Subject: iVolume isosurface placement
Posted by K. Bowman on Fri, 24 Feb 2006 15:18:01 GMT
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I have been experimenting with iVolume in order to understand my problem with
displaying isosurfaces.

I think the following example demonstrates the problem clearly.

```
n   = 5
x   = FINDGEN(n)/(n-1)
x3  = REBIN(REFORM(x, n, 1, 1), n, n, n)
y3  = REBIN(REFORM(x, 1, n, 1), n, n, n)
z3  = REBIN(REFORM(x, 1, 1, n), n, n, n)
vol = z3 - SIN(!PI*x3)*SIN(!PI*y3)

iVolume, vol, /NO_SAVEPROMPT, $
   VOLUME_LOCATION = [0.0, 0.0, 0.0], $
   VOLUME_DIMENSIONS = [1.0, 1.0, 1.0]
```

After the volume is created, add an isosurface at the level 0.0 by using
   Operations...Volume...Isosurface.

The peak in the surface should be at (x,y) = (0.5,0.5), not (0.4,0.4), and the
isosurface should span the whole data space, 0 -> 1.

Volume slicing (Operations...Volume...Image plane) and volume rendering
operations do place the data correctly.

If you have a lot of points in your data set, you may not care that isosurfaces
are squeezed by one grid point in each direction, but for my purposes, this is
causing me real problems.

Ken Bowman

I have to admit, it is cool to interactively drag the image plane (slice) up and
down.