Subject: Re: XYZ plotting
Posted by Michael Wallace on Mon, 11 Jul 2005 17:46:22 GMT
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> Alternatively (but I guess it's almost the same idea), I would like to
> plot in the x-y plane the z values with a color code, like an image,
> selecting the ranges for each color as I prefer, likely smoothing the
> image.

First, I want to apologize for such a general answer, but I don't have the time at the moment to write something more complex. Maybe someone else can fill in the details.

What you need to do is create a 2 dimensional array. The X index of the array corresponds to your x value and the Y index of the array corresponds to your Y value. Because your X and Y data includes decimals, you'll need to create a mapping for each. Something like X value of 0 maps to index 0, X value of 0.5 maps to index 1, value of 1 maps to index 2, etc, etc. You'll need to do the same for Y.

Inside the two dimensional array, you'll want to store the Z values. Once all the values are in your array, you'll need to make the values suitable for coloring. You'll use the bytscl() command on your array. This will map all of your values into the range 0 to 255. The lowest value will map to 0 and the highest will map to 255. You need to do this so there is a direct mapping from value to color (and there's at most 256 colors in a color table). You'll now want to load an appropriate color table with the loadCT command. You can plot the array using the TV command or even better, David Fanning's TVImage.

Again, sorry for the lack of actual IDL code, but maybe someone will be nice enough to fill in what I don't have time to write.

-Mike