Subject: Coord_transform in axes
Posted by joellama on Tue, 04 Nov 2014 00:12:05 GMT
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I am trying to add an axis to an image but am having some difficulty.

My array is the shape: values[150, 50] representing 150 days and 50 latitude bins for each day.

I'm plotting the image using

im = image(values)

and the image appears as expected but I want to add a y axis to label the values of theta. Each of the 50 latitude bins is uniform in sin(theta) going from -1 to +1 but I want the axis to be in terms of theta going from -90 to +90 degrees.

Ive looked at the coord_transform function in axis and that can get me from (-1, 1) to (-90, 90) but the scaling is then wrong because the latitude values aren't uniform in theta but sin(theta).

I'm completely drawing a blank on how to do this. Any help would be greatly appreciated!

Subject: Re: Coord_transform in axes
Posted by joellama on Tue, 04 Nov 2014 00:17:01 GMT
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Just to be slightly clearer,

I'm basically after a y-axis that has tick marks -90, 30, 0, 30, 90 that are all roughly equally spaced - sin(theta) space rather than in theta space where it would be -90, -45, 0, 45, 90.

Subject: Re: Coord_transform in axes
Posted by penteado on Thu, 06 Nov 2014 17:52:53 GMT
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This is one way to do it: You can make your plot, then change the location of the axis ticks to arbitrary locations, and change the tick labels to arbitrary values.

```
imdata=dist(150,50) ;make some mock data
x=dindgen(150) ;make the x coordinates
y=-1d0+2d0*dindgen(50)/49d0 ;make the y coordinates from -1 to 1
 myimage=image(imdata,x,y,axis_style=1,position=[0.2,0.2,0.8, 0.8],aspect_ratio=40.) ;make the image
nyticks=11 ;number of ticks for the y axis
ygrid=-1d0+2d0*dindgen(nyticks)/(nyticks-1d0) ;make an array of y tick values
ylabels=string(asin(ygrid)*180d0/!dpi,format='(I)') ;make the labels for the y axis
```

myimage['axis1'].tickvalues=ygrid ;replace the tick locations
myimage['axis1'].tickname=ylabels ;replace the tick labels
myimage.ytitle='θ'
 naxis=axis('y',location='right',title='sin(θ)',tickva lues=ygrid) ;add a second axis with the sines of the angle

On Monday, November 3, 2014 10:17:03 PM UTC-2, Joe Llama wrote:
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>
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