Subject: PLOTting into a 2-D array
Posted by M. Katz on Mon, 19 Dec 2005 17:42:29 GMT
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Gurus,
Is there a way to use a command like PLOTS (or something related) to put "z" data from an arbitrary x-y path into a 2-D (floating-point, double, or long) image array?

With
  PLOT, x, y, /nodata
  PLOTS, x, y, color=zarray, /data
IDL draws a picture that can be captured as a 2D image array using simple, direct graphics. And IDL does this so much faster than I could possibly do it the long way.

Here's a statement of the problem. I have experimental data gathered while a system is "scanning" an arbitrary (x,y) path. The data arrays can contain hundreds of MB of data. When I use PLOTS, and BYTSCL() the "signal," I can generate a decent visualization of my data fairly quickly. But to capture the resultant "image" means converting to whatever the device-limited color-scale is--like 8-bit.

The "long way" solution would be to discretize the (x,y) path coordinates into pixel-x-y values, and then do some summing/histogramming/averaging/etc. on the z values. This is obviously very time consuming. What would be ideal is to "draw" the data into the array pixels, using the speed of PLOTS or a similar, optimized routine.

I understand that there are some subtleties regarding multiple data points assigned to the same pixel and such, but I'm willing to live with a slightly coarse rendering if I can make back the speed of PLOTS.

Thanks,
M. Katz