximum Limits



(always 3 colours)

# COLOURBYRESET

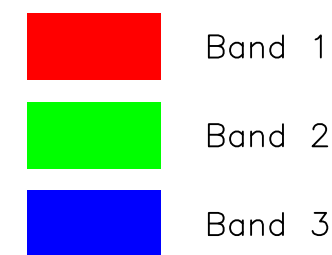
Resets colours to their default values. It will not affect any objects already coloured by COLOURBY... commands

# COLOURBYSET

Uses colours in charts created by COLOURBYCHART to set new colours to be used by subsequent COLOURBY... commands. Setting new colours will not affect any objects already coloured by COLOURBY... commands

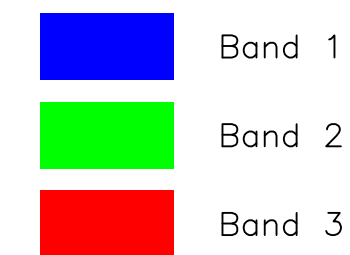
Example 3: Default colour chart

Colour by Quantity Bands



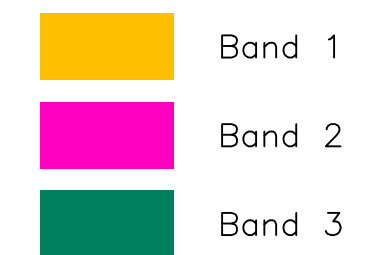
Example 4: Reverse order of colours

Colour by Quantity Bands



Example 5: Completely different colours

Colour by Quantity Bands



- (i) in COLOURBYSET select the coloured rectangles above, then
- (ii) in COLOURBYZ select the solid objects below, 'quantity' option and 3 bands

