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Subject: Re: PostScript with smooth lines from object graphics?

Posted by [kschultz](#) on Fri, 20 Jul 2001 15:34:12 GMT

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Benno Puetz <puetz@mpipsykl.mpg.de> wrote in message  
news:<3B57D379.3060906@mpipsykl.mpg.de>...

> I have been using object graphics to create a streamline display that  
> the user can rotate to find a nice viewing angle.

>

> If I print that view to a PostScript file, though, I found no way so far  
> to get smooth lines. I rather end up with a pixelated rendering.

>

> Is this the way it is supposed to work or am I missing something?

Hmm, are you using the IDLgrPrinter or IDLgrClipboard object?

You might try, in either case, using vector output to improve the  
appearance of the output. Do this by setting VECTOR=1 on the Draw  
method to either the IDLgrPrinter or IDLgrClipboard objects.

Here is what is happening:

When Vector=0, the default, we render the image into a bitmap and then  
place that bitmap in the PostScript file as an image. If you later  
resize the image somehow, as in magnifying it to print larger or  
something, the bitmap is scaled upwards and that causes the coarse  
appearance of the lines.

Now if you set Vector=1, the geometry is written into the PostScript  
file as vectors instead of as rendered bitmaps. So, any subsequent  
scaling of the image will result in smoother lines, since the lines  
are re-rasterized at the new size.

The main difference between the clipboard and the printer objects in  
this context is that the size of the clipboard image will be the same  
size as the window, whereas the size of the printer bitmap will be  
quite a bit larger. So, the effect you are seeing would probably be  
worse with the clipboard. If you are using the clipboard, you might  
try the printer object instead if you need to not use vector mode.  
The larger bitmap size may be enough.

There are other trade-offs between bitmap and vector mode. If the  
image is composed with a small amount of geometry, a vector file will  
be a lot smaller than the corresponding bitmap file. But you cannot  
get some effects like shading in a vector format file.

Hope this helps,  
Karl

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Subject: Re: PostScript with smooth lines from object graphics?  
Posted by [Pavel A. Romashkin](#) on Tue, 24 Jul 2001 16:09:42 GMT  
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While we are on this lovely subject, I'll ask a ? too. How does OG create a PS vector output so that the entire rendered OG visual is one object? What I mean, when you draw to PS device from DG and open it in a vector image application like Illustrator, you can access individual characters, axes, plots etc. When you use clipboard object with /Vector, everything is together and there seems to be no way to separate PS items. This in fact limited my use of OG, so I had to write something up to dump the results of OG visual into DG and then use the PS device. Of course, all the above stems from my lack of dedication to make IDL figures perfectly fitted for publications. While it is ok to write code for data \*analyses\*, I dislike re-writing the code to try to get correct CMYK output and scale figures. There are programs that allow a lot more intuitive control of that.

Cheers,  
Pavel

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