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## PLOTOBJECTS1

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Uses: PLOT and PLOTOBJECTS

PLOTOBJECTS1 defines additional plot objects for use with PLOT.

### NEW PLOTOBJECTS

ERRORPOINT - a point with vertical and/or horizontal error bars.

SAMPLESET - a set of points drawn as line segments to a specified vertical or horizontal line.

### FUNCTIONS

The following functions provide an add facility for the new objects. They are similar to the corresponding functions for the standard plot objects, e.g. PLOTPOINT, etc. The allowed forms of the arguments *symbol*, *style*, *menu* and *nodrawflg* are the same as for the standard functions.

(PLOTERRORPOINT *plot position-range label symbol style menu nodrawflg*) [Function]

Position-range is a list of the form (POSITION XRANGE YRANGE). POSITION is the position of the point in world coordinates. XRANGE and YRANGE control the length of the horizontal and vertical error bars respectively. If the range is NIL, no error bars are drawn. If it is a number, it is a distance (in world coords) for the error bar to extend on each side of the point. Finally, if it is a pair of numbers (NegDist . PosDist) it specifies the extent of the error bar in the negative and positive directions, respectively. Symbol is used to plot the point. Symbol defaults to STAR. Style specifies the style to use for drawing the error bars.

Returns an ERRORPOINT PLOT OBJECT.

(PLOTERRORPOINTS *plot position-ranges labels symbol style menu nodrawflg*) [Function]

As above except that position-ranges is a list of POSITION-RANGES as described above and labels may also be a list. Reasonable things happen if positions and labels are of unequal length.

Returns a list of ERRORPOINT PLOT OBJECT's.

(PLOTSAMPLESET *plot positions constant vertical? side label style menu nodrawflg*) [Function]

The list of POSITION's defines a number of sample points. Constant specifies the location of a vertical or horizontal line, depending on whether vertical? is non-NIL. Line segments are drawn from the sample points to this line. Side determines which points are actually included. If side is NIL, only those points whose coord is greater than constant will be drawn (i.e. points above or to the right of the line). If side is T, only those with coord less than constant will be drawn. Otherwise, all points will be included. Style specifies the style to use for drawing the line segments.

Returns a SAMPLESET PLOT OBJECT.

All plot objects may be created independently of the previous functions. This is useful if it is desired to create a plot object without entering it on a PLOT's display list. The following functions create and return the new plot objects.

(CREATEERRORPOINT *position-range label symbol style menu*) [Function]

Returns an ERRORPOINT PLOT OBJECT.

(CREATESAMPLESET *positions constant vertical? side label style menu*) [Function]

Returns a SAMPLESET PLOT OBJECT.

In addition there are a number of functions to aid in creating position-ranges used with the error point plot objects:

(MAKE-POSITION-RANGE *position xrange yrange*) [Function]

Returns a position-range suitable for use for specifying an error point. The arguments are as described above for PLOTERRORPOINT.

(LOG-ERROR-RANGE *position-range axis base*) [Function]

Returns a position-range corresponding to *position-range* converted to a log scale. *base* is the log base to use (defaults to 10) and *axis* specifies which axis to convert: :X or :Y for a specific axis, NIL for both. Note that the position, with its error bars must be positive in order to be converted to a log scale.

(LOG-ERROR-RANGE-LIST *position-ranges axis base*) [Function]

Converts a list of *position-ranges* to log scale.