Subject: Re: using irregularly spaced coordinates with ray-casting in iVolume
Posted by Jeremy Bailin on Wed, 11 Mar 2009 15:13:51 GMT
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On Mar 10, 9:59 pm, "Kenneth P. Bowman" <k-bow...@null.edu> wrote:
> In article
> < 876f0fb1-0416-4f50-9377-c36f914f4...@a5g2000pre.googlegroups .com >,
>
>
>
> "brian.nieber...@gmail.com" <brian.nieber...@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
>> www.capca.ucalgary.ca/~bniebergal/
>
> 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

How many levels of refinement do you have? If it's not too many, you could re-grid everything down to the finest grid level to get a regularly-spaced grid, like Ken suggests. Of course, probably the reason you're using AMR is because doing the entire volume at the highest resolution is impossible. ;-) So that may not work so well.

-Jeremy.
