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Subject: Re: iplot colorbar label

Posted by [penteado](#) on Wed, 09 Sep 2009 20:02:01 GMT

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On Sep 9, 11:42 am, "Thibault ." <garthalg...@yahoo.fr> wrote:

> Hi,  
>  
> Using iplot as a scatter plot, I assign colors to the data points  
> according to an array (using `vert_colors`) and I want to create the  
> corresponding colorbar with `/insert_colorbar`:  
>  
> `x=randomu(41,10)`  
> `y=randomu(50,10)`  
>  
> `my_col=[150,255,12,160,187,245,36,58,210,170]`  
>  
> `iplot,x,y,/insert_colorbar,rgb_table=39,sym_index=4,/`  
> `scatter,vert_colors=my_col`  
>  
> Doing that, the plot works and the colorbar is displayed BUT the  
> colorbar label goes from 0 to 1. I noticed that it goes from min to  
> max values of the y variable... whereas I want the label to span what  
> it really represents, namely the `my_col` array !!!  
>  
> How to make the colorbar label ranging from 0 to 255 (= the `my_col`  
> array min and max values) ?

Actually I agree that the colorbar ticks should not be the color indexes, because usually the colorbar should show the "physical" quantity mapped by the color, not the index on the colortable (though you could make that quantity be the index, if that is what you wanted). In an interface that allows to set point colors directly (by `vert_colors`), the itool is given no information on how colors map to a variable (which is what a colorbar indicates), and as such, it should not be able to put a colorbar in there.

In that sense, I find the iplot interface is incomplete, as it should have a keyword to indicate the quantity that should map to the color (something like `vert_values`), which is another limitation of how IDL handles colorbars. The limitation that particularly annoys me is only 256 levels in a colorbar, and I have been working on larger colorbars. Not having that keyword and not knowing what variable maps to the colors, it guesses that variable to be the last variable passed as argument (in that case, `y`).

Anyway, it is still possible to go around the iplot interface, and change the colorbar labels after it is made. I have a function that I

made for that, `pp_colorbar_range`, which could be used in your case as something like:

```
pp_colorbar_range,[0,255],font_size=12.
```

After the `iplot` with the colorbar, if what you want is really for the colorbar to show the range 0,255. But I suspect that you have some other range that would make more sense, which is the range of the variable used to determine `vert_colors`.

`pp_colorbar_range` is at

[http://www.ppenteado.net/idl/pp\\_colorbar\\_range.html](http://www.ppenteado.net/idl/pp_colorbar_range.html)

[http://www.ppenteado.net/idl/pp\\_colorbar\\_range.pro](http://www.ppenteado.net/idl/pp_colorbar_range.pro)

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Subject: Re: `iplot` colorbar label

Posted by [Thibault](#) . on Thu, 10 Sep 2009 10:11:34 GMT

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Thanks for the routine!

Indeed, I don't want the label to be the color index.

I set my color table to a third variable `z` (`x` and `y` are the positions).

```
my_col = fix(z * 255/(max(z)-min(z)))  where z spans the range 50 to 800.
```

I think that writing this makes the plot that I want, attributing to each point defined by `x` and `y` in position, the appropriate color according to the `z` value.

Then, using your `pp_colorbar_range.pro` routine by setting:

```
iplot,x,y,/insert_colorbar,rgb_table=39,sym_index=3,/
scatter,vert_colors=my_col
pp_colorbar_range,[min(z),max(z)],font_size=12
```

it gives something which seems to make sense... I hope it does :)

In which way the keyword `colors=colors` is useful??

Furthermore, do you have any idea how to save the `iplots` as postscript files?

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