Subject: Re: Plotting 3D array as a 'cloud'
Posted by Mark Piper on Mon, 10 Oct 2011 19:26:08 GMT
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On 10/10/2011 11:48 AM, Karl wrote:
>
> Using ISOSURFACE to generate polygon data for an IDLgrPolygon to display with XOBJVIEW is an excellent first step. This will give you a surface representing the transition between "cloud" and "no cloud". ISOSURFACE can generate a lot of triangles, so consider using MESH_DECIMATE to simplify the model if it is too much to display.
>
> This surface is usually displayed as an opaque surface, so you won't see any structure "inside" the cloud, as there might be if there are any "no cloud" regions within the outermost exterior surface. You can sort of "zoom through" the outer surface, but you'll soon get lost. It may be tempting to use alpha to draw the surface semi-transparently, but this usually requires that the triangles be sorted back-to-front, and that's a complicated job.
>
> Consider using IDLgrVolume with XOBJVIEW. IDLgrVolume can render the volume data using "ray-casting" which will display your data semi-transparently and handle the back-to-front issues.
>
> Is the iVolume iTool still around? If so, give that a try. You'll see your volume rendered the same way as IDLgrVolume shows it. But you can also drag "slice" planes through it. And I think you can turn on isosurface generation as well.
>
> Karl
>

Following Karl's suggestion, you may also wish to try XVOLUME; e.g.,:

```
IDL> vol = randomn(1, 100, 100, 100) gt 0.0
IDL> xvolume, vol
```

It's simpler than iVolume, yet provides similar features.

mp