Subject: Re: log scale of data coloring of IDLgrVolume object, not the axes
Posted by David Fanning on Wed, 30 Jan 2002 16:38:30 GMT

Todd Bowers (tbowers0@yahoo.com) writes:

> Ok, I think I've figured out the whole log axis thing to get an
> IDLgrSurface axis to show log scale, its all about scaling the
> xyzCoord_Conv property of the surface with the logged bounds of your
> data.
>
> But, I'm having trouble carrying this over using log scale for the
> coloring of an IDLgrVolume object and the associated Hcolorbar from
> David F. (keeping the xyz axes linear, just logging the color ramp).
> Could anyone help?

HColorbar isn't designed for log scales, of course,
but I think it is just a matter of passing it a
color palette of values that have been scaled by
some kind of log function. For example:

```
  r = BytScl(Findgen(256)^10e-2)
  g = r
  b = r
  thePalette = Obj_New('IDLgrPalette', r, g, b)
  theColorbar = Obj_New('HColorbar', Palette=thePalette)
```

Cheers,

David
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Subject: Re: log scale of data coloring of IDLgrVolume object, not the axes
Posted by 1 on Fri, 08 Feb 2002 16:49:14 GMT

David Fanning <david@dfanning.com> wrote in message
>
> HColorbar isn't designed for log scales, of course,
> but I think it is just a matter of passing it a
> color palette of values that have been scaled by
> some kind of log function. For example:

```
>
>    r = BytScl(Findgen(256)^10e-2)
>    g = r
>    b = r
>    thePalette = Obj_New('IDLgrPalette', r, g, b)
>    theColorbar = Obj_New('HColorbar', Palette=thePalette)
>

>    r = BytScl(Findgen(256)^10e-2)
Why not alog10(Findgen(256)) ??
```

Thanks David. I had already tried this without success. The colors don't
really ramp properly for a general color table (like Rainbow, colortable
13). Even if it did, the colors would be squished so much on one end that
it'd be difficult to see what colors = what value.

Playing around, I did find that I get good coloring if I log the data as I
bytscl it for the volume object.

```
loadct, 34 ; rainbow color table
tvLCT, r,g,b, /GET
colorTable = [[r],[g],[b]] ; [256,3] color table for vol coloring

;data of float values in fData. IDLgrVolume's need data bytscl'd
bData = bytscl(alog10(fData), /NaN)
oVol = OBJ_NEW('IDLgrVolume', DATA0=bData, RGB_TABLE0=colorTable)
```

Now the data looks good, but my Hcolorbar still has text annotations that
range linearly from min(fData) to max(fData). I noticed that David's
hcolorbar is just a little colored IDLgrImage with IDLgrAxis. So, I thought
I'd just set the LOG keyword for the textAxis object in his code, maybe
this'll work:

```
;//in David's HColorBar code
textAxis = Obj_New("IDLgrAxis", 0, Color=self.color, Ticklen=0.025, $
 Major=self.major, Minor=self.minor, Title=thisTitle, Range=self.range,
/Exact, $
 XCoord_Conv=longScale, Location=[1000, self.position(1), 0.001], $
 /LOG)
```

but this squooshes this axis all up to the left of where it should be.

Any suggestions?