Subject: Re: XYZ plot + Normal to surface output
Posted by David Fanning on Mon, 07 Jan 2008 15:12:37 GMT
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a.lucas@geolnet.net writes:

> I am a beginner in IDL programing and I am looking for a few
> things :

Of course, you are. All of the impossible questions come
from beginners. Experience brings resignation and the
proper level of expectation. :-(

> 1/ I have some xyz ASCII files and I want to plot them in a 3D view.
> But my X and Y are not regular. Is there any way to plot them firstly
> without any interpolation and secondly using kriging interpolation so
> as to get regular plot.

Irregular data is not a problem. But I would use object
graphics (not necessarily a subject for beginners) to do the plotting.
You could try iSurface, or (if you wanted something you could actually
learn from) you could try FSC_SURFACE:

http://www.dfanning.com/programs/fsc_surface.zip

You could try kriging your data first with KRIG2D, but I've never
used it, and it looks hard to me. (I'm always leery of IDL routines
you have to Google to learn anything about.)

> 2/ I have two files (also in XYZ ASCI format), corresponding to Vx
> and Vy of a velocity field. How can I plot the complet velocity field
> with vectors in 2D and draped on a 3D surface ?

Well, this is an ADVANCED topic, for sure. I'm not sure how I would
do this. Maybe later I'll have a chance to think about it more.
STREAMLINE comes to mind, and it is easy enough to draw lines
in 3D, but something that looks good... I don't know. Maybe
the more advanced users in the group will have some ideas. :-)

> 3/ Using two XYZ files (ASCII format), If I plot them in the same
> frame I thus get two surfaces S1 and S2. I want to output the
> difference between S1 and S2 but in the normal frame of S1 (in this
> case S1 is below S2). Imagine 2 topographies where S1 is below S2.

I think I would just do something like this:

IDL> FSC_Surface, S2-S1

You might have to grid your XYZ data to get these surfaces.
If it is an easy job, something involving TRIANGULATE and TRIGRID
will probably work. If it is more complicated, I would look at
GRIDDATA.

Take it slowly. In 15-20 years you might have enough experience
to solve this problem. ;-)

Cheers,

David

--
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Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")
