Subject: Re: Missing fill colours in contour plot
Posted by Sir Loin Steak on Wed, 16 Jan 2013 10:28:19 GMT
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On Wednesday, January 16, 2013 9:51:49 AM UTC, lj...@fsmail.net wrote:
> On Wednesday, January 16, 2013 12:11:50 AM UTC, tortoise...@gmail.com wrote:
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>> On Tuesday, 15 January 2013 22:14:04 UTC, Coyote wrote:
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>>> On Tuesday, January 15, 2013 1:56:23 PM UTC-7, lj...@fsmail.net wrote:
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>>>> I am trying to do a contour plot of a latitude-longitude array, but I keep getting gaps in my plot, as shown in the following image: http://www.physics.open.ac.uk/~lsteele/contour.png. I'm stumped as to the reason, as it's not as if it's missing contours at the very end ranges of the contour values - it's somewhere in between. Anyhow, I'm sure the knowledgable folks on here will know!
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>>>> I have defined a blue-white-red colour scheme and loaded it in with tvlct, but the problem occurs with other colour schemes too. I am calculating my contour levels and colours as follows (with ncont the number of contours I'm plotting):
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>>>> minv = floor(min(array))
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>>>> maxv   = ceil(max(array))
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>>>> maxval = max([abs(array),abs(array)])
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>>>> clevels = -maxval + findgen(ncont)/(ncont-1)*2*maxval
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>>>> ccol   = floor(findgen(ncont)/(ncont-1)*250)
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>>>> I am then plotting my contour plot as:
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>>>> device, decomposed=0
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>>>> bwr_colour, red_vec, grn_vec, blu_vec
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>>>> tvlct,   red_vec, grn_vec, blu_vec
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>>>> contour, array, lon, lat, $
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>>>>         levels=clevels, c_colors=ccol, /fill, $
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>>>>        background=cgColor('white'), color=cgColor('black'), $
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>>>>        xrange=[-180,180], yrange=[-90,90], xstyle=1, ystyle=1, $
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>>>>        yticks=6, ytickv=[-90,-60,-30,0,30,60,90], $
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>>>>          xticks=6, xtickv=[-180,-120,-60,0,60,120,180], $
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>>>>          xtitle='Longitude', ytitle='Latitude', charsize=1.5, $
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>>>>          title=plotsym+' (all motions) / g m!u-1!n s!u-1!n'
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>>>> If anyone can offer any suggestions then I'll be very grateful, as it's bugging me now!
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>>> Just seeing "lon", "lat", and "contour" causes me to think that one of your problems is that you should be using the CELL_FILL keyword, rather than the FILL keyword.
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>>>   http://www.idlcoyote.com/color_tips/fill_colors.html
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>>> If that doesn't work, I'd try cgCONTOUR. That routine will fill up the "normal" hole Contour creates.
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>>>   http://www.idlcoyote.com/tips/contour_hole.php
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>>> Cheers,
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>>> David
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>> Thanks David - I'll give both a try tomorrow and see what happens!
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> Hmm, well neither cell_fill nor cgcontour fix the problem. I'll have to have another fiddle and see what I can do, but it seems like it should work!

Right, I've just done some more checking, and when I specify the colour values to range from 0-255 it works, but when I set them to range from 0-250 it doesn't. The two plots are shown at http://www.physics.open.ac.uk/~lsteele/contour2.

In the two plots shown, the left is done using ccol=floor(findgen(ncont)/(ncont-1)*255) and the right is done using ccol=floor(findgen(ncont)/(ncont-1)*250), with ncont=30. So, the only change is

going from 255 to 250, with the contours being correct at 255.

Does anyone know why this would be causing a problem?

Cheers,

Liam
