Subject: Re: How to display single orbits of satellite data in function graphics?
Posted by David Fanning on Thu, 02 May 2013 14:25:58 GMT
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Fabien writes:

> my point was not to criticize CG (I am a big fan ;), but rather to agree
> with Chris that plotting 790,000 filled points on the screen cannot be fast.

I know you are a fan. I wasn't writing for you, necessarily. ;-)

> Actually, following code makes my machine crash:
>
> n = 793647
> lon = RANDOMU(seed,n)*360
> lat = RANDOMU(seed,n)*180
> tic
> cgLoadCT, 39
> cgWindow
> cgPLOT, lon,lat, PSYM=16, SYMSIZE=0.2, /WINDOW
> toc

Well, it take 25 seconds on my machine. I use 72 points for the circles, though, which is probably overkill. My ears perked up when Chris mentioned 25 points the other day. And, of course, at this size, you probably couldn't tell any difference if I just made the damn things triangles! :-)

> while this:
>
> n = 793647
> lon = RANDOMU(seed,n)*360
> lat = RANDOMU(seed,n)*180
> tic
> cgLoadCT, 39
> cgPLOT, lon,lat, PSYM=16, SYMSIZE=0.2, OUTPUT='t.png'
> toc
>
> needs 66 secs to compute...

Yep. Of course, a black rectangle would have rendered faster, with the same result. :-)

> In all cases, plotting 790,000 filled points doesn't make much senseto
> me, but sometimes one cannot decide how many points are going to be
> plotted.
>
> I have the same issue with a scatterplot I am making for a publication

> (~50000 points). If I save this as an eps the plot is 6Mb large!!! As a
> pdf it is 2.3 Mb but still too large for a publication (besides, it
> takes too long to render in the PDF reader). So I could decide to plot
> only 10% of the points. To be honest, the information on the plot
> doesn't get lost and is not falsified, but still for a publication you'd
> rather want to show "all" the data... Second option is going for PNG,
> but in publications I think that vector format should be the norm...

I used to think so, but in the book publishing business the printers prefer high resolution PNG or TIFF raster files it seems to me. I like to use them because I can actually see them in my book building software.

Cheers,

David

P.S. Another way to speed this up would be to create your own user symbol (circle) and specify PSYM=8 in the call. That way you would avoid going into cgSymbol each time and *remaking* the circle there. That is probably what is taking much of the time.

--
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Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")
