Notes on GMT subplot figures



1. There are two ways to specify dimensions of a figure containing subplots:

**–F[f]***W/H*: This sets the **figure** dimensions, i.e., dimensions of the outside frame (red pen). Given the chosen panel margins we then compute the subplot dimensions *w*/*h*.

**–Fs***w/h*: This sets the **subplot** dimensions, i.e., dimensions of each subplot frame (dashed blue pen). Given the chosen panel margins we calculate the outside frame dimensions *W/H*.

2. The actual subplot dimensions (*w/h*) may be reduced further on a panel-by-panel basis via subplot *clearances* specified via **–C**. The complexity of your overall plot will dictate if it is preferable to specify the subplot dimension or the subplot dimension.

3. A subplot figure can be placed via absolute or relative positioning **(-X**, **-Y**) so you can plot other items before or after the figure has been placed. If relative positioning is used then when the subplot completes the plot origin will be at the lower left corner of the figure.

The calculations of dimensions involve determining how much “fluff” is required. This is a combination of space for ticks, annotations, labels, column titles, and added clearance between subplots. Once the fluff in both x and y have been estimated we can compute the required dimensions:

If **–Ff**: Remove fluff from given figure dimensions, then split the remainder evenly among the rows and columns.

If **–Fs**: Multiply subplot dimensions by number of rows (and columns), then add the fluff: This gives the figure dimensions.

It is possible to specify different subplot dimensions on a per-row and/or per-column level. The full syntax of the –F option is

**–F[f]***W/H*[:*c1,c2*,…,*cn*/*r1,r2*,…,*rm*].

The optional specifications following the colon specifies how the width and height is to be distributed across columns and rows. Default is evenly, but you can change that by specifying the fraction of width per column (*c1-n*) and fraction of height per row (*r1-m*). If only one dimensions should be unequal then give 1 for the other. For example –Ff4i/4i:3,1/1,2 will make the first column three times as wide as the second, while the second row will be twice as tall as the first row. The final widths and heights depends on the figure dimensions and the fluff but will be distributed given the fractions provided.

**–Fs***w1*[*,w2*,…,*wn*]/*h1*[*,h2*,…,*hm*].

Here, one can either give a single width (which is the default) and it will be used for all columns. Alternatively, you can give comma-separated widths for each column. Likewise, you can give a single height of a comma-separated list of heights for each row. The final figure dimensions then depends on the sum of these plus the fluff.