
Subject: Re: colorbar help

Posted by [R. Bauer](#) on Wed, 01 Oct 1997 07:00:00 GMT

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Rick McDaniel wrote:

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>
> Does IDL have a generic procedure to output a colorbar on a contour plot?
>
> I found a procedure on the web, and it works great when device is set to
> the display but it doesn't look the same when device is set to PS. Here's
> my procedure to read in a data file, call a procedure to calculate the
> wavelet transform, and plot the results:
>
> *****
> READCOL, 'oct30.dat', time1, data ; reads in the data file
> wave = WAVELET(data,0.0155,PERIOD=period,COI=coi,/PAD,SIGNIF=signif ,SCALE=scale)
> freq = 6/(scale)
> LOADCT,39
>
> !P.font = 0 ;i want hardware fonts
>
> mydevice = !D.NAME
> set_plot, 'PS'
>
> device, filename = 'oct30.ps', /COLOR, /inches
>
> CONTOUR,ABS(wave)^2,time1,freq,xtickformat='xticks',$
> XSTYLE=1,XTITLE='Time',YTITLE='Frequency (Hz)', $
> TITLE='Oct30 Wavelet Power Spectrum',YRANGE=[MIN(freq), 10], $
> pos = [0.2, 0.2, 0.9, 0.9], /YLOG, YSTYLE=1, NLEVELS=25,/FILL
>
> dispbar,250,10,200,5,/Border ; display the color bar, see below
>
> device, /close
>
> set_plot, mydevice
> *****
>
> Here's the procedure to display the colorbar:
>
> *****
> pro dispbar,cbllx,cbllly,cbx,cby,Border=Border
> ;+
> ; NAME:
> ; DISPBAR
> ; DESCRIPTION:
> ; This procedure creates and displays a color bar on the screen.
> ; CALLING SEQUENCE:
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> ; DISPBAR,cblx,cblly,cbx,cby,Border=Border,Vertical=Vertical
> ; INPUT:
> ; CBLLEX Color Bar Lower Left hand X coordinate
> ; CBLLEY Color Bar Lower left hand Y coordinate
> ; CBX Color Bar X length
> ; CBY Color Bar Y height
> ; OUTPUT:
> ; Screen output only. All passed variables remain unchanged.
> ; OPTIONAL FLAGS:
> ; BORDER Puts a white (BLACK in PS) border around the color bar.
> ; HISTORY:
> ; 30-MAY-90 Version 1 written by Eric W. Deutsch
> ; 24-AUG-91 Added /Border Keyword (E. Deutsch)
> ;-
>
> if (n_params(0) lt 4) then begin
>   print,'Call: IDL> DISPBAR,lwrlft_X,lwrlft_Y,X_length,Y_height, [/Border]'
>   print,'e.g.: IDL> dispbar,120,30,100,10, /Border'
>   return
>   endif
>
> if (n_elements(Border) eq 0) then Border=0
>
> if (cby eq 0) or (cbx eq 0) then return
>
> bar=byte(indgen(cbx)*(!d.n_colors*1./cbx<255))
>
> for i=0,cby-1 do tv,bar,cblx,cblly+i
>
> if (Border eq 1) then plots,[cblx,cblx+cbx,cblx+cbx,cblx,cblx], $
>   [cblly,cblly,cblly+cby-1,cblly+cby-1,cblly],/device
>
> return
> end
> *****
>
> Any help appreciated.
>
> Rick McDaniel

```

The problem with this routine is:

- a) it uses tv to display a colorbar
that's not good because contours are done by something like plots
and ployfill
To get best results you should use routines which did the colorbar
in the same way as contours are done.
I have one but it's in the moment in building phase (beta).

b) Your colorbar could not be used to print the right levels if nlevels was used.

c) to print tv ed data you have to open the device with bits_per_pixel=8. If you don't you'll will get in the most cases grey to black colorbars.

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