
Subject: cgcontour colours for 2 panel plot
Posted by [ej](#) on Wed, 12 Jun 2013 03:53:45 GMT
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Hi

I want to plot a 2 panel figure of a density field with cgcontour. I would like to display just one colour bar. Is there a good way to make sure that the colours in each panel correspond to the same density? At the moment I use "clip" to adjust the colour range used by the second contour plot so that the colours in each panel correspond to the same density but I was hoping there is a better way.

Thanks!

Subject: Re: cgcontour colours for 2 panel plot
Posted by [David Fanning](#) on Wed, 12 Jun 2013 13:04:30 GMT
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ej writes:

> I want to plot a 2 panel figure of a density field with cgcontour. I would like to display just one colour bar. Is there a good way to make sure that the colours in each panel correspond to the same density? At the moment I use "clip" to adjust the colour range used by the second contour plot so that the colours in each panel correspond to the same density but I was hoping there is a better way.

Yeah, I can understand why you might be looking for a better way, since I can't imagine how your method can possibly work. :-)

To get two contour plots to use the same colors for their fill values, you simply use the same LEVELS and C_COLOR values for both. Simple as that, really. You probably also have to take care to set the minimum level to the minimum of the two data sets.

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: cgcontour colours for 2 panel plot

Posted by [ej](#) on Wed, 12 Jun 2013 15:43:42 GMT

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Hi David,

Thanks for the quick reply. Maybe i've misunderstood what clip was doing! I have two density fields each with different min and max.

If the first field has (rho1_min,rho1_max) and uses a colour table range [0,255] then for the second field i was finding the colour range that corresponded to

(rho2_min,rho2_max) where e.g. if rho1_min =0, then the colour table range for the second field is [255*rho2_min/rho1_max, 255*rho2_max/rho1_max],

Assuming that rho1_min < rho2_min < rho2_max < rho1_max.

Does this make sense?

Are there any examples of c_colors that i can look at to get started?

Subject: Re: cgcontour colours for 2 panel plot

Posted by [David Fanning](#) on Wed, 12 Jun 2013 15:53:01 GMT

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elise.jennings@gmail.com writes:

> Thanks for the quick reply. Maybe i've misunderstood what clip was doing! I have two density fields each with different min and max.

> If the first field has (rho1_min,rho1_max) and uses a colour table range [0,255] then for the second field i was finding the colour range that corresponded to

> (rho2_min,rho2_max) where e.g. if rho1_min =0, then the colour table range for the second field is [255*rho2_min/rho1_max, 255*rho2_max/rho1_max],

> Assuming that rho1_min < rho2_min < rho2_max < rho1_max.

> Does this make sense?

No, but maybe its just a proofreading problem. :-)

> Are there any examples of c_colors that i can look at to get started?

There is the small contour multiples plot in the Coyote Plot Gallery:

<http://www.idlcoyote.com/gallery/index.html#SMALLMULTIPLES>

Cheers,

David

--

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Subject: Re: cgcontour colours for 2 panel plot
Posted by [ej](#) on Wed, 12 Jun 2013 16:18:31 GMT

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Great, thanks.

There was a typo in my last post which probably didn't help.

$\rho_{1_min} < \rho_{2_min} < \rho_{2_max} < \rho_{1_max}$

This clipping method did produce the right colours in each panel for one colour bar but it was annoying.

Thanks again!

Subject: Re: cgcontour colours for 2 panel plot
Posted by [Phillip Bitzer](#) on Wed, 12 Jun 2013 16:25:24 GMT

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If I may, let me throw a different way of handling this in here, that doesn't bother with color tables.

Let's say you have 5 levels you want. Here's some pseudo-code below. You shouldn't have to worry about where in the color table one range falls relative to the other in this case.

I've also put a snippet of some IDL notes I have up that may or may not help here:

<https://docs.google.com/file/d/0BxRn65i6z-Z5bjhFUUM1RWNVb0k/edit?usp=sharing>

```
;define some colors
colors = ['blue', 'red', 'green', 'yellow', 'orange']

nLev = N_ELEMENTS(colors)

;and get the palette for these colors:
rgb = cgCOLOR(colors, /TRIPLE)

;define some levels:
levs = FINDGEN(nLev)*10

;and make the plots:
cgContour, data1, LEVELS = levs, PALETTE=rgb
cgContour, data2, LEVELS = levs, PALETTE=rgb

;now define the tickmarks for the colorbar:
l_ticks = [STRING(levs, FORMAT='(F4.1)'), ' ']
```

;now make the color bar
cgCOLORBAR, NCOLORS=nLev, PALETTE=rgb, DIVISION=nLev, TICKNAMES=l_ticks

Subject: Re: cgcontour colours for 2 panel plot
Posted by [David Fanning](#) on Wed, 12 Jun 2013 16:26:01 GMT
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elise.jennings@gmail.com writes:

> This clipping method did produce the right colours in each panel for one colour bar but it was annoying.

I would imagine. It would be like estimating your shoe size from a picture of Michael Jordan's sneakers. :-)

Cheers,

David

--

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Subject: Re: cgcontour colours for 2 panel plot
Posted by [ej](#) on Wed, 12 Jun 2013 16:35:18 GMT
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Great, thanks Phillip!

Subject: Re: cgcontour colours for 2 panel plot
Posted by [David Fanning](#) on Wed, 12 Jun 2013 21:10:05 GMT
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Phillip Bitzer writes:

> I've also put a snippet of some IDL notes I have up that may or may not help here:
> <https://docs.google.com/file/d/0BxRn65i6z-Z5bjhFUUM1RWNVb0k/edit?usp=sharing>

I made the mistake of letting Coyote read this, and he found this line on your last page:

Note: unfortunately cgSurface is one of the few Coyote routines that uses a color table, not a palette. So, getting the colors to match our contour plot is not as straightforward as it was before. There are ways to do it, but we'll save that for another day.

After reading it he was howling and whining and frothing at the mouth, so I finally gave him 10 minutes off so he could go fix the damn thing. Here it is. He has finally settled down and gotten back to work. :-)

<http://www.idlcoyote.com/programs/cgsurface.pro>

You can call it like this:

```
cgloadct, rgb_table=pal, 33
cgsurface, cgdemodata(2), Shaded=1, palette=pal, /elevation
```

Cheers,

David

--

David Fanning, Ph.D.

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Subject: Re: cgcontour colours for 2 panel plot
Posted by [Phillip Bitzer](#) on Wed, 12 Jun 2013 21:32:22 GMT
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My apologies to Coyote, but also, my thanks go to him. One of things I really like about his graphics system is that I don't have to touch color tables. :-)
