Subject: Re: Diplay 2D data
Posted by Vince Hradil on Tue, 04 Dec 2007 14:43:35 GMT
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On Dec 4, 4:26 am, Lasse Clausen <la...@lbnc.de> wrote:
> 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

I use tvim (http://www.astro.washington.edu/deutsch/idl/htmlhelp/library28.html#TVIM) mostly out of habit, though. David has a nice tv/tvscl replacement on his website, too http://www.dfanning.com/programs/tvimage.pro. I don't think either of these handle the axes the way you want them

to, though. I always just extrac(t) the appropriate range and use
that.

Subject: Re: Diplay 2D data
Posted by Jeff N. on Tue, 04 Dec 2007 16:07:24 GMT
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On Dec 4, 5:26 am, Lasse Clausen <la...@lbnc.de> wrote:
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> Cheers
> Lasse Clausen

David's XImage program might be useful for you:
http://www.dfanning.com/documents/programs.html#XIMAGE

Also note that iImage displays images with axes if you want to go down that road.

Subject: Re: Diplay 2D data
Posted by Brian Larsen on Tue, 04 Dec 2007 16:20:40 GMT
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I fully agree with you on all counts. I wrote that imagesc because I couldn't find a solution that worked for me and I needed axes. imagesc can display just part of an image by inputing the 2-d data and the x and y values, then using the xrange and yrange keywords. At this moment it won't pad zeros to make a larger range but that is just laziness but you might be able to change that.

One thought is to create some kind of object to contain the 2-d data and the x and y values and manipulate the object though defined methods to create a connection between the axes and the 2-d data. Then it could be displayed using a modified imagsc, tvscl, tvim, or anything else.

just a thought,

Brian

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Brian Larsen
Boston University
Center for Space Physics
