Subject: Re: using cgSurface to produce a scatter 3D plot with 4th dimension
Posted by David Fanning on Wed, 07 Mar 2012 13:19:28 GMT
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Sebastian Schäfer writes:

> I have a datacube like this and two arrays with the values for the 3
> axes
> L1 DOUBLE = Array[100]
> L2 DOUBLE = Array[100]
> SINF DOUBLE = Array[100]
> XI2MAP DOUBLE = Array[100, 100, 100]
>
> I select a number of points using where() and now want to create a 3D
> plot of these points and use the color to represent their value. I
> managed to do this with cgsurf:
>
> ...
>
> that's pretty much how David Fanning explained it in his traditional
> grafics book (pages 185-197). Now I am trying to get this working with
> cgsurface so I can rotate and zoom mi xi2 map. Is this even possible
> with cgsurface since it only accepts the data in 2D?

It is not possible with cgSurface, because that program was
put together for a specific purpose, and displaying a
scatter plot is not it. But, it doesn't take too much
effort to turn cgSurface into something that *can* do
what you want it to do.

In fact, here is an article, and some code at the end of
the article, that should get you started in the right
direction:

http://www.idlcoyote.com/tips/scatter3d.html

The second half of this article deals with the problem you
are facing.

This is a program that is just begging to be written.
Maybe you are the person to write it for us! :-)

Cheers,

David

--
David Fanning, Ph.D.

Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: using cgSurface to produce a scatter 3D plot with 4th dimension
Posted by on Thu, 08 Mar 2012 12:50:35 GMT
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> This is a program that is just begging to be written.
> Maybe you are the person to write it for us! :-)
>

I've read that article before but unfortunately I have never used one
of those "non-traditional" grafic features before, so programming one
would be quite time consuming. The fact that you only need two lines
in gnuplot to do this

set pm3d
spl "xi2.txt" us 1:2:3:4 w p lc palette

doesn't really help either :)
It would be definitively a VERY nice to have - feature which in IDL,
but I will stick to the gnuplot thing for a while.

Subject: Re: using cgSurface to produce a scatter 3D plot with 4th dimension
Posted by David Fanning on Thu, 08 Mar 2012 13:54:54 GMT
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Sebastian Schäfer writes:

> I've read that article before but unfortunately I have never used one
> of those "non-traditional" grafic features before, so programming one
> would be quite time consuming. The fact that you only need two lines
> in gnuplot to do this
>
> set pm3d
> spl "xi2.txt" us 1:2:3:4 w p lc palette
>
> doesn't really help either :)

Humm. I'm pretty sure you only need one in IDL:

  Scatter_Surface, x, y, z

Did you try it?

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: using cgSurface to produce a scatter 3D plot with 4th dimension
Posted by on Fri, 09 Mar 2012 10:39:34 GMT
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On 8 Mrz., 14:54, David Fanning <n...@idlcoyote.com> wrote:

> Humm. I'm pretty sure you only need one in IDL:
>
> Scatter_Surface, x, y, z
>
> Did you try it?

I did - but Scatter_Surface only accepts 3 dimensions (e.g. x,y and a value for each point: z). Unfortunately, I have 4 dimensions: 3 coordinates (x,y,z) and one value for each of these points. What is missing is the option to use the color of the symbols plotted to visualize the 4th dimension (like I did with cgSurf) or am I overlooking something?
