Subject: Re: overlying an image and a contour plot
Posted by Med Bennett on Mon, 15 Nov 1999 08:00:00 GMT
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A key issue that took me a while to figure out is that the pixels of an image represent a finite area, unlike grid coordinates. Thus if you have a grid representing 5000 by 5000 units with a grid spacing of 50 units, your contouring grid will have to be of size 101 by 101. if your image file also is 101 by 101, the image pixels have to extend *outside* the axis coordinates by .5 pixels on all sides. I call this a node centered image. A cell centered image would be only 100 by 100 pixels, the image occupies the exact coordinate axis ranges, and the first pixel center is at x[0]+25., y[0]+25. Some extra calculations for the use of the position keyword are required in the former case. I do the contour plot first with /nodata to get the exact axis position values, do the calcs, output the image, and the contour again over the image with the real data. Easier in postscript be cause it scales the pixels for you - on screen you have to resize the image appropriately also.

tebbens@my-deja.com wrote:

> We are trying to overlay an image and a contour
> plot, but can't get a perfect match in position
> and size.
>
> On the contour plot, the x axis is 652 values and
> the y axis is 5048 values. We want to fit the
> image exactly into the contour plot.
>
> The following commands are used:
>
> position=[.6,.05,r,.95]
> tv, image, .6, .05, $
> xsize=position(2)-position(0), $
> ysize=position(3)-position(1), /normal
> xvalue = 652.
> yvalue = 5048.
>
> ; r should be the length of the x-axis in the
> ; normal coordinate system (x and y window
> ; size=1)
> r= 10./7.*(.9 * xvalue/yvalue) + .6
>
> contour, xstyle=1, ystyle=1, /iso, $
> position=[.6,.05,r,.95], /noerase
>
> The image and contour overlay, but the x-axis of
> the image is too long to fit the contour plot.

> When the command tvimage is used instead of tv,
> the images are the same size, but are offset in
> both x and y direction by a few pixels.
>
> We think the problem is with the r value, but
> we don't know why the simple commands above
> don't work.
>
> Any suggestions to get these to overlay?
>
> Thanks in advance.
>
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