Subject: Re: Help plotting a 3D Carioid...
Posted by David Fanning on Wed, 15 Feb 2006 23:29:53 GMT

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Steve writes:

> Thanks for your prompt and detailed reply... I just checked out your
> extensive website, and your fsc_surface routine is very close to what
> I'm looking for... However, I'm not sure if I can use it with repeated
> calls.

It was not designed for that purpose, no.

> Do you (or anyone else on here) know if it is possible (within the GUI)
> to surf something in a separate object window with fsc_surface (or
> XPlot3D), then when I push another button on the GUI, have the first
> object window close, and open a new one for the second plot (or just
> overwrite the old with the new)?
>
> Also, is it possible to simply have this object window display in the
> GUI by replacing the base with a specified base?

Everything is possible in IDL. Well, excluding truly device-independent
programs, of course. But everything within the limited imagination
of astronomers, surely. :-)

The problem is, how to do it. :-(

What you like about IDL (I can tell) is how easy it is
to use. You type a command, you see a result in a graphics
window. Brilliant! But that only works in what we call "direct
graphics." There is another whole (and completely different
and incompatible) graphics system in IDL that is MUCH more powerful
and MUCH more difficult to use. It is called the "object
graphics" system.

The FSC_Surface program appears to do what the SURFACE
command does (plus a bit more), but it is MUCH more
complicated than that. You write a least a page of
code in the object graphics system to replicate what is
already done for you in the SURFACE command. And then
you have to display object graphics output in an object
graphics window. You can't mix and match direct graphics
commands and output with object graphics commands and
output.

You can't just willy-nilly throw FSC_Surface output
in any window, because the *interaction* with the surface

depends on the window. (If you don't like the rotations,
etc., you could, of course, just throw a static rendering
of your surface in the window. This is about 3/4 of a page
of code, but easily done. You just have to build the surface,
the axes, rotate everything into your view, establish the
view, stuff everything into a model, etc., etc. It really
isn't as bad as it sounds. See Simple_Surface as a stripped
down example of FSC_Surface.)

And, of course, what you do in a widget program is
completely divorced from the graphics system you are
using. Although you have to know how to create draw widgets
that represent windows in one system or the other, depending
on which you are using. But that is trivial.

So, where does that leave you? At the moment it leaves you
writing direct graphics code (WSET, SURFACE, etc.) and wishing
you knew how to write object graphics code (IDLgrWindow, IDLgrSurface,
IDLgrAxis, etc, etc.). I'd get Ronn's book. Otherwise, you will
be at this a LONG time. Maybe longer than you have the stomach
for it. Especially as you are coming from a Matlab background.
You can't be thinking pleasant thoughts about IDL at the moment. :-)

Cheers,

David

P.S. There is another possibility. You could try iTools.
Almost none of us here can figure out how to program
the damn things, but there is always the small change they
work the way you want them to work. Try iSurface. Let us
know how it goes. :-)

P.S.S. If it is any consolation to you, I feel for you,
I really do.

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Coyote's Guide to IDL Programming: http://www.dfanning.com/