Subject: Irregular data interpolation problem
Posted by Philippe Peeters on Fri, 24 Sep 1999 07:00:00 GMT
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Hi all,

Sorry if this has already been answered but I didn't find a solution in the FAQ, various web site etc...

The problem is quite simple: I have a set of measurements from all over the Earth. The measurements are irregularly spaced (satellite measurements) and I want to interpolate the data to a regular grid (1 degree x 1 degree).
I have experimented with TRIANGULATE and TRIGRID with de SPHERE keyword but the resulting interpolated grid becomes very strange as I increase de number of measurements.

It seems that, with SPHERE keyword, TRIGRID does not make a linear interpolation but a quintic polynomial interpolation (even though the QUINTIC keyword is not used). Second, let's say I feed the TRIANGULATE+TRIGRID with 10 points, the resulting grid seems reasonable. With 100 points, it is still ok. With 200, I have very strange interpolated value (peaks and negative value although the input value is strictly positive). With higher number of observation points, the result becomes more and more dramatic (I can have as much as 25000 points).

Maybe I'm doing something wrong, maybe TRIANGULATE+TRIGRID is not the right tool for the job

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Philippe Peeters
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Subject: Re: Irregular data interpolation problem
Posted by Jonathan Joseph on Tue, 28 Sep 1999 07:00:00 GMT
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Philippe,

I can recall having some problems with this sort of thing in the past, though I can't remember the cause. Have you looked at sph_scat? You can look at the IDL code for this. It should be similar (or identical) to what you want to do.

If you post the relevant portion of your code and the
list of 200 points which causes the faulty behavior as
well as the list of 100 points that yeilds correct behavior, I'm
sure someone will be able to help you out.

-Jonathan

Philippe Peeters wrote:
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