
Subject: Re: drawing a shaded sphere

Posted by [davidf](#) on Mon, 06 Apr 1998 07:00:00 GMT

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John Boccio (boccio@swarthmore.edu) writes:

- > The IDL code at the end of this message when saved as a file cosmic.pro
- > will plot the trajectory of a cosmic ray in the earth's magnetic field in
- > 3 dimensions. It plots the trajectory as it is happening(not at the end),
- > which is the way one should do during a simulation.
- >
- > I would like to draw a shaded sphere (even better a sphere with earth map
- > on its surface) of radius rearth so that the subsequent cosmic ray trajectory
- > in the earth's magnetic field appears properly in relation to that sphere.

I couldn't get John's code to run (missing some functions), but here is an example with simulated data and XInterAnimate that I coded up in about 5 minutes. Loading the animation pixmaps takes awhile, but the animation is very fast. You can, of course, load the pixmaps out of sight if you like.

Cheers,

David

PRO Particle_Track

 ; Fake latitude and longitude data of simulated particle.

```
x = Findgen(100)* 2 - 100
y = Findgen(100) * (50/99.)
TVLCT, 255, 255, 0, 1
```

 ; Run the animation in XInterAnimate

```
XInterAnimate, Set=[300,300, 50], /Showload
```

```
xx = [x[0]]
yy = [y[0]]
count = 0
FOR j=1, 99, 2 DO BEGIN
```

 ; Draw map projection with particle track overlayed.

```
Map_Set, /Orthographic, /Continents, /Grid, y[j], x[j]
xx = [xx, x[j]]
yy = [yy, y[j]]
```

```
PlotS, xx, yy, Color=1  
PlotS, xx[count+1], yy[count+1], PSym=4, Color=1
```

```
; Copy it into XInterAnimate pixmaps.
```

```
XInterAnimate, Frame=count, Window=!D.Window  
count = count + 1  
ENDFOR
```

```
; Run the animation.
```

```
XInterAnimate, 20  
END
```

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