
Subject: Re: Help: antenna pattern plotting (polar plots)

Posted by [davidf](#) on Mon, 10 May 1999 07:00:00 GMT

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Declan Vogt (drv102@ohm.york.ac.uk) writes:

> Help! What I am trying to do is create an antenna pattern plot. This is
> normally presented as a polar plot with r indicating field strength in
> direction theta. I have used essentially the technique suggested by
> David Fanning in his tips, but I have run into a problem:
>
> I want my axes to be positive only. For example, I'd like the X axis to
> show values: 40 30 20 10 0 10 20 30 40, or not show values left of the Y
> axis.

You can simply format your axes labels any way you like.

Here is the tip on my web page re-written to give positive axis values only. The Positive_Axis_Labels function is a tick-formatting function called with the [XY]Tickformat keywords on the AXIS command.

Cheers,

David

--

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```
-----  
FUNCTION Positive_Axis_Labels, axis, index, value  
RETURN, String(ABS(value), Format='(I4)')  
END ;-----
```

```
FUNCTION CIRCLE, xcenter, ycenter, radius  
  points = (2 * !PI / 99.0) * FINDGEN(100)  
  x = xcenter + radius * COS(points )  
  y = ycenter + radius * SIN(points )  
  RETURN, TRANSPOSE([x],[y])  
END ;-----
```

```
PRO PolarPlot, radius, angle, _Extra=extra
```

```

; Fake data if needed.

IF N_Params() EQ 0 THEN BEGIN
  angle = ((Randomu(seed, 360)*360) - 180) * !DtoR
  radius = Randomu(seed, 360) * 100
ENDIF

; Load plot colors.

TVLCT, [100, 255, 0], [100, 255, 255], [100, 0, 0], 1
Device, Decomposed=0

; Establish plot coordinates.

Plot, radius, angle, /Polar, XStyle=5, YStyle=5, $
  /NoData, Background=1, Position=Aspect(1.0)

; Draw axis through center.

Axis, /XAxis, 0, 0, Color=2, XTickFormat='Positive_Axis_Labels'
Axis, /YAxis, 0, 0, Color=2, YTickFormat='Positive_Axis_Labels'

; Plot data.

OPlot, radius, angle, PSym=2, /Polar, Color=3

; Draw 25 and 75 percent circles.

dataMax = Max(radius)
percent25 = Circle(0, 0, 0.25*dataMax)
percent75 = Circle(0, 0, 0.75*dataMax)
PlotS, percent25, Color=2
PlotS, percent75, Color=2

END ;-----

```
