Subject: Issue with logrithmic z-axis... fix?
Posted by greer.katelynn on Fri, 11 Sep 2009 17:43:18 GMT
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I am working on plotting up some different pressure surfaces of the atmosphere on 3-D axes. Since pressure decreases exponentially with height in the atmosphere, I need to have the z-axis logarithmic. Right now I have two surfaces, one at 2 hPa and one at 0.03 hPa. I scaled each of the contour plots so that they should roughly plot in a surface at each of those pressures. Unfortunately, when I plot it up, the surfaces are not plotted in the correct position (they plotted at about 150 hPa and 2 hPa, respectively). Here is the relevant bit of code:

```
;;3D plotting
;scaling for 2hPha
T0_scale = mean(T0_10/2.0,/nan)
gp0_scale = mean(gp0_10/2.0,/nan)
;scaling for 0.03 hPa
T6_scale = mean(T6_10/0.03,/nan)
gp6_scale = mean(gp6_10/0.03,/nan)

T0_scaled = T0_10/T0_scale
gp0_scaled = gp0_10/gp0_scale
T6_scaled = T6_10/T6_scale
gp6_scaled = gp6_10/gp6_scale

SURFACE, DIST(5), /NODATA, /SAVE, XRANGE=[-180, 180], $
   YRANGE=[35, 90], zrange=[500,0.0005], XSTYLE=1, $
   YSTYLE=1, ZSTYLE=1, CHARSIZE=1.5, /zlog
;2.0 hPa level
contour,T0_scaled[*,11:*],lon_grid,lat_grid[11:*],$
  levels=T_levels/T0_scale,c_colors=T_colors,/cell_fill,/overp lot,/
t3d
contour,T0_scaled[*,11:*],lon_grid,lat_grid[11:*],$
 levels=T_levels/T0_scale,c_linestyle=1,$
 c_thick=2.0, /overplot, /t3d
contour,gp0_scaled[*,11:*],lon_grid,lat_grid[11:*],$
 levels=gp0_levels/gp0_scale,c_labels=l_labels,
c_annotation=gp0_labels,$
 c_charsize=1.25, c_thick=2.0, /overplot, /t3d
;0.03 hPa Level
contour,T6_scaled[*,11:*],lon_grid,lat_grid[11:*],$
  levels=T_levels/T6_scale,c_colors=T_colors,/cell_fill,/overp lot,/t3d
contour,T6_scaled[*,11:*],lon_grid,lat_grid[11:*],$
 levels=T_levels/T6_scale,c_linestyle=1,$
 c_thick=2.0, /overplot, /t3d
contour,gp6_scaled[*,11:*],lon_grid,lat_grid[11:*],$
```

levels=gp6_levels/gp6_scale,c_labels=l_labels,c_annotation=g p6_labels,
$
c_charsize=1.25, c_thick=2.0, /overplot,/t3d

Any ideas about where I've incorrectly defined my axes? Or how to solve this?
Thanks for any help you might offer.
