
Subject: Re: Reversed log axes in object graphics
Posted by [Chris\[2\]](#) on Thu, 21 Oct 2004 20:09:07 GMT
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Hi Randall,

Well, I was able to accomplish your plot using iTools, in about 10 lines of code. It's a bit twisty, but it gets the job done. Plus, it's interactive afterwards!

-Chris
Research Systems, Inc.

```
***** iPlot axis callback.  
function log_test_format, Axis, Index, Value, DATA=data
```

```
    zvalue = interpol(data.z, data.p, Value)  
    return, string(zvalue, format='(i3)')  
end
```

```
*****  
,
```

```
p = [1013.00, 898.800, 795.000, 701.200, 616.600,540.500, $  
472.200, 411.100, 356.500, 308.000, 265.000,227.000, $  
194.000, 165.800, 141.700, 121.100, 103.500,88.5000, $  
75.6500, 64.6700, 55.2900, 47.2900, 40.4700,34.6700, $  
29.7200, 25.4900, 17.4300, 11.9700, 8.01000,5.74600, $  
4.15000, 2.87100, 2.06000, 1.49100, 1.09000,0.797800, $  
0.425000, 0.219000, 0.109000, 0.0522000, 0.0240000,0.0105000, $  
0.00446000, 0.00184000, 0.000760000, 0.000320000, 0.000145000,7.10000e-05, $  
4.01000e-05, 2.54000e-05 ]
```

```
t = [288.200, 281.700, 275.200, 268.700, 262.200, 255.700, 249.200, $  
242.700, 236.200, 229.700, 223.300, 216.800, 216.700,216.700, $  
216.700, 216.700, 216.700, 216.700, 216.700, 216.700,216.700, $  
217.600, 218.600, 219.600, 220.600, 221.600, 224.000,226.500, $  
230.000, 236.500, 242.900, 250.400, 257.300, 264.200,270.600, $  
270.700, 260.800, 247.000, 233.300, 219.600, 208.400,198.600, $  
188.900, 186.900, 188.400, 195.100, 208.800, 240.000,300.000, $  
360.00 ]
```

```
z = [0.00000, 1.00000, 2.00000, 3.00000, 4.00000, 5.00000, 6.00000, $  
7.00000, 8.00000, 9.00000, 10.0000, 11.0000, 12.0000,13.0000, $  
14.0000, 15.0000, 16.0000, 17.0000, 18.0000, 19.0000,20.0000, $  
21.0000, 22.0000, 23.0000, 24.0000, 25.0000, 27.5000,30.0000, $  
32.5000, 35.0000, 37.5000, 40.0000, 42.5000, 45.0000,47.5000, $  
50.0000, 55.0000, 60.0000, 65.0000, 70.0000, 75.0000,80.0000, $
```

```
85.0000, 90.0000, 95.0000, 100.000, 105.000, 110.000, 115.000, $  
120.000 ]
```

```
sp = size(p)  
nlev = sp[1]
```

```
xtitle = 'Temperature (K)'  
ytitle = 'Pressure (mbar)'  
ytitle2 = 'Altitude (km)'
```

```
xrange = [min(t),max(t)]  
yrange = [p[0], p[nlev-1]]  
yrange2 = [min(z), max(z)]
```

```
;;; Plot in direct graphics (4 lines)  
!x.margin=[10,8]  
plot_io, ystyle=9, t, p, xtitle=xtitle, ytitle=ytitle,$  
yrange=yrange, xrange=xrange, xstyle=1
```

```
idx = where ( z mod 10 eq 0 )  
axis, yaxis=1, yticks=12, ytickv=p[idx], $  
ytickname=string(z[idx],format='(i3)'), ytitle=ytitle2
```

```
***** Using iTools  
,
```

```
iPlot, t, p, /Y_LOG, YRANGE=[MAX(p), MIN(p)], $  
  XTITLE=xtitle, YTITLE=ytitle, YTICKFORMAT='(G0)'  
it = ITGETCURRENT(TOOL=oTool)  
idAxis = oTool->FindIdentifiers('*Axis3', /VISUALIZATION)  
oAxis = oTool->GetByIdentifier(idAxis)  
oAxis->SetProperty, NOTEXT=0, AXIS_TITLE=ytitle2, $  
  MINOR=0, $  
  TICKFORMAT='log_test_format', TICKFRMTDATA={z:z, p:p}  
; IDLitVisAxis swallows TICKVALUES, so set directly.  
oGrAxis = oAxis->Get(/ALL, ISA='IDLgrAxis')  
oGrAxis->SetProperty, TICKVALUES=p[idx]
```

```
*****  
,  
end
```

"Randall Skelton" <randall.skelton@gmail.com> wrote in message
news:1098119405.276183.192090@f14g2000cwb.googlegroups.com...
> Firstly, thanks for reading. I realize with a subject line as above,
> many will be scared away...
>
> I am trying to move one particular class of plotting routines (that I

> use very frequently) to object graphics and I've run into a problem.
> Essentially, I cannot plot a reversed, logarithmic axis. Below is some
> code which shows my problem. The equivalent direct graphics code as per
> David's tip (http://www.dfanning.com/graphics_tips/yadayada.html) is
> shown to illustrate what I expect the plot to look like. All
> contributions greatly appreciated!
>
> Cheers,
> Randall
>
