Subject: How to make higher resolution GIF or JPEG image?
Posted by bleau on Fri, 13 Feb 2004 21:37:00 GMT
View Forum Message <> Reply to Message

I am running IDL V5.4 on OpenVMS AXP V7.1-2. I cannot upgrade to a later version of IDL since it is no longer made for VMS (dumb move, but that's another thread). In fact, since IDL V5.4 doesn't generate GIF files, I may have to go back to an earlier version to get that capability. But I'm getting ahead of myself.

I want to generate a GIF file with a raster-like plot in it. I know how to do this using the Z-buffer as a device (SET_PLOT,'Z'). All my experience with GIF plots on other systems, though, show they display with slightly jagged lines, as though made on a low-res plot (which GIF is, I suppose). I have seen, however, GIF plots made by other packages that have a great look: smooth curves and letters, no jaggies.

I know how to vary the size of the output GIF file: the SET_RESOLUTION keyword to the DEVICE command. The problem is that this keyword only changes the *size* of the resultant GIF file, not its resolution. If I use this keyword, all I get is a large GIF file with jaggies. When viewed on a browser, that gives me a larger image. I want the image to stay the size that can be displayed on a normal browser window, just to have a higher resolution.

Does anyone know of an IDL solution that'd work in V5.4?

If there's none, I can create an alternate format, such as PostScript, that has the high resolution plots. I'd then have to convert it to GIF (simply because very few browsers, if any, interpret PS).

Does anyone know of a way to convert PS to GIF? I read about Ghostscript and Ghostview, but the ftp site says they removed the GIF generation capabilities from the package due to licensing problems. Since we're going to be displaying these gif's on the web, that's probably not a way for us to go. Any other ideas?

Lastly, a suggestion made here was to generate jpeg files instead of GIFs. Several questions here:

1) Is this technically a good way to go, since we're displaying line plots rather than pictures? I.e., could the "lossy" nature of jpeg's algorithm hurt my plot?
2) Since making jpeg's from IDL also involves the Z-buffer device, won't this have the same limitations as making a GIF file?

For example of jpeg's with jaggies, see

http://uleis.umd.edu/~bleau/x.jpg <-- default resolution
http://uleis.umd.edu/~bleau/x2.jpg <-- used SET_RESOLUTION=[1000,1500]

In particular, take a look at the characters used to label the axes.
Even at higher resolution they look bad. And yes, I know jaggies are
usually an artifact of the monitor. Only thing is, I've seen a GIF
display on a monitor that *didn't* have jaggies, so I know it's
possible.

Thanks, all.

Lawrence Bleau
University of Maryland
Physics Dept., Space Physics Group
301-405-6223
bleau@umtof.umd.edu
