Subject: Re: Interpolating a regular grid
Posted by Mark Hadfield on Wed, 08 Mar 2006 01:34:42 GMT
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David Fanning wrote:
> To interpolate your gridded array, you need to know the *indices*
> of pressure and temperature. One way to find the proper indices
> is like this:
>
> xindex = Value_Locate(p, 700.6)
> xindex = yindex + ((700.6 - p[yindex])/(p[yindex+1] - p[yindex]))
>
> yindex = Value_Locate(t, 234.56)
> yindex = yindex + ((234.56- t[yindex])/(t[yindex+1] - t[yindex]))
>
> So, now, the value you are looking for is this:
>
> interpValue = Interpolate(array, xindex, yindex)

For what it's worth, the Motley library at

http://www.dfanning.com/hadfield/idl/README.html

has a function called MGH_LOCATE which will calculated one or more "fractional index" values in the way you have shown. It also has cousins MGH_LOCATE2 & MGH_LOCATE2A that do the same thing for 2-D curvilinear arrays.

Note to self: I must update that library.

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