
Subject: Re: Colormaps (a favorite subject!)

Posted by [John-David T. Smith](#) on Fri, 24 Mar 2000 08:00:00 GMT

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Craig Hamilton wrote:

>
> Hi all:
> I've run into a little snag dealing with colormaps and thought I would seek
> the advice of the wise ones.
>
> I have an image-viewing program that displays gray-level images.
> Works great. I had this idea that I wanted to make some
> of settings user-selectable on startup, so I first popped up a window with
> some radio buttons in it. One set of radio buttons lets the user select
> the number of gray-levels used in the colormap.
>
> The problem is that IDL requires something like:
> window,0,colors=numcolors,/pixmap,xsize=10,ysize=10
> wdelete,0
>
> to initially setup the colormap, prior to any windows being created.
>
> But, I have already created my popup window. So it seems to me
> I'm in a catch-22: I have to specify the number of colors before I
> create my popup window, but I don't know the number of desired
> colors until after I have created my popup window.
>
> My popup doesn't create any draw widgets, if that matters.
>
> So, the question is:
> Is it possible to use a popup window to get from the user the number
> of desired gray-levels?
>
> I hope this is clear. Any tips most appreciated.

You could save the user preference in a file, and read it in. It wouldn't work for the same session, but at least it would be something.

JD

--

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Subject: Re: Colormaps (a favorite subject!)

Posted by [davidf](#) on Sun, 26 Mar 2000 08:00:00 GMT

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J.D. Smith (jdsmith@astro.cornell.edu) writes:

> Craig Hamilton wrote:

>>

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>> the advice of the wise ones.

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>> So, the question is:

>> Is it possible to use a popup window to get from the user the number

>> of desired gray-levels?

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>> I hope this is clear. Any tips most appreciated.

I'm traveling and didn't see the original post from Craig,
but JD quotes enough that I get the general idea, I think.

Craig is correct in thinking that opening the first IDL
graphics window establishes the number of colors in that
IDL session, but I think he is misunderstanding the notion
of the "number of gray-levels" an image can have. The first
is a physical limitation (more or less, but I don't really
want to get into it), the second is a **display** function
and has nothing to do with anything other than what the
IDL programmer chooses to do. In practice an image can
be displayed with **any** number of gray levels, up to and

including the number of colors or levels available in the IDL session.

Here is a program that would let you select the number of gray-levels and display an image with that number. Call it like this:

```
IDL> Choose_Levels, myimage
```

```
PRO Choose_Levels_Quit, event
Widget_Control, event.top, /Destroy
END; -----
```

```
PRO Choose_Levels_Slider, event
Widget_Control, event.top, Get_UValue=ptr
*ptr = event.value
END; -----
```

```
PRO Choose_Levels, image
IF N_Elements(image) EQ 0 THEN image = DIST(400)
Window, /Free, /Pixmap, XSize=10, YSize=10
WDelete, !D.Window
ncolors = !D.Table_Size
```

```
tlb = Widget_Base(Title='Choose Gray-Scale Levels...', Column=1)
slider = Widget_Slider(tlb, Value=(100 < ncolors), Min=0, Max=ncolors, $
    Title='Levels', Event_Pro='Choose_Levels_Slider')
done = Widget_Button(tlb, Value='Done', Event_Pro='Choose_Levels_Quit')
Widget_Control, tlb, /Realize
```

```
ptr = Ptr_New(100 < ncolors)
Widget_Control, tlb, Set_UValue=ptr
XManager, 'choose_levels', tlb ; Block here until program destroyed.
```

```
levels = *ptr
Print, 'Number of gray-scale levels: ', levels
LoadCT, 0, NColors=levels ; Load number of gray-scale levels.
s = Size(image, /Dimensions)
Window, /Free, XSize=s[0], YSize=s[1], $
    Title='Gray-Scale Levels: ' + StrTrim(levels,2)
Device, Decomposed=0
TV, BytScl(image, Top=levels-1) ; Display image with gray-scale levels.
Ptr_Free, ptr
END; -----
```

Cheers,

David

--

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Colormaps (a favorite subject!)

Posted by [Craig Hamilton](#) on Mon, 27 Mar 2000 08:00:00 GMT

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David:

Thanks for the code, but my problem is not with grey-levels vs. number of colormap entries. My problem is as originally stated it: I want the user to be able to select the number of colors in the colormap, but I can't popup a window to get that information without having the number of colormap entries already set in the act of popping up the window. I must not be explaining myself very well. I've done loads of image processing programming in other languages on Unix and Windoze, so I'm familiar with colormaps and scaling of image data for display. I'm working with 16-bit data on 8-bit displays right now and I want to avoid color-flashing, so I want to use from 32 to 128 colormap entries for this display program. I want the user to be able to select how many entries are used.

Maybe a little more simply:

I have been initializing the size of the colormap used with:

```
window,0,colors=numcolors,/pixmap,xsize=10,ysize=10  
wdelete,0
```

But now I just want to get the number 'numcolors' from the user first.

I think I am realizing that I cannot get that number with a widget.

Right?

Craig

PS: I really appreciate all the time you spend helping us

IDL novices out.... where do we mail the beer?

>

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> IDL session, but I think he is misunderstanding the notion
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> be displayed with *any* number of gray levels, up to and
> including the number of colors or levels available in the
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> Cheers,
>
> David
>
> --
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