Subject: Irregularly spaced tick-marks on secondary axis.
Posted by Paul Van Delst[1] on Wed, 01 May 2002 14:20:00 GMT
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Hey there,

I like to plot radiance data with respect to frequency (in units of centimetres^-1). However, I would like to put a wavelength scale (in units of microns [micrometres]) on the top Xaxis. The relationship between them is very simple but non-linear:

wavelength (um) = 10000.0 / wavenumber (cm^-1)

I have been doing this sort of thing:

```
FUNCTION wticks, axis, index, value
  wavelength = 10000.0d / value
  format = '( f5.2 )'
  RETURN, STRING( wavelength, FORMAT = format )
END


  PLOT, x, y, XSTYLE = 8

  AXIS, XAXIS = 1, $
        XRANGE = !X.CRANGE ,$
        XTICKV = 10000.0d/[ 10d, 11, 12, 13, 14, 15 ], $
        XTICKS = 5, $
        XSTYLE = 1, $
        XTICKFORMAT = 'wticks'
```

As you can see, the above AXIS command assumes something about the XTICKV values. However, if I
now decide to zoom into the plot such that the x-range falls between, say, 11 and 12 microns -- no wavelength scale is shown since XTICKV doesn't contain fractional wavelength values. Is there any way to get IDL to set "nice" wavelength values (via a dynamic XTICKV for e.g.) on the top scale based on the wavenumber range on the bottom scale?

thanx,

paulv

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