

# 1 Matlab Help on Subplot

SUBPLOT Create axes in tiled positions.

`H = SUBPLOT(m,n,p)`, or `SUBPLOT(mnp)`, breaks the Figure window into an m-by-n matrix of small axes, selects the p-th axes for for the current plot, and returns the axis handle. The axes are counted along the top row of the Figure window, then the second row, etc. For example,

```
SUBPLOT(2,1,1), PLOT(income)
SUBPLOT(2,1,2), PLOT(outgo)
```

plots income on the top half of the window and outgo on the bottom half. If the CurrentAxes is nested in a uipanel the panel is used as the parent for the subplot instead of the current figure.

`SUBPLOT(m,n,p)`, if the axis already exists, makes it current.

`SUBPLOT(m,n,p,'replace')`, if the axis already exists, deletes it and creates a new axis.

`SUBPLOT(m,n,p,'v6')` places the axes so that the plot boxes are aligned, but does not prevent the labels and ticks from overlapping. Saved subplots created with the 'v6' option are compatible with MATLAB 6.5 and earlier versions.

`SUBPLOT(m,n,P)`, where P is a vector, specifies an axes position that covers all the subplot positions listed in P.

`SUBPLOT(H)`, where H is an axis handle, is another way of making an axis current for subsequent plotting commands.

`SUBPLOT('position',[left bottom width height])` creates an axis at the specified position in normalized coordinates (in in the range from 0.0 to 1.0).

`SUBPLOT(m,n,p, PROP1, VALUE1, PROP2, VALUE2, ...)` sets the specified property-value pairs on the subplot axis. To add the subplot to a specific figure pass the figure handle as the value for the 'Parent' property.

If a SUBPLOT specification causes a new axis to overlap an existing axis, the existing axis is deleted - unless the position of the new and existing axis are identical. For example,

the statement `SUBPLOT(1,2,1)` deletes all existing axes overlapping the left side of the Figure window and creates a new axis on that side - unless there is an axes there with a position that exactly matches the position of the new axes (and 'replace' was not specified), in which case all other overlapping axes will be deleted and the matching axes will become the current axes.

`SUBPLOT(111)` is an exception to the rules above, and is not identical in behavior to `SUBPLOT(1,1,1)`. For reasons of backwards compatibility, it is a special case of subplot which does not immediately create an axes, but instead sets up the figure so that the next graphics command executes `CLF RESET` in the figure (deleting all children of the figure), and creates a new axes in the default position. This syntax does not return a handle, so it is an error to specify a return argument. The delayed `CLF RESET` is accomplished by setting the figure's `NextPlot` to 'replace'.

Be aware when creating subplots from scripts that the `Position` property of subplots is not finalized until either a `drawnow` command is issued, or MATLAB returns to await a user command. That is, the value obtained for subplot `i` by the command `get(h(i), 'Position')` will not be correct until the script refreshes the plot or exits.

#### Backwards compatibility

Use the `SUBPLOT 'v6'` option and save the figure with the 'v6' option when you want to be able to load a FIG-file containing subplots into MATLAB Version 6.5 or earlier.

See also `gca`, `gcf`, `axes`, `figure`, `uipanel`