Subject: Diplay 2D data
Posted by lasse on Tue, 04 Dec 2007 10:26:22 GMT
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Hi there,

in one of the recent posts there was a link to Brian Larsen's homepage and in particular his imagesc.pro. This reminded me that I wanted to ask a question related to the matter of image display with axes:

What's the best way to display 2D colour-coded data with axes and what-not? Or rather, what do people out there use?

For a long time I used a routine called IMDISP which I downloaded somewhere. It seems to be the same approach as Brian's, getting a 2D array, using one of the TV commands to display it at a certain position and the overplotting axes. I am not happy with that approach because axes and image are completely unconnected, if I change the axes ranges then I (or the display routine) needs to chop of bits of the image array, otherwise the same image is displayed just with different axes. More importantly, both mentioned routines cannot pad zeros to the image such that the axis range is extended over the extends of the image. This is important for me because I am anal and I want my dynamic spectra plots to start at round times - but the data doesn't. And also, since the pixels have finite dimensions, I really also need to change the axes values to the exact position at the end of the pixel.

This then led me to write my own routine which uses POLYFILL. So basically every pixel is drawn as a filled polygon with a certain colour. This allows me to easily (in my mind) change the ranges without having to fiddle with the data.

However, not only is a FOR loop with POLYFILL slow but also a page of three dynamic spectra with 8000x128 points now easily makes a 40MB PostScript - not surprisingly, really.

So to get back to the original question: How do other people display 2D data?

Cheers
Lasse Clausen