
Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting

Posted by [lbnc](#) on Wed, 20 May 2009 06:56:53 GMT

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On 19 May, 16:09, Paul van Delst <paul.vande...@noaa.gov> wrote:

> Does anyone know if there is any way to dynamically set the format string itself in this
> fashion? I.e. pass in the "f7.3" (or f4.1 or f5.2 etc) ?

I can't think of a way to pass it directly to lowticks. But you could work around it by defining yourself a system variable using DEFSYSV. That way you wouldn't have to go near COMMON blocks...

Cheers

Lasse Clausen

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting

Posted by [David Gell](#) on Wed, 20 May 2009 12:29:07 GMT

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On May 19, 10:09 am, Paul van Delst <paul.vande...@noaa.gov> wrote:

> Hello,

>

> Given the following xtickformat function,

>

> FUNCTION lowticks, axis, index, value

> RETURN, STRING(value, FORMAT = '(!C",f7.3)')

> END

>

> I am doing something like the following to get the x-axis tick labels on every other plot
> printed on the next line:

>

> !P.MULTI = [0,n_xplots,1]

> !X.OMARGIN = [10,3]

> !X.MARGIN = [0,0]

> !Y.OMARGIN = [2,0]

> !Y.MARGIN = [4,2]

>

> FOR i = 0, n_xplots-1 DO BEGIN

> IF (i EQ 1 OR i EQ 3) THEN BEGIN

> xtickformat = 'lowticks'

> ENDIF ELSE BEGIN

> xtickformat = "

> ENDELSE

>

> PLOT, x, y, XTICKFORMAT = xtickformat

>

> ...etc...
 >
 > to prevent the end-of-axis tick labels from adjacent plots overwriting each other.
 >
 > The problem is that I want the format in the "lowticks" function, the "f7.3", to be the
 > same as those automatically chosen by IDL in the plots where the xtickformat defaults.
 >
 > Does anyone know if there is any way to dynamically set the format string itself in this
 > fashion? I.e. pass in the "f7.3" (or f4.1 or f5.2 etc) ?
 >
 > cheers,
 >
 > paulv

I usually do something like the following when I have to pass data to a callback routine.

Change the lowticks routine as follows:

```

FUNCTION lowticks, axis, index, value, format=format
  common qqllowticks, sFormat
  if n_elements(sFormat) eq 0 then sFormat='(!C",f7.3)' ;;
initialize state memory
  if keyword_set(format) ne 0 then begin
    sFormat=format
    return, 0
  endif

  RETURN, STRING( value, FORMAT = sFormat
END
  
```

Then, prior to using lowticks as the value of the xtickformat keyword argument, you set the format string,

```
nDummy=lowticks(format='(F7.3)'
```

```
plot, ..., xtickformat=lowticks
```

Hope this helps.

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
 Posted by [Mark\[1\]](#) on Wed, 20 May 2009 23:40:54 GMT
[View Forum Message](#) <> [Reply to Message](#)

On May 20, 3:09 am, Paul van Delst <paul.vande...@noaa.gov> wrote:

> The problem is that I want the format in the "lowticks" function, the "f7.3", to be the

> same as those automagically chosen by IDL in the plots where the xtickformat defaults.

You can pass a function to [XYZ]TICKFORMAT, and in this function you can do anything you want, including calling the IDL function FORMAT_AXIS_VALUES, which is the one that is called to format axis values (that figures).

Actually, not quite anything you want, because the function passed to [XYZ]TICKFORMAT function works on tick value at a time, so the number of decimal places is likely to vary. So where IDL would show...

1.0 1.5 2.0

...FORMAT_AXIS_VALUES would give

1 1.5 2

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by [David Fanning](#) on Thu, 21 May 2009 03:14:21 GMT
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Mark writes:

> You can pass a function to [XYZ]TICKFORMAT, and in this function you
> can do anything you want, including calling the IDL function
> FORMAT_AXIS_VALUES, which is the one that is called to format axis
> values (that figures).

How many years to you suppose you have to work with
IDL before you know the basic things about it? :-(

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by [David Gell](#) on Thu, 21 May 2009 12:27:55 GMT
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On May 20, 10:14 pm, David Fanning <n...@dfanning.com> wrote:

> Mark writes:
>> You can pass a function to [XYZ]TICKFORMAT, and in this function you
>> can do anything you want, including calling the IDL function
>> FORMAT_AXIS_VALUES, which is the one that is called to format axis
>> values (that figures).
>
> How many years to you suppose you have to work with
> IDL before you know the basic things about it? :-(
>
> Cheers,
>
> David
>
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming:<http://www.dfanning.com/>
> Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Let N be the number of years of IDL experience

Let M be the number of years required to know the basics of IDL

$$M = 2N + 1$$

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by [Paul Van Delst\[1\]](#) on Thu, 21 May 2009 21:14:46 GMT
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Mark wrote:

> On May 20, 3:09 am, Paul van Delst <paul.vande...@noaa.gov> wrote:
>> The problem is that I want the format in the "lowticks" function, the "f7.3", to be the
>> same as those automagically chosen by IDL in the plots where the xtickformat defaults.
>
> You can pass a function to [XYZ]TICKFORMAT, and in this function you
> can do anything you want, including calling the IDL function
> FORMAT_AXIS_VALUES, which is the one that is called to format axis
> values (that figures).
>
> Actually, not quite anything you want, because the function passed to
> [XYZ]TICKFORMAT function works on tick value at a time, so the number
> of decimal places is likely to vary. So where IDL would show...
>
> 1.0 1.5 2.0
>
> ...FORMAT_AXIS_VALUES would give
>

> 1 1.5 2

Wow. Thanks Mark. I do have to paraphrase David Fannings comment though: How the heck was I supposed to find that?!? :o)

Once my IDL help is working again (I just got my system rebuilt to use RHE5.0 and I'm getting a boatload of "JVM terminated. Exit code=1" errors whenever I type "?" at the IDL prompt) I will investigate using the magic `FORMAT_AXIS_VALUES` function.

Thanks muchly. This will solve a lot of problems.

cheers,

paulv

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by [Paul Van Delst\[1\]](#) on Thu, 21 May 2009 21:38:30 GMT
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lbnc@lbnc.de wrote:

> On 19 May, 16:09, Paul van Delst <paul.vande...@noaa.gov> wrote:
>
>> Does anyone know if there is any way to dynamically set the format string itself in this
>> fashion? I.e. pass in the "f7.3" (or f4.1 or f5.2 etc) ?
>
> I can't think of a way to pass it directly to lowticks. But you could
> work around it by defining yourself a system variable using DEFSYSV.
> That way you wouldn't have to go near COMMON blocks...

Thanks Lasse I will give this a go also.

cheers,

paulv

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by [Paul Van Delst\[1\]](#) on Thu, 21 May 2009 21:40:45 GMT
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David Gell wrote:

> I usually do something like the following when I have to pass data to
> a callback routine.
> Change the lowticks routine as follows:
>

```
>
> FUNCTION lowticks, axis, index, value, format=format
>   common qqlowticks, sFormat
>   if n_elements(sFormat) eq 0 then sFormat='(!C",f7.3)' ;;
> initialize state memory
>   if keyword_set(format) ne 0 then begin
>     sFormat=format
>     return, 0
>   endif
>
>   RETURN, STRING( value, FORMAT = sFormat
> END
>
> Then, prior to using lowticks as the value of the xtickformat keyword
> argument, you set the
> format string,
>
>   nDummy=lowticks(format='(F7.3)'
>
>   plot, ..., xtickformat=lowticks
>
> Hope this helps.
```

Thanks David. I try to not use common blocks where possible, but I will file it away in case I can't get the other suggestions to work.

cheers,

paulv

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by [Mark\[1\]](#) on Thu, 21 May 2009 22:28:13 GMT
[View Forum Message](#) <> [Reply to Message](#)

On May 21, 3:14 pm, David Fanning <n...@dfanning.com> wrote:
> How many years to you suppose you have to work with
> IDL before you know the basic things about it? :-(

I saw it in the What's New document when it was introduced. That was back in the days when I used to read them.

Subject: Re: Using [XYZ]TICKFORMAT for dynamic formatting
Posted by [David Gell](#) on Fri, 22 May 2009 18:42:03 GMT
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On May 21, 4:40 pm, Paul van Delst <paul.vande...@noaa.gov> wrote:

> David Gell wrote:

>> I usually do something like the following when I have to pass data to
>> a callback routine.

>> Change the lowticks routine as follows:

>

```
>> FUNCTION lowticks, axis, index, value, format=format
>>   common qqllowticks, sFormat
>>   if n_elements(sFormat) eq 0 then sFormat='("!C",f7.3)' ;;
>> initialize state memory
>>   if keyword_set(format) ne 0 then begin
>>       sFormat=format
>>       return, 0
>>   endif
```

>

```
>>   RETURN, STRING( value, FORMAT = sFormat
>> END
```

>

>> Then, prior to using lowticks as the value of the xtickformat keyword
>> argument, you set the
>> format string,

>

```
>>   nDummy=lowticks(format='(F7.3)'
```

>

```
>>   plot, ..., xtickformat=lowticks
```

>

>> Hope this helps.

>

> Thanks David. I try to not use common blocks where possible, but I will file it away in
> case I can't get the other suggestions to work.

>

> cheers,

>

> paulv

I also avoid common blocks for communications between routines, but I often use them to hold state information between invocations of a routine. Think of it as half-ass*d object programming.
