Subject: Re: IDL messes up Julian day plots ?
Posted by Thomas A. McGlynn on Fri, 02 Oct 1998 07:00:00 GMT

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Plotting is done using only single precision arithmetic,
but you should be OK over a two-year span. Your talking
about an interval of 900 seconds over a span of 6x10^7 or
~.0001 which is well within the resolution of a real.

It's a little kludgy, but you could do something like

```
  common mydates, time0

  time0 = times(0)
  times = times-time0
  plot, times, ..., xtickformat='NEWlabel_date'
```

with
```
  function NEWlabel_date, axis, index, value
    common mydates, time0
    return, label_date,axis,index,value+time0
  end
```

Since you've gotten rid of a potentially large offset
value in the plotting you should get the full benefit
of single precision, but are still able to label
things appropriately.

 Tom McGlynn
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LC's No-Spam Newsreading account wrote:
```
>
>  I have a 2-year-long list of samples, one sample every 15 min.
>  The times are stored in Unix format (integer seconds since 1970).
>
>  I want to plot this using label_date to annotate the x axis. I do
>
>  ; convert to julian days
>  times=double(a.data.time)
>  times=times/86400.
>  times=times + julday(1,1,1970)
>
>  dummy=label_date(date_format='%D %M')
>  plot,times,a.data.nitem   ,xtickformat='label_date'
>
```

> If I restrict the plot to shorter periods e.g.
> plot,times(u),a.data(u).nitem   ,xtickformat='label_date'
>
> I get that several points are plotted at the same abscissa (x coordinate)
> even if the values of a.data.time and times are distinct.
>
> It looks like the plotting routines are unable to scale double precision
> values correctly. On the other hand I'd say I need such precision with "large"
> numbers like dates in julian days. And I need julian days to use label_date.
>
> Any clue ?
>