
Subject: change linear scale to a non-linear
Posted by [ftksn1](#) on Wed, 08 Aug 2001 23:19:36 GMT
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Hi,

I have a two dimensional data set with one dimension is time and the other is the data samples. Each data bin corresponds to an look angle and I am using the TV command to show the data and then use plot command to put on the axis (time and look angle). What I would like to do now is to change from look angle to geographic latitude. Since this is a non-linear relation I need to scale the data set in the same way. Is there an easy way to do so when I am using the TV command ?

Thanks,
Kim

Subject: Re: change linear scale to a non-linear
Posted by [Clay Kirkendall](#) on Thu, 09 Aug 2001 18:49:15 GMT
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Kim Nielsen wrote:

> Hi,
>
> I have a two dimensional data set with one dimension is time and the
> other is the data samples. Each data bin corresponds to an look angle
> and I am using the TV command to show the data and then use plot
> command to put on the axis (time and look angle). What I would like to
> do now is to change from look angle to geographic latitude. Since this
> is a non-linear relation I need to scale the data set in the same way.
> Is there an easy way to do so when I am using the TV command ?
>
> Thanks,
> Kim

Kim,

I have done something similar to go from linear to log axis for an image. There may be a better way but this will go through the image row by row and interpolate the data onto a nonlinear grid. Then just use tv, newimage to display the image with the new (nonlinear) axis.

```
newimage=image
for i=0, n_lines-1 do $
    newimage[* , i]=interpol(image[* , i], linearaxis,
nonlinearaxis)
```

n_lines is the number of rows in the image, linearaxis is a vector with the original linear axis, and nonlinearaxis is vector containing the nonlinear axis values.

Clay

Subject: Re: change linear scale to a non-linear
Posted by [Craig Markwardt](#) on Thu, 09 Aug 2001 20:31:18 GMT
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Clay Kirkendall <clay.kirkendall@nrl.navy.mil> writes:

> Kim Nielsen wrote:
>
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>> other is the data samples. Each data bin corresponds to an look angle
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>> Kim
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> Kim,
> I have done something similar to go from linear to log axis for an
> image. There may be a better way but this will go through the image row by
> row and interpolate the data onto a nonlinear grid. Then just use tv,
> newimage to display the image with the new (nonlinear) axis.

Or, could it be easier to relabel the axes, rather than reinterpolate the image? I never like the idea of interpolating an image, since you usually end up throwing away lots of information...

Craig

--

Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response
