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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

```

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