Subject: Re: Plotting 3D array as a 'cloud'
Posted by Robin Wilson on Sat, 15 Oct 2011 12:14:18 GMT
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Mark,

That seems like the easiest way of doing it - I've just managed to produce the sort of output that I wanted.

I never knew about the xvolume tool - now it's definitely one for me to keep in mind.

Cheers,

Robin

On 10/10/2011 20:26, Mark Piper wrote:
> 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
