Subject: Polyfill overlap issue

Posted by Jeff Porzio on Wed, 12 Jun 2013 20:39:51 GMT

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I am trying to create some fancy error bars that look like Gaussian distributions. To do this, I am plotting polygon using polyfill and then mapping an image onto each polygon with pattern and image_coord. The problem is that the darker portions of the next polygon to be plotted overlaps and overwrites the previous one.

Ideally, I would like a superposition of the two images. That would probably involve normalizing everything after the fact to keep all pixels within 0-255. It would be satisfactory if the brighter pixel was plotted and not the darker ones during the overlap.

I have tried using transparent, but that is not the effect I want to achieve. Any advice?

Code:

```
PRO fuzzplot


;%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
;% hardcoded sample plot for quick tests %
;%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
size = 10
x = findgen(size)
y = findgen(size)+1
dxRight = fltarr(size)+1
dxLeft = fltarr(size)+1
dyAbove = fltarr(size)+2
dyBelow = fltarr(size)+2


set_plot, 'Z'


;%%%%%%%%%%%%%%%%%%%%%%%%
;% Plot the original %
;%%%%%%%%%%%%%%%%%%%%%%%%
; The plot window will scale according to the actual data, so in order
; for our plots with error to be included totally, we need to manually
; scale the window.
margin = 5
xmin = min(x) - margin*dxLeft[0]
xmax = max(x) + margin*dxRight[n_elements(x)-1]
ymin = min(y) - margin*dyBelow[where(y eq min(y))]
ymax = max(y) + margin*dyAbove[where(y eq max(y))]

;window, 0;                          Forces axes to scale
plot, x,y, yrange=[ymin,ymax], xrange=[xmin,xmax], xstyle=1, ystyle=1
```

```
;%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
;% Does a single pattern work? %
;%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
; Need to eventually work out having different sizes.
s = 100
A = 255
b = s/2
c = 23.
Gaussian = fltarr(s,s)
for i = 0,s-1 do begin
   for j = 0,s-1 do begin
      Gaussian[i,j] = A*exp(-((i-b)^2/(2*c^2)+(j-b)^2/(2*c^2)))
   endfor
endfor
;surface, Gaussian


;%%%%%%%%%%%%%%%%%%%%
;% Plot error boxes %
;%%%%%%%%%%%%%%%%%%%%%
;% This is good so far, just need to stop them from overlapping and
; having the black of one wipe out the signal of the other.
for i = 0,n_elements(x)-1 do begin
   ;print, i
   ; Need to make each polygon individually in order to have closed shapes.
   ; Starting at bottoom right and moving counter-clockwise...
   xCoors = [x[i]-dxLeft[i], x[i]+dxRight[i], x[i]+dxRight[i], x[i]-dxLeft[i]]
   yCoors = [y[i]-dyBelow[i], y[i]-dyBelow[i], y[i]+dyAbove[i], y[i]+dyAbove[i]]
   polyfill, xCoors, yCoors, pattern=Gaussian, $
         image_coord=[[0,0],[s,0],[s,s],[0,s]]

endfor

b= TVRD()
set_plot, 'PS'
TV, b
device, /close


end


Many thanks,
Jeff
```