
Subject: Re: 3-d viz

Posted by [patrick](#) on Sun, 14 Jul 2002 23:17:44 GMT

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Paul-

I suspect what I need may be something like that. I'm a little confused about it myself, hence my post. Since there are only three data sources there isn't much of a way to get any information between the three profiles.

For each of the profiles there are similar values at similar depths, perhaps not the exact depth. What I need to show is a countour between each of the profile positions. So the profile between 1-2, 2-3, and 3-1 will be similar but perhaps at slightly different depths giving the impression of a constant value surface that may have a slope in the water column. The same information can be portrayed just by contouring the three profiles just using the CONTOUR command, but the desire is to visualize it in 3-d. I've thought about trying to use slicer3 but I don't know how to set up the arrays, my abilities aren't that advanced.

Any suggestions?

Patrick

"Paul Sorenson" <aardvark62@msn.com> wrote in message
news:<3d2f62fa_1@corp-goliath.newsgroups.com>...

> Hello Patrick,

>

> Are you describing a stack of 2D arrays? The stack is not very deep, so you
> want to interpolate more layers in the stack? CONGRID can do this, but the
> results are simple, straight "cross fades" as you progress from one known
> slice to the next. A more sophisticated way to interpolate new slices is to
> use morphing. There is an example of morphing in the IDL demo program
> [d_people.pro](#).

>

> Once you have your volume, you can get a "surface of constant value" with
> the XVOLUME command. For a quick example, you can do IDL> [xvolume, /test](#).
> Click on the Opaque Isosurface radio button.

>

> -Paul Sorenson

>

> Patrick McEnaney" <patrick@es.ucsc.edu> wrote in message
> news:1eed0128.0207111543.6718dc31@posting.google.com...

>> Folks-

>>

>> This is a continuation of the note I sent about trying to create a

>> volume visualization from three structure data arrays. With the help
>> of a couple of more experienced programmers I decided that what I was
>> trying to do was heading in the wrong direction. This is what I think
>> I need to do but I'm not sure how to go about it without getting very
>> tied up with multiple loops and function calls. I have three data
>> arrays representing three different CTD profiles (oceanographer types
>> will know what this is), the values are monotonically ascending or
>> descending with depth depending on the field. For each value in a
>> profile I need to interpolate to a similar value in an adjacent
>> profile so there will be a surface of constant value. That's not all
>> though, to create the volume, I need to interpolate between
>> depth/altitude values as well so that the profiles are horizontally
>> and vertically interpolated, and then visualized three dimensionally
>> similar to a geological block diagram. I don't know if this makes much
>> sense but it's what the PIs want. My idea is to somehow perform
>> multiple calls to INTERPOL but I'm confused as to how to do this. Any
>> suggestions?
>>
>> Regards,
>>
>> Patrick
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