Subject: Re: using irregularly spaced coordinates with ray-casting in iVolume
Posted by Kenneth P. Bowman on Wed, 11 Mar 2009 01:59:43 GMT
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In article
<876f0fb1-0416-4f50-9377-c36f914f4c1b@a5g2000pre.googlegroups.com>,
 "brian.niebergal@gmail.com" <brian.niebergal@gmail.com> wrote:

> Hello everyone.
>
> I've seen a few similar posts to this one, but there doesn't seem to
> be a good (easy) answer that I can understand. :)
>
> How does one use irregularly spaced (xyz) coordinates with the
> IDLgrVolume ray-casting volume renderer?
> I haven't used any of IDL's 3D features before and so I'm kind of
> lost. Normally, using the "contour" command I would type something
> like:
>
> contour,3Ddata_slice,dim_x,dim_y
>
> where dim_x and dim_y are my irregularly spaced coordinates.
>
>
> If it helps, my data isn't completely irregular, that is to say there
> is an equation that dictates the spacing between adjacent coordinate
> points (involves a step function half-way through the data though).
>
> I realize the algorithm for accomplishing this with ray-casting is not
> trivial, but if anyone renders hydrodynamical simulations, using
> adaptive mesh refinement, they must also need this feature.
>
> It seems this is related to why the "logarithmic axis" option in axis
> properties is greyed out?
>
> Thank you,
> - Brian Niebergal
> PhD Student
> University of Calgary
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I am pretty sure that the volume renderer requires regular grids.

My suggestion is to create a regular grid from your irregular data
by interpolation.

Ken Bowman