Subject: Re: Inscribed circle
Posted by Russell Ryan on Wed, 27 Mar 2013 13:34:29 GMT

On Wednesday, March 27, 2013 6:32:49 AM UTC-4, arayame...@gmail.com wrote:
> Dear all,
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> maybe this has been already posted, but I can not seem to find it.
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> I have a contour plot, and I draw a circle on it (region of interest). Is there a way to blank off the area of the square outside of the circle (I though polyfill, but I can just manage squared polygons) or to just make the contour of the circle (region) of interest?
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> Thanks!
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> PS: the contour data is created through triangulate and trigrid.

What do you mean "blank off the area?" Is your contour plot made with black lines on a white background and you want to draw a white square? If so, then yes. Polyfill is the easiest way. If you're having trouble, it's almost certainly with either the coordinates you're giving it or their order. Make sure to check the /normal, /data, or /device settings to verify that your data are in the right units. Then check that the order of the polyfill data is correct:

x=[left,left,right,right]
y=[top,bottom,bottom,top]
polyfill,x,y

That's a basic idea to draw a rectangle, the trick is to find the right values of top, bottom, right, and left. It shouldn't be too tough, but you have to be aware of the units (device vs. data vs. normal).

-Russell

Subject: Re: Inscribed circle
Posted by arayamelo.pablo on Wed, 27 Mar 2013 13:40:25 GMT

On Wednesday, March 27, 2013 2:34:29 PM UTC+1, rr...@stsci.edu wrote:
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Thanks Russell.

What I mean with "blank off the area", I mean to fill it with white color. The problem I get with using polyfill in this particular problem is that I want to fill a "waxing moon" area-shape, and with polyfill I just cover rectangles.

Subject: Re: Inscribed circle
Posted by Russell[1] on Wed, 27 Mar 2013 18:43:46 GMT
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So, I wrote this quick script to fill a crescent moon with color. I set it to gray and the moon's outline to white, but you should be able to change that...

```
xc=5.0                  ;x-center of the moon
yc1=1.                  ;y-center of bottom of moon
yc2=3.                  ;y-center of top of moon
r1=5.                   ;radius of bottom of moon
r2=4                    ;radius of top of moon

;create a window and plot
window,2,retain=2,xsize=600,ysize=600
plot,[0],[0],xr=[0,10],yr=[0,10]

;compute the y-coordinate where they're equal
num=(r1*r1-r2*r2)-(yc1*yc1-yc2*yc2)
den=2.*(yc2-yc1)
yequal=num/den

;compute the x-coordinate where they're equal
x0=xc-sqrt(r1*r1-(yequal-yc1)*(yequal-yc1))
x1=xc+sqrt(r1*r1-(yequal-yc1)*(yequal-yc1))

;create an x variable
n=1000L
x=findgen(n)/(n-1)*(x1-x0)+x0

;create the top and bottom of moon
y1=sqrt(r1*r1-(x-xc)*(x-xc))+yc1  ; bottom of moon
y2=sqrt(r2*r2-(x-xc)*(x-xc))+yc2  ; top of moon

;make the moon grey
polyfill,[x,reverse(x)],[y1,reverse(y2)],/data,color=100
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;overplot the outline
oplot,x,y1
oplot,x,y2
```

Subject: Re: Inscribed circle
Posted by arayamelo.pablo on Wed, 27 Mar 2013 20:26:26 GMT
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Yep, perfect!

Thanks!

Subject: Re: Inscribed circle
Posted by arayamelo.pablo on Wed, 27 Mar 2013 20:38:51 GMT
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Thanks!

I will adapt it to my code.
On Wednesday, March 27, 2013 7:43:46 PM UTC+1, rrya...@gmail.com wrote:
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