
Subject: Re: color .ps/gamma_ct
Posted by [davidf](#) on Fri, 23 Jan 1998 08:00:00 GMT
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Peter Gallagher (P.Gallagher@qub.ac.uk) writes:

- > I'm trying to plot two images in one Postscript file using the
- > same color table. The only problem is that I want to apply a
- > different gamma correction to each image.
- > The GAMMA_CT changes the appearance of both the images each time
- > it is applied - I want a separate gamma correction for each image.
- >
- > Any body come up against this problem before?

This is another of those "color awareness" issues that comes up over and over and is a weakness, I think, in the routines that are supplied with IDL. This is one of the things I harp on in my book and I even supply several routines (e.g., XColors) to help you solve the problem.

Here is a better routine named Set_Gamma that can be used to change the gamma correction. It uses the keywords NColors and BOTTOM so that you can determine just which portion of the color table you want to change the gamma correction on. It will allow you to have two (or more) independent images with different gamma corrections.

Suppose I had 200 colors and I wanted to use the gray-scale color table for each, but I want each image to have a different gamma correction. I would do it like this:

```
image = GETImage()  
LoadCT, 0, NColors=100  
LoadCT, 0, NColors=100, Bottom=100  
Set_Gamma, 0.7, NColors=100  
Set_Gamma, 0.3, NColors=100, Bottom=100  
TV, BytScl(image, Top=99)  
TV, BytScl(Image, Top=99) + 100B
```

Cheers,

David

PRO Set_Gamma, gamma, NColors=ncolors, Bottom=bottom

```
IF N_Elements(ncolors) EQ 0 THEN ncolors = (!D.N_Colors < 256)
IF N_Elements(bottom) EQ 0 THEN bottom = 0
```

```
; Keep gamma between 0.1 and 10.
```

```
IF N_Params() EQ 0 THEN gamma = 1.0
gamma = gamma > 0.1
gamma = gamma < 10.0
```

```
; Get the current color table vectors.
```

```
TVLCT, r, g, b, /Get
```

```
; Pull the colors needed.
```

```
red = r[bottom:ncolors-1+bottom]
green = g[bottom:ncolors-1+bottom]
blue = b[bottom:ncolors-1+bottom]
```

```
; Apply gamma correction.
```

```
index = Findgen(ncolors)
distribution = index^gamma
index = Round(distribution * (ncolors-1) / Max(distribution))
red = Congrid(red(index), ncolors)
green = Congrid(green(index), ncolors)
blue = Congrid(blue(index), ncolors)
```

```
; Update the color table vectors.
```

```
r[bottom:ncolors-1+bottom] = red
g[bottom:ncolors-1+bottom] = green
b[bottom:ncolors-1+bottom] = blue
```

```
; Reload the color table.
```

```
TVLCT, r, g, b
END
```

```
*****
```

```
-----
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```
