
Subject: Re: Circle drawing request.

Posted by [Wayne Landsman](#) on Tue, 28 Jan 1997 08:00:00 GMT

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David Kennedy wrote:

>

> This must be a FAQ - anyone got a good circle drawing sub-routine?

> Input - x, y, radius

> Output - [x,y] vectors for POLYFILL etc.

>

> I have been using one (shown below) but I find it produces fine lines

> shooting off to small y values from the left and right edges of each

> circle. And my fiddling with it has made it worse I'm afraid.

>

David,

You might want to look at the procedure TVCIRCLE available from <http://idlastro.gsfc.nasa.gov/ftp/pro/tv/tvcircle.pro>, which includes a /FILL option for using POLYFILL. It uses a more sophisticated circle drawing algorithm that was shown to me a few years back by Allyn Saroyan.

A possible problem with the simple-minded algorithm where the X,Y coordinates of the circle are calculated at a preset number of values ($25 \times 4 = 100$ for David Fanning's sample code) is that the circle might sometimes be smooth, and sometimes spiky, depending on the circle size and the graphics device. TVCIRCLE gets around this problem by always calculating the positions internally in device coordinates, and calculating all positions where the X,Y device coordinates differ by an integral amount. Thus, the circle is guaranteed (in principle) to come out smooth on all graphics devices.

--Wayne Landsman

landsman@mpb.gsfc.nasa.gov
