Subject: plotting symbols
Posted by haskell on Wed, 12 Feb 1997 08:00:00 GMT

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a couple of weeks ago there was a question posted of how, if possible, to use standard characters as plotting symbols. i do not know if this is what people are looking for but here is a small subroutine that works well for me under appropriate conditions. it uses usersym and xyouts to produce the symbols. i use it on a sun system to produce plots in xwindows and postscript but have not tried it under any other conditions.

i did not write this with distribution in mind so some of my idiosyncrasies may be unpalatable for the rest of the world but i thought i would throw it out here anyway.

i call it symplot and it accepts all (i hope) of the standard arguments that plot accepts plus three additional optional ones: symbol, ssize, and space

example: symplot,x,y,title='test',yr=[0,19], ... ,symbol='m!E3!N',ssize=2,space=4

the symbol keyword specifies any string (including arrays and the 'geek codes') to be used as the plotting symbols.

sizing of the plot/symbol can be done in several ways. using the charsize keyword changes the size of titles but not the symbols, ssize changes the size of the symbols but not the titles, and using !p.charsize changes both.

space can be set to specify the spacing, in data points, of the symbols. example, curves with 1000 data points do not present well if every point is plotted with a symbol, using space allows you to put symbols on every 50th point (or whatever value you specify)

defaults are currently set for ssize=1, space=1 and symbol='*'

because it uses xyouts, it requires both an x an y array.

from this it is easy to create an osymplot to substitute for oplot.

i have not done much in the way of error checking so odds are there is an easy way to make it blow up that i have not come across yet.

it is not professional quality but it works for me. if anyone has anything better or can improve on this i would like to hear about it.

cheers,
eddie

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pro  symplot,x,y,symbol=symbol,ssize=ssize,space=space,_EXTRA=ext ra
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```
if n_elements(symbol) eq 0 then symbol = '*' else symbol = string(symbol)
if n_elements(space) eq 0 then space = 1 else space = space
sz = size(reform(x))
xsteps = ceil(sz(1)/float(space))
xspace = indgen(xsteps)*space
len = max(strlen(symbol(*)))
xb = len/2.+0.5
if n_elements(ssize) ne 0 then sc = ssize else $
  if !p.charsize eq 0 then sc = 1.0 else sc = !p.charsize
 usersym,[-xb,-xb,xb,xb,-xb]*sc,[-.5,2.4,2.4,-.5,-.5]*sc,/fil ,co=!p.background
plot,x,y,_EXTRA=extra
oplot,x(xspace),y(xspace),psym=8
 xyouts,x(xspace),y(xspace),symbol,ali=.5,charsize=sc,noclip= 0
end
```