
Subject: Re: displaying things above the earth in a map projection
Posted by [David Fanning](#) on Thu, 26 Sep 2002 03:16:23 GMT
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John R. Iverson (jriverson@sandia.gov) writes:

> 1. it doesn't seem like this works while preserving the orthographic
> projection. Is there any way I can use the transformation set up by the
> map_set command to throw my data into space?

Well, let me just say this: I don't think the IDL
graphic system was built with this kind of thing
in mind. :-)

I don't know why certain map projections don't work,
nor do I know why there is all kinds of clipping going
on when you try to do an ISOTROPIC map projection. I
suspect there are bugs in the interaction between the
system variables set up by the map routines, and the
system variables relied on by the plotting routines.
All totally confused by trying to do all of this in
3D space.

> 2. I guess I just don't understand why this command doesn't do what I
> think it should? (draw a line from the map to the symbol you brought up
> earlier):
>
> plots, [45, 45], [45, 45], [0, 0.25], /t3d
>
> I really appreciate the help given to this IDL newbie!

I don't understand this one either. In fact, I had exactly
this line in my original example and couldn't figure out why
it didn't work. I know PLOTS can do this, because I was
staring at page 98 in my book where I used the PLOTS command
to do practically this very thing! As I had to go to a tennis
match, I just chalked it up to the "eternal mystery" and left
it off the example I posted, hoping no one would notice the
obvious line missing. Well, alas. :-(

For what it is worth, I notice that no line is drawn with
this code:

```
scale3, xrange=[-180, 180], yrange=[-90, 90], zrange=[0,1]  
plots, [45, 45], [45, 45], [0, 0.25], /t3d  
map_set, /cylindrical, /t3d, /grid, /continent, /NoErase  
plots, 45, 45, 0.25, /t3d, psym=4, symsize=5.0
```

But it *is* drawn with this code:

```
erase  
surface, xrange=[-180, 180], yrange=[-90, 90], zrange=[0,1], $  
  /Save, Dist(41), /NoData, XStyle=4, YStyle=4, ZStyle=5  
plots, [45, 45], [45, 45], [0, 0.25], /t3d  
map_set, /cylindrical, /t3d, /grid, /continent, /NoErase  
plots, 45, 45, 0.25, /t3d, psym=4, symsize=5.0
```

I don't have the foggiest notion of what this means. It seems to me *exactly* the same 3D space is being set up in both cases, but obviously something is different. I don't know what it might be.

Sorry I can't help. I can get you a free pass to the IEPA Induction Dinner next month, if you are interested. You won't learn anything about IDL there, either, but it sure is interesting. :-)

Cheers,

David

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