Subject: Re: Spherical Surface Plot w/ fsc_surface from David Fanning (:
Posted by David Fanning on Thu, 17 Jul 2008 15:52:07 GMT
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Justin writes:

> Should I try to go about using volume for this spherical surface
> plot ?

I think I would try, as a first shot at this, mapping your
surface data onto a circular polygon (maybe the ORB object)
as a texture map.

Do you expect to see a sphere or a bumpy spheroid?

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Spherical Surface Plot w/ fsc_surface from David Fanning (:
Posted by humanumbrella on Thu, 17 Jul 2008 15:57:03 GMT
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On Jul 17, 11:52 am, David Fanning <n...@dfanning.com> wrote:
> Justin writes:
>> Should I try to go about using volume for this spherical surface
>> plot ?
>
> I think I would try, as a first shot at this, mapping your
> surface data onto a circular polygon (maybe the ORB object)
> as a texture map.
>
> Do you expect to see a sphere or a bumpy spheroid?
>
> Cheers,
>
> David
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:http://www.dfanning.com/
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Hello David,

Thanks for the quick response.

I am expecting to see something bumpy.  What I'm doing here is having
a set radius (r), and then adding to it what is in the dataset at
[lat,long] -- meaning some will be high and some will be low.

Cheers,
--Justin

---

Subject: Re: Spherical Surface Plot w/ fsc_surface from David Fanning (:
Posted by David Fanning on Thu, 17 Jul 2008 15:59:33 GMT
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humanumbrella@gmail.com writes:

> I am expecting to see something bumpy.  What I'm doing here is having
> a set radius (r), and then adding to it what is in the dataset at
> [lat,long] -- meaning some will be high and some will be low.

Humm. Well, in that case, I'm waiting to see what kind of
answers you get, too. :-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

---

Subject: Re: Spherical Surface Plot w/ fsc_surface from David Fanning (:
Posted by humanumbrella on Thu, 17 Jul 2008 20:15:03 GMT
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On Jul 17, 11:59 am, David Fanning <n...@dfanning.com> wrote:
> humanumbre...@gmail.com writes:
>> I am expecting to see something bumpy.  What I'm doing here is having
>> a set radius (r), and then adding to it what is in the dataset at
>> [lat,long] -- meaning some will be high and some will be low.
>
> Humm. Well, in that case, I'm waiting to see what kind of

> answers you get, too. :-)
>
> Cheers,
>
> David
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:http://www.dfanning.com/
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Well,

Maybe everyone is just as stumped as I am on this one. plotting
spherical data in cartesian space is no fun.

Maybe if someone could show an example of how to say, plot a spherical
surface in IDLGRSURFACE [forgetting what I've said above] ???

---

Subject: Re: Spherical Surface Plot w/ fsc_surface from David Fanning (:
Posted by Andrew Cool on Fri, 18 Jul 2008 14:06:31 GMT
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On Jul 18, 12:59 am, David Fanning <n...@dfanning.com> wrote:
> humanumbre...@gmail.com writes:
>> I am expecting to see something bumpy. What I'm doing here is having
>> a set radius (r), and then adding to it what is in the dataset at
>> [lat,long] -- meaning some will be high and some will be low.
>
> Humm. Well, in that case, I'm waiting to see what kind of
> answers you get, too. :-)
>
> Cheers,
>
> David
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:http://www.dfanning.com/
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Hi guys,

Here's an adaption of some code that I think originally came from
someone inside RSI long ago - I forget just who it was.

Cheers,

Andrew

```
PRO DEM_Globe_1

  device,decomp=0


  dem_file = 'C:\Program Files\ITT\IDL64\examples\data\worldelv.dat'
  dem_extract = bytarr(360,360)
  openr,lun,dem_file,/get
  readu,lun,dem_extract
  free_lun,lun


  worldelvsize = [4320,2160]

 ; worldelvImage = TEMPORARY(BYTSCL(CONGRID(world,worldelvsize(0)/
10.0,worldelvsize(1)/10.0)))

  loadct,3

  oPalette = OBJ_NEW('IDLgrPalette')
  oPalette -> LoadCT, file=colour_table,3

; Scale image values to the earth radius. Multiple
; scaling by 50 to exaggerate elevation.

;  worldelvImage = 50.*1.77*(worldelvImage/255.)
  worldelvImage = 50.*1.77*(dem_extract/255.)

; Add the earth's radius to the image. The image only
; contains elevation information from the deepest parts
; of the oceans. The earth's radius is added to obtain
; a sphere with small changes in elevation on its
; surface.


  radii = worldelvImage + REPLICATE(1275.6,
worldelvsize(0),worldelvsize(1))

; Derive a mesh from the exaggerated image data and the
; radius of the earth.

  MESH_OBJ, 4, vertices, connectivity, radii, /CLOSED
```

```
; Initialize a model to display.

  oModel = OBJ_NEW('IDLgrModel')

; Determine the radius of each vertex to provide color
; at each vertex.

  sphericalCoordinates = CV_COORD(FROM_RECT = vertices, $
                          /TO_SPHERE)
  elevation = REFORM(sphericalCoordinates[2, *], $
                  N_ELEMENTS(sphericalCoordinates[2, *]))

; Initialize polygon to contain mesh.

  oPolygon = OBJ_NEW('IDLgrPolygon', vertices, $
                   POLYGONS = connectivity, SHADING = 1, $
                   VERT_COLORS = BYTSCL(elevation), $
                   PALETTE = oPalette)

; Add polygon to model.
  oModel -> Add, oPolygon
; Rotate model to place view at 0 degrees latitude.
  oModel -> Rotate, [1., 0., 0.], -90.

; Display model.
  XOBJVIEW, oModel, /BLOCK, SCALE = 1, $
          TITLE = 'Exaggerated Earth Elevation'

; gotta comment this out or image doesn't appear - must be a change in
keyword effects since this code was written?
 ;;OBJ_DESTROY, [oModel, oPalette]
END
```