Subject: Re: How do I prevent underflow errors?
Posted by Ethan Alpert on Wed, 17 Feb 1999 08:00:00 GMT
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Phillip & Suzanne David wrote:

> I have a large array of data that I'd like to plot with the contour routine.
> However, the dynamic range of the data is very large, with values as large as
> 1e36 and as small as 1e-40. I noticed that contour accepts float data, not
> double data. This data is outside the range of float data, so it needs to be
> scaled for the contour routine. I don't really care to differentiate the
> 1e-40 from 0, but would like to be able to handle values up to the 1e36. I
> was going to scale the data by the largest value (i.e.,
> PlotData=Float(Data/Max(Abs(Data)))). This puts the data in the range of -1.0
> to 1.0. This should be fine for Contour, but I get an underflow error when
> converting from double data to float data. I understand that the data will
> come out with a 0 instead of 1e-76, and don't really care. How do I get IDL
> to ignore the underflow and just convert the value?

Is your data all possitive? Have you considered contouring the log of the data?
The contours generated by taking the log of the data will be the same if
you set the contour intervals correctly.

This should solve the problem.

-ethan alpert

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> Phillip

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