
Subject: Re: OPLOT fails intermittently, any ideas?
Posted by [R.Bauer](#) on Tue, 17 Jul 2001 17:23:07 GMT
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Lawrence Bleau wrote:

```
>  
> Hello, IDLers, I have a tricky problem here. First, my config: I'm on OpenVMS  
> 7.1-2, running IDL 5.2. I'm using PLOT and OPLOT to generate a graph for  
> display on a web page. Most of the time this works well. Once in a while,  
> though, with no change in the IDL code, I get the error message  
>  
> % OPLOT: No valid points, must have at least 2 distinct points  
> % Execution halted at: $MAIN$      253  
> DISKM1:[SOHO.TEST]SEM4HRPLOT_MAIN.PRO;27  
  
>  
> Line 253 is the oplot command. Here it is:  
>  
> oplot, epoch-base_epoch, values(*,k), $  
>   max_value = 9999998., $  
>   psym = 8, $           ; plots a circle (user defined)  
>   symsize = .4, $       ; scale factor for plot symbol  
>   thick = plot_thickness(k), $  
>   color = 13           ; change this for colored data line  
>
```

Hope I can give some hints

max_value is a double but will be interpreted as float.

```
a=99999998.
```

```
IDL> help,a
```

```
A      FLOAT    = 1.00000e+07
```

For example I don't know if you did so

```
x=findgen(10)+99999998.
```

```
print,x
```

```
1.00000e+07 1.00000e+07 1.00000e+07 1.00000e+07 1.00000e+07
```

```
1.00000e+07
```

```
1.00000e+07 1.00000e+07 1.00000e+07 1.00000e+07
```

If you like to calculate in double you should do

```
x=findgen(10)+99999998.D
```

```
print,x
```

9999998.0	9999999.0	10000000.	10000001.
10000002.	10000003.	10000004.	10000005.
10000006.	10000007.		

regards
Reimar

```
> A word here about the odd construct. The X array is a double precision vector
> (epoch) containing times minus a scalar (base_epoch), which is slightly less
> than the first (lowest) value of epoch, which is monotonically increasing.
> Since plot and oplot convert from double to single internally, when labelling
> the time axis this causes incorret labels to be used. By passing the
> difference this puts the values to be plotted in a range in which roundoff is
> not a problem. The X range that was set on the previous plot command has been
> adjusted similarly.
>
> Here's a diagnostic output; the first column is the date in Gregorian format,
> the second in Epoch format, and the third in Epoch format minus the base_epoch
> value. The two lines are the low and high end used for the x-axis range; the
> third colum is what I passed to the previous call to plot for the x_range
> keyword.
>
> range used on X-axis is:
> 2001/07/16 11:00:00 3.6412920e+08 0.00000000
> 2001/07/16 15:00:00 3.6414360e+08 14400.000
>
> I checked the arrays being passed to oplot; both are vectors of length 410.
> I also dumped a couple points in the x-axis vector (epoch) to make sure they
> are different; they are. The y-axis values look fine, too. Here's the output
> of the following commands:
>
> help,epoch-base_epoch
> <Expression> DOUBLE = Array[409]
> help,values(*,k)
> <Expression> FLOAT = Array[409]
> print,values(0,k)
> 2186.24
> print,fmtepoch(epoch(0))
> 2001/07/16 11:00:46
> print,fmtepoch(epoch(408))
> 2001/07/16 15:03:01
```

> print,fmtepoch(base_epoch)
> 2001/07/16 11:00:00
> print,epoch(409)-base_epoch
> 14581.000
>
> I'm puzzled by the error message that oplot gave me (No valid points, must have
> at least 2 distinct points). The obvious reason - one of the vectors has only
> one point - is false, as seen above.
>
> The second reason I thought might be the case is that the range given to the
> plot command, and therefore in use for the call to oplot, did not contain the
> values passed to oplot for the x-axis. This, too, is shown to be false.
>
> I'm out of ideas. What's worse, this problem is not consistent. It appears
> every few days, once that day, then goes away. This IDL code is called from a
> procedure that runs hourly and works on slightly different data each time. So
> it would appear to be data dependent. I managed to save a copy of the data set
> that caused it to fail today, and can reproduce the failed behavior, so I have
> a chance at diagnosing this. I just need some hints at where to look next.
> Thanks.
>
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a IDL library at Forschungszentrum Juelich

http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.html

<http://www.fz-juelich.de/zb/text/publikation/juel3786.html>

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read something about linux / windows

<http://www.suse.de/de/news/hotnews/MS.html>