

Documentation for function 'subfig_plot'

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Usage:

`subfig_plot(subfig_general, subfigs);`

Parameters:

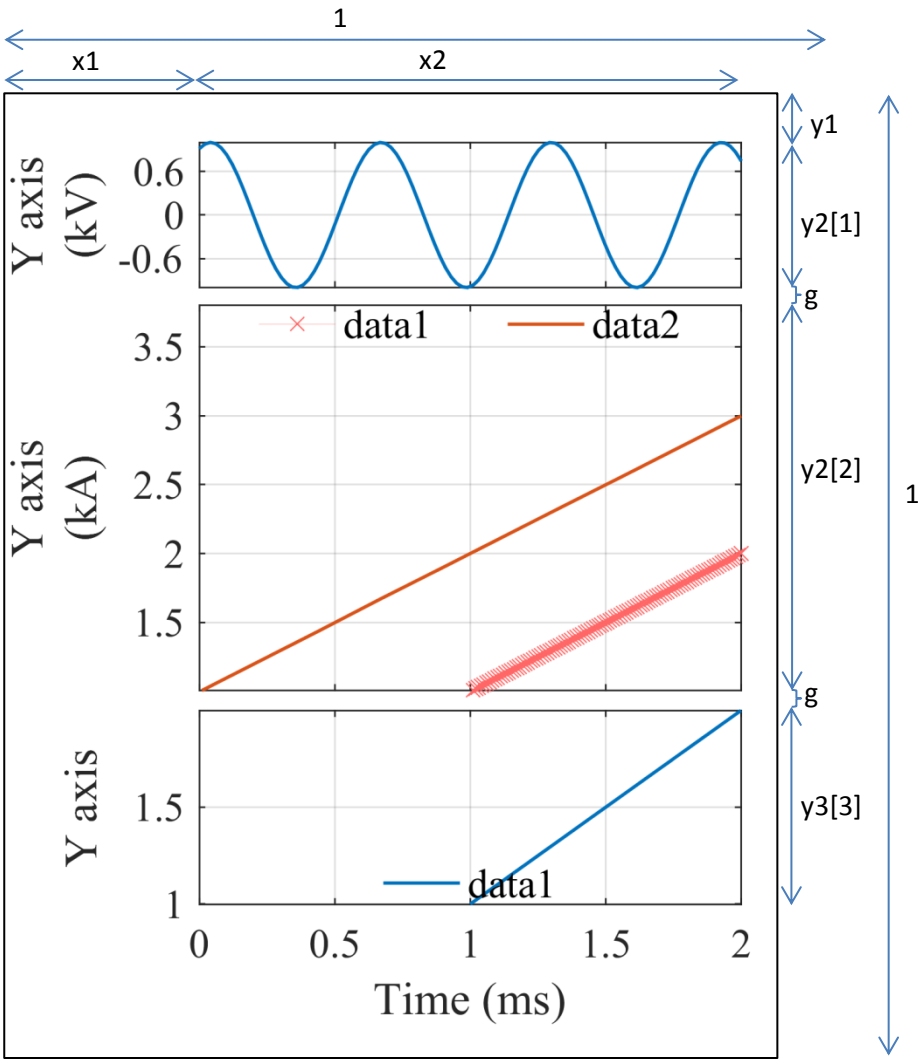
subfig_general

structure containing main parameters, such as figure proportions, printer settings, x axis settings, and global legend settings.

subfigs{k}

cell field consisting of plot data for each subfigure 'k'. It contains the data for each plotted line, the plot settings, local legend, and y axis settings.

subfig_general: figure size and proportions



x1	subfig_general.x_begin
x2	subfig_general.x_length
y1	subfig_general.y_begin
y2[k]	subfig_general.y_sizes_rel[k]
g	subfig_general.y_gap

subfig_general: figure size and proportions

Parameter	Value	Value Example	Optional	Units	Description
size	[x, y]	[5, 6]	no	cm	Size of the output figure in cm.
x_begin	x	0.1	no	relative	Offset of the all axes from left (relative to figure size).
y_begin	y	0.05	no	relative	Offset of the first axis from top (relative to figure size).
x_length	x	0.7	no	relative	Length of the x-axis (relative to figure size).
subfig_y_sizes_rel	[a b c...]	[0.2 0.4 0.2]	no	relative	The length of the y-axis for each subplot (relative to figure size). The length of the vector determines the number of subplots.
subfig_y_gap	g	0	no	relative	The gap between the subplots (relative to figure size).

subfig_general: general settings

Parameter	Value	Value Example	Optional	Units	Description
x_limit	[x1 x2]	[0 2]	no	x axis units	The part of x axis which should be displayed
xticks	[x1 x2...]	[1 2 2.5 3]	yes	x axis units	Specifies at which positions, the x ticks will be placed.
xticklabel	{s1,s2...}	{‘a’, ‘b’, ‘c’, ‘x’}	yes	-	Adds the labels for ticks specified in xticks.
do_log_axis_x	logic 1/0	0	yes	-	Forces x axis to be logarithmic. (Might cause problems with decimal comma.)
do_grids	logic 1/0	1	yes	-	Turns the grid on/off in all subplots.
x_label	string	‘Time (ms)’	yes	-	Adds the x axis label
fontsize	f	12	yes	pt	Sets the font size
legend_fontsize	f	10	yes	pt	Sets the legend font size
font	string	‘Times-Roman’	yes	-	Sets the font used in figure
figure_number	n	3	yes	-	Determines which figure number will be used to generate the figure (the figure will be closed after generation).
align_y_labels	logic 1/0	1	yes	-	Determines whether the y axis labels should be aligned. By default, this is turned on.
interpreter	str	‘tex’	yes	-	Determines the interpreter for labels. (Options: ‘tex’, ‘latex’, ‘none’; default: ‘tex’)
decimal_comma	logic 1/0	1	yes	-	If set to 1, decimal comma is used at the axes instead of decimal point.
default_linewidth	d	0.8	yes	-	Default plot line width.
default_markersize	d	3	yes	-	Default marker size.

subfig_general: print settings

Parameter	Value	Value Example	Optional	Units	Description
figure_name	string	'figure'	no	-	Name of the output file.
output_file_type	string	'PDFemb'	yes	-	Determines the output file type. Currently supported: 'PDFemb', 'PDFemb2', 'PDF', 'PNG'. 'PDFemb' produces a PDF with embedded fonts. Ghostscript needed (included in MikTeX)! 'PDFemb2' fixes the problems with new version of MikTeX .
DPI	string	'-r400'	yes	-	Specifies printer DPI.
printer	string	'-opengl'	yes	-	Specifies printer. Currently supported: '-painters', '-opengl'

subfig_general.global_legend: global legend (optional)

If subfig_general.global_legend is specified, the software will try to generate a global legend above the subplots. Note that if the local legend is generated for the subplot, the global legend won't be generated.

Parameter	Value	Value Example	Optional	Units	Description
subfig_nr	n	2	no	-	Specifies which subplot will be used to generate global legend
names	{s1, s2,...}	{'data1','data2'}	no	-	The names for the particular plotted data shown in legend.
width	w	0.9	no	relative	The width of the global legend relative to the length of the x axis.
height	h	0.02	no	relative	The height of the legend (relative to the figure size).
y_gap	g	0.03	no	relative	The gap between the gap and subplots (relative to the figure size).
box_on	logic 1/0	0	yes	-	determines whether the box should be on
legendstyle	string	'HORIZONTAL'	yes	-	Specifies the style of the global legend. Currently available: 'HORIZONTAL', 'VERTICAL'

subfigs{k}

specifies data for the k-th subfigure.

Parameter	Value	Value Example	Optional	Units	Description
data{i}.x	[x1 x2...]	[0 1 2 3 4]	no	x axis units	The x-data of the i-th line (the number of lines in subfigure is determined by the highest available 'i' in the structure).
data{i}.y	[y1 y2...]	[1 1 3 3 4]	no	y axis units	The y-data of the i-th line (the number of lines in subfigure is determined by the highest available 'i' in the structure).
data{i}.color	[r g b]	[0.3 0.7 1]	yes	relative	Specifies the line and marker color (or text color with 'text' plottype).
data{i}.plottype	str	'plot'	yes	-	Specifies the plotting function. Currently available: 'plot', 'text', 'stairs', 'bar'
data{i}.plotstyle	str	'-xr'	yes	-	Specifies the plot style in a matlab native form.
data{i}.linewidth	a	1.1	yes	-	Specifies line width.
data{i}.markersize	d	3.1	yes	-	Specifies marker size.
data{i}.text	{str1, str2,...}	{'text1', 'txt2'}	yes/no	-	Specifies the particular texts which will be plotted with 'text' plottype at positions specified at x and y.
data{i}.text_size	s	12	yes	pt	Specifies the size of the plotted text (with 'text' plottype).
data{i}.barwidth	a	0.8	yes/no	relative	Specifies the relative width of the bar plot which will be plotted with 'bar' plottype.
ylim	[y1 y2]	[0 7.4]	yes	-	Specifies the y limits.
yticks	[y1 y2...]	[1 2 2.5 3]	yes	y axis units	Specifies at which positions the y ticks will be placed.
yticklabel	{s1,s2...}	{'a', 'b', 'c', 'x'}	yes	-	Adds the labels for ticks specified in yticks.
do_log_axis_y	logic 1/0	0	yes	-	Forces y axis to be logarithmic. (Might cause problems with decimal comma.)
ylabel	{str}	{'Y axis', 'kA'}	yes	-	Adds y label.

subfigs{k}.legend

if defined, the software will try to invoke the legend for the particular subfigure.

Parameter	Value	Value Example	Optional	Units	Description
names	{s1, s2,...}	{'data1','data2'}	no	-	The names for the particular plotted data shown in legend.
height	h	0.02	no	relative	The height of the legend (relative to the figure size).
width	w	0.9	yes	relative	The width of the global legend relative to the length of the x axis.
legendstyle	str	'HORIZONTAL_UP'	yes	-	Specifies the style of the legend. Currently available: 'HORIZONTAL_UP', 'HORIZONTAL_DOWN'
box_on	logic 1/0	1	yes	-	Turns the legend box on/off.