
Subject: Displaying Cartesian coordinate data on a sphere

Posted by [dplatten](#) on Tue, 11 Dec 2012 13:43:49 GMT

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Dear Group,

I have an array of several hundred thousand data points, each with an (x,y,z) coordinate. The coordinates of every point lies somewhere on the surface of a sphere. Each point represents the position and energy of an x-ray photon that has left my Monte Carlo simulation geometry.

I would like to be able to view the data as a texture map overlaid onto a spherical object. I have managed to do this, but I think that the resulting mapping is distorted. I'm not sure how I should configure GRIDDATA so that the resulting grid can be mapped onto the sphere. Should I be using a different command to make the grid? Any help that you can offer would be greatly appreciated. x, y, z and energy are vectors containing the coordinates and energy of the photons:

```
grid = GRIDDATA(x, y, z, energy, DIMENSION=[60, 60], /SPHERE)
```

```
cgLoadCT, 33, RGB_TABLE=colours  
greyGrid = BYTSCL(grid)
```

```
bitmapGrid = BINDGEN(3, 60, 60)  
bitmapGrid[0, *, *] = colours[greyGrid, 0] ;; The red values  
bitmapGrid[1, *, *] = colours[greyGrid, 1] ;; The green values  
bitmapGrid[2, *, *] = colours[greyGrid, 2] ;; The blue values
```

```
;; Set the bitmapGrid to be a texture map object  
texmap = obj_new('idlgrimage', bitmapGrid)
```

```
;; Create an orb object, and set the bitmapGrid to be the  
;; texture map associated with the orb  
globe = obj_new('orb', radius=1, pos=[0,0,0], color=[255,255,255], density=3.0,  
texture_map=texmap, /tex_coords)
```

```
;; Display the globe object in a viewer  
xobjview, globe
```

Many thanks,

David

David Platten
Medical Physics Department
Northampton General Hospital
UK
