
Subject: Re: Newbie question (w/colorful points)...

Posted by [marc schellens\[1\]](#) on Thu, 18 Jan 2001 04:08:52 GMT

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RandyStack wrote:

```
> << As to the fastest way to create the array, I'm
> not sure I can decipher how a 8192 vector
> relates to a 512x512 array. >>
>
> The 8192-element vector just contains the coordinates that I need to plot.
> Basically...
>
> xy(n,0)=x coordinate for point n (values 0-511)
> xy(n,1)=y coordinate for point n (values 0-511)
> hls(n,0)=hue for point n
> hls(n,1)=luminance for point n
> hls(n,2)=saturation for point n
>
> Without IDL, I'd normally go something like...
>
> declare mat(512,512,3)
> loop n from 0 to 8191
>   mat(xy(n,0),xy(n,1),0)=hls(n,0)
>   mat(xy(n,0),xy(n,1),1)=hls(n,1)
>   mat(xy(n,0),xy(n,1),2)=hls(n,2)
> end loop
>
> ...then convert the resulting 512x512 HLS matrix mat() to RGB for display. Was
> just looking for a more expedient way to handle this in IDL rather than
> looping.
>
> Thanks,
> ~Randy
```

Hi Randy,

you can speed the thing up using matrix operations:

```
mat0=mat[*,* ,0]
mat0[ xy[* ,0], xy[* ,1]]=hls[* ,0]
```

```
mat1=mat[*,* ,1]
mat1[ xy[* ,0], xy[* ,1]]=hls[* ,1]
```

```
mat2=mat[*,* ,2]
mat2[ xy[* ,0], xy[* ,1]]=hls[* ,2]
```

```
mat[:,*,0]=mat0  
mat[:,*,1]=mat1  
mat[:,*,2]=mat2
```

In IDL the expression:

`a[v1,v2,...vn]` with `a=n` dim array, `v1,v2,...vn=1` dim arrays

is a `n` dimensional array if the size of `v1, v2, .. vn` differ and one dimesional
is the size of `v1,v2,...vn` are the same.

cheers,
:-) marc
