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Subject: Re: overlaying an image and a contour plot  
Posted by [davidf](#) on Fri, 12 Nov 1999 08:00:00 GMT  
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Sarah Tebbens (tebbens@my-deja.com) writes:

> 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?

I think the problem probably lies in the use  
of the ISOTROPIC keyword. I've never understood  
what "isotropic" means, but I think it means  
"keep the damn aspect ratio correct".

I would try something like this. (I would be  
\*very\* surprised if this doesn't work, because  
this is what TVIMAGE was designed for. If it  
doesn't work, let me know immediately.)

```
windowPos = [0.1, 0.1, 0.9, 0.9]  
TVImage, data, /Keep_Aspect, Position=windowPos  
Contour, data, XStyle=1, YStyle=1, Position=windowPos, /NoErase
```

The key thing here is putting the window position in a variable,  
since the actual values in it may change in the TVImage command.  
In other words, the Position keyword is both an input and an  
output keyword in this case.

Let us know. :-)

Cheers,

David

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Toll-Free IDL Book Orders: 1-888-461-0155

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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:

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> Thanks in advance.  
>  
> Sent via Deja.com <http://www.deja.com/>  
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