
Subject: Re: Surface Problem

Posted by [Timm Weitkamp](#) on Tue, 08 Jun 2004 09:30:52 GMT

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On 07.06.04 at 07:22 -0700, Jeff Waksman wrote:

> Hi, I have a huge amount of data that I'm working with and need to
> plot and was hoping that someone could help me with.
>
> The data has three coordinates - radius, polar angle, and time. I
> want to create a circular image and then to create an MPEG out of the
> different frames (imagine a moving satellite picture of the Earth...).
> I did this by using "POLAR_SURFACE" and interpolating between the
> data points. However, the problem is that I can't get a smooth outer
> circle. IDL is taking the points with the largest radius and
> connecting the dots to create the outline of my surface. Thus, I end
> up with jagged edges and a misshapen diagram. Does anyone know what I
> can do to make the interpolation spread throughout a larger circle
> that would encompass the entire previous shape? Any help would be
> greatly appreciated.

If your data is regularly gridded in polar coordinates, then you might
interpolate it onto a grid with finer angular spacing (with REBIN or
CONGRID or INTERPOLATE or BILINEAR) before the POLAR_SURFACE operation.

Good luck,
Timm

--
Timm Weitkamp <<http://people.web.psi.ch/weitkamp>>

Subject: Re: Surface Problem

Posted by [Chris\[1\]](#) on Tue, 08 Jun 2004 10:46:15 GMT

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Is your polar data regularly gridded? Then the easiest way we've found is to
form 2 two dimensional arrays large enough to cover your eventual output
plot at the resolution you want, as well as another - say D - that will have
your final interpolated data. Then for one array -say R - set each value to
the corresponding radius from the center; for the other -say Theta - set it
to the corresponding angle. Use the where() function on the array of radii
to get a list of where the radii are less than your maximum radius for your
data. i.e

w = where(R lt your_radius)

Set D everywhere = to some minimum value.

Then you can interpolate D(w) at R(w) and Theta(w) using the interpol (or is it interpolate() ? I don't have IDL on this computer) function. You will have to add an extra row to your original data array to interpolate correctly between your highest angle, and 0.

Finally, take your output D, and congrid() it up to your final display size.

If your original data is irregularly spaced in (r, theta) then you can do something similar, but then the interpolation function needs the spacing information as well.

HTH

Chris

"Jeff Waksman" <jeffwax1@hotmail.com> wrote in message
news:74841395.0406070622.ff6ddca@posting.google.com...

> Hi, guys, I didn't get this answered and was hoping that maybe someone
> could help me with this problem. Any aid would really be helpful.
>
> -Jeff
>
>
>
> Hi, I have a huge amount of data that I'm working with and need to
> plot and was hoping that someone could help me with.
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>
>
> Thanks,
>
> Jeff

Subject: Surface Problem

Posted by [jeffwax1](#) on Tue, 08 Jun 2004 14:42:16 GMT

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This is in regards to "Re: Surface Problem" (The server won't seem to let me respond to the thread, and won't allow me to put "Re:" is my subject unless I am responding to a thread. Anyway,

Thanks guys. Anyway, my data is not regularly spaced. I have data at 8 different radii, varying from about 25 to 71, and 24 different angles, from 10 degrees to 350 degrees. These values are not evenly spaced, but are related to the geometry of our measuring device. Does this then affect how I would create a first surface?

Thanks,

Jeff
