Subject: Scaling cgColorbar to match data
Posted by Richard on Wed, 08 Oct 2014 01:22:39 GMT
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Hi all,

I'm attempting to generate a plot with varying symbol colours. I've been able to scale my large range of data points to a 256 colour table but I haven't got the foggiest as how to scale the cgColorbar to match. At the bottom of this post is a simple example of what I'm attempting to do.

If I've understood seeds correctly then you should be able to see what I'm seeing. In which case, I would like to direct your attention to the annotated value of 0.000278858. Notice how the coloured symbol beside it does not match that in the colour bar.

Could anybody provide any assistance or clarity in this matter?

Richard

```
PRO demo_color_bar

seed1=-24
seed2=57
seed3=123

x = 10 * RANDOMU(Seed1, 50)
y = 100 * RANDOMU(Seed2, 50)

z1 = 1e-1 * RANDOMU(Seed3, 10)
z2 = 1e-2 * RANDOMU(Seed3, 10)
z3 = 1e-3 * RANDOMU(Seed3, 10)
z4 = 1e-4 * RANDOMU(Seed3, 10)
z5 = 1e-5 * RANDOMU(Seed3, 10)

z = [z1,z2,z3,z4,z5]

SET_PLOT, 'PS'
DEVICE, Decomposed=0, /ENCAPSUL, /COLOR, BITS=8, FILENAME='demo_color_bar.eps',
/INCHES, XSIZE=11, YSIZE=11, FONT_SIZE=10, /BOLD

!P.MULTI = [0, 1, 1]
plotPosition = [0.125, 0.06, 0.8, 0.96]

cgplot, [0, max(x)], [0, max(y)], /NODATA, /YNOZERO, title='ColorBarDemo', xtitle='x', ytitle='y',
position=plotPosition
```

```
col=34       ;color table
ncol=256     ;range of colors
min_range=min(z)
max_range=max(z)

;Define scale range, converting z values into floats of 0 to 255.
Colors_test =  (((ncol-1)*ALOG10(min_range))/(ALOG10(min_range)-ALOG10(max_
range)))-(((ncol-1)*ALOG10(z))/(ALOG10(min_range)-ALOG10(max _range)))

cgloadct, col, NColors=ncol

PLOTSYM, 0, /FILL

FOR i=0,49 DO BEGIN
 cgplot,[x[i]],[y[i]],PSYM = 8,/OVERPLOT,color=FIX(Colors_test[i])
ENDFOR

cgloadct, 0

cgtext,x[0],y[0],z[0],/DATA,ALIGNMENT=0.0
cgtext,x[25],y[25],z[25],/DATA,ALIGNMENT=0.0
cgtext,x[49],y[49],z[49],/DATA,ALIGNMENT=0.0

cgloadct, col, NColors=ncol

cgColorbar, Divisions=24, NColors=ncol, Range=[min_range,max_range], Title='z',
Format='(E11.2)', Position=[0.06, 0.82, 0.96, 0.84], /VERTICAL, /RIGHT

DEVICE, /CLOSE


END
```

Subject: Re: Scaling cgColorbar to match data
Posted by David Fanning on Thu, 09 Oct 2014 03:40:54 GMT
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Richard writes:

> I'm attempting to generate a plot with varying symbol colours. I've
been able to scale my large range of data points to a 256 colour table
but I haven't got the foggiest as how to scale the cgColorbar to match.
At the bottom of this post is a simple example of what I'm attempting to
do.

I'm not sure I'm seeing what you are seeing, but I would change this
code:

> cgloadct, col, NColors=ncol
>
> PLOTSYM, 0, /FILL
>
> FOR i=0,49 DO BEGIN
> cgplot,[x[i]],[y[i]],PSYM = 8,/OVERPLOT,color=FIX(Colors_test[i])
> ENDFOR

To this:

```
cgloadct, col, NColors=ncol
FOR i=0,49 DO BEGIN
  cgplot,[x[i]],[y[i]],PSYM = 16,/OVERPLOT,color=BYTE(Colors_test[i])
ENDFOR
```

Does that make any difference?

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Scaling cgColorbar to match data
Posted by Richard on Thu, 09 Oct 2014 14:10:26 GMT
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Hi David,
Many thanks for the response.
I'm not seeing any visual difference between my method or yours but I believe that I have resolved my issue by coming back to the problem with fresh eyes and simply restarting my IDL environment.

Cheers,
Richard

P.S. Thanks for all the great IDL code and support you provide. It has saved myself and colleagues from countless headaches as well as preventing us from cowering under our desks muttering evil curses at IDL!
