
Subject: /YNOZERO

Posted by [Mr. No Address](#) on Fri, 18 Feb 2005 17:02:54 GMT

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I'm trying to create a plot with a fixed YRANGE for YAxis=0 and a self scaling range incorporating /YNOZERO for YAxis=1. Here is the code:

```
PLOT, TIME, DATA.TEMP1, COLOR=0, /NODATA, YRANGE=[30,45], YSTYLE=8
OPLOT, TIME, DATA.TEMP1, COLOR=1
AXIS, YAxis=1, /YNOZERO, /Save
OPLOT, TIME, DATA.TEMP2, COLOR=2
```

The above code produces a YAxis=1 that is the same scale as YAxis=0. The only way I'm able to get YAxis=1 to a scale different than YAxis=0 is to explicitly set the range.

Gary

Subject: Re: /YNOZERO

Posted by [David Fanning](#) on Tue, 22 Feb 2005 17:21:15 GMT

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Mr. No Address writes:

> I'm using !P.MULTI = [0,2,2] though and each new instance of Plot
> creates a plot in the next panel. Of course, there is probably a way to
> prevent that...

I'd try NOERASE for starters. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: /YNOZERO

Posted by [Paolo Grigis](#) on Tue, 22 Feb 2005 17:32:48 GMT

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Mr. No Address wrote:

```

> Christopher Lee wrote:
>
>> In article <cv573u$mmc$1@news.nems.noaa.gov>, "Mr. No Address"
>> <no_given_address@landofthelost.net> wrote:
>>
>>
>>> I'm trying to create a plot with a fixed YRANGE for YAxis=0 and a self
>>> scaling range incorporating /YNOZERO for YAxis=1. Here is the code:
>>> PLOT, TIME, DATA.TEMP1, COLOR=0, /NODATA, YRANGE=[30,45], YSTYLE=8
>>> OPLOT, TIME, DATA.TEMP1, COLOR=1
>>> AXIS, YAxis=1, /YNOZERO, /Save
>>> OPLOT, TIME, DATA.TEMP2, COLOR=2
>>> The above code produces a YAxis=1 that is the same scale as YAxis=0. The
>>> only way I'm able to get YAxis=1 to a scale different than YAxis=0 is to
>>> explicitly set the range.
>>> Gary
>>
>>
>>
>> What do you want Yaxis=1 to scale to?
>
>
> I'd like YAxis=1 to self scale using DATA.TEMP2 in the following OPLOT
> line.

```

Use the crystal ball object (part of the esoteric library):

```
future_argument=crystal_ball->do_prophecy(/get_future_argument,/extrapolate)
```

(use of the keyword /guess instead of /extrapolate is faster, but less accurate)

```
;-)
```

On a more serious tone, what about doing a supplementary plot beforehand and storing the !y.crange somewhere, and reusing that as input yrange to the axis procedure? Or, if you don't have the data before doing the first plot, save !P.multi, switch to device NULL, plot DATA.TEMP2, save !y.crange, switch to your former plot device, restore !P.multi and call AXIS with yrange equal the saved !y.crange. Maybe not 100% straightforward... but it should work.

```
x=[1,2,3]
```

```
y=[2,3,5]
;we don't know the third array yet...
```

```
!p.multi=[0,2,2]
```

```
plot,x
```

```
;now we get the new data
z=[10,8.6,10]
```

```
pmulti=!p.multi
```

```
set_plot,'NULL'
plot,z,/ynozero
yrange=!y.crange
```

```
set_plot,'X'
!p.multi=pmulti
plot,y,ystyle=8
```

```
AXIS, YAxis=1, /YNOZERO, /Save,yrange=yrange
```

```
oplot,z
```

Ciao,
Paolo

```
> line. I want the /YNOZERO option so that zero is not used for the min Y
> value. I did think about doing something similar to your code below.
> I'm using !P.MULTI = [0,2,2] though and each new instance of Plot
> creates a plot in the next panel. Of course, there is probably a way to
> prevent that... Maybe I'd have to use POSITION instead of !P.MULTI.
>
```

Subject: Re: /YNOZERO
Posted by [Mr. No Address](#) on Tue, 22 Feb 2005 17:54:43 GMT
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David Fanning wrote:

```
> Mr. No Address writes:
```

```
>
```

```
>
```

```
>> I'm using !P.MULTI = [0,2,2] though and each new instance of Plot
>> creates a plot in the next panel. Of course, there is probably a way to
```

>> prevent that...
>
>
> I'd try NOERASE for starters. :-)

OK, I'm going to plead ignorance and stick with what I've done that accomplishes essentially what I want. Setting the range to MIN,MAX values as determined by the MIN MAX functions. I did try NOERASE but with initially unexpected results, but reasonable once considered. Everytime I look at the description of AXIS though, I keep getting lured in by the availability of /YNOZERO and the description "The new scale is saved for use by subsequent overplots if the SAVE keyword parameter is set." I see it says "new scale is saved," but /YNOZERO has as part of the description "...and no explicit minimum Y value is specified." So it should be able to "see" into the future!

Anyway, I think for me this isn't worth pursuing further as my "solution" is perfectly adequate.

Gary

Subject: Re: /YNOZERO
Posted by [Mr. No Address](#) on Tue, 22 Feb 2005 18:05:05 GMT
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Paolo Grigis wrote:

>
>
> Mr. No Address wrote:
>
>> Christopher Lee wrote:
>>
>>> In article <cv573u\$mmcs1@news.nems.noaa.gov>, "Mr. No Address"
>>> <no_given_address@landofthelost.net> wrote:
>>>
>>>
>>>
>>>> I'm trying to create a plot with a fixed YRANGE for YAxis=0 and a self
>>>> scaling range incorporating /YNOZERO for YAxis=1. Here is the code:
>>>> PLOT, TIME, DATA.TEMP1, COLOR=0, /NODATA, YRANGE=[30,45], YSTYLE=8
>>>> OPLOT, TIME, DATA.TEMP1, COLOR=1
>>>> AXIS, YAxis=1, /YNOZERO, /Save
>>>> OPLOT, TIME, DATA.TEMP2, COLOR=2
>>>> The above code produces a YAxis=1 that is the same scale as YAxis=0.
>>>> The
>>>> only way I'm able to get YAxis=1 to a scale different than YAxis=0
>>>> is to

```

>>>> explicitly set the range.
>>>> Gary
>>>
>>>
>>>
>>>
>>> What do you want Yaxis=1 to scale to?
>>
>>
>>
>> I'd like YAxis=1 to self scale using DATA.TEMP2 in the following OPLOT
>
>> line.
>
> Use the crystall ball object (part of the esoteric library):
>
> future_argument=crystal_ball->do_prophecy(/get_future_argument,/extrapolate)
>
>
> (use of the keyword /guess instead of /extrapolate is faster, but
> less accurate)
>
> ;-)
```

Every time I post here, infrequently that it is, I always feel, make that know, I am opening myself up to clever responses. If you have a moment, read my response to Fanning that explains why it seems (to me) IDL should be able to see the future. It also has my solution that I think I'm going to stick with.

Your solution is noted though. Thanks for taking the time to respond.

Cheers,
Gary

```

> -----
>
> On a more serious tone, what about doing a supplementary plot
> beforehand and storing the !y.crange somewhere, and reusing that
> as input yrange to the axis procedure? Or, if you don't have
> the data before doing the first plot, save !P.multi, switch to
> device NULL, plot DATA.TEMP2, save !y.crange, switch to your former
> plot device, restore !P.multi and call AXIS with yrange equal the
> saved !y.crange. Maybe not 100% straightforward... but it should work.
>
>
>
> x=[1,2,3]
```

```
> y=[2,3,5]
> ;we don't know the third array yet...
>
> !p.multi=[0,2,2]
>
> plot,x
>
> ;now we get the new data
> z=[10,8.6,10]
>
> pmulti=!p.multi
>
> set_plot,'NULL'
> plot,z,/ynozero
> yrange=!y.crange
>
> set_plot,'X'
> !p.multi=pmulti
> plot,y,ystyle=8
>
> AXIS, YAxis=1, /YNOZERO, /Save,yrange=yrange
>
> oplot,z
>
>
>
> Ciao,
> Paolo
>
>
>> line. I want the /YNOZERO option so that zero is not used for the min
>> Y value. I did think about doing something similar to your code
>> below. I'm using !P.MULTI = [0,2,2] though and each new instance of
>> Plot creates a plot in the next panel. Of course, there is probably a
>> way to prevent that... Maybe I'd have to use POSITION instead of
>> !P.MULTI.
>>
```

Subject: Re: /YNOZERO

Posted by [David Fanning](#) on Tue, 22 Feb 2005 18:44:46 GMT

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Mr. No Address writes:

```
> Anyway, I think for me this isn't worth pursuing further as my
> "solution" is perfectly adequate.
```

I used to go for elegant solutions, but I'm more relaxed about it these days. "Whatever works", as my youngest often says to me. I've found it saves time for yoga, my latest passion. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: /YNOZERO

Posted by [Paolo Grigis](#) on Fri, 25 Feb 2005 09:13:51 GMT

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Mr. No Address wrote:

> David Fanning wrote:

>

>> Mr. No Address writes:

>>

>>

>>> I'm using !P.MULTI = [0,2,2] though and each new instance of Plot

>>> creates a plot in the next panel. Of course, there is probably a way

>>> to prevent that...

>>

>>

>>

>> I'd try NOERASE for starters. :-)

>

>

> OK, I'm going to plead ignorance and stick with what I've done that

> accomplishes essentially what I want. Setting the range to MIN,MAX

> values as determined by the MIN MAX functions. I did try NOERASE but

> with initially unexpected results, but reasonable once considered.

> Everytime I look at the description of AXIS though, I keep getting lured

> in by the availability of /YNOZERO and the description "The new scale is

> saved for use by subsequent overplots if the SAVE keyword parameter is

> set." I see it says "new scale is saved," but /YNOZERO has as part of

> the description "...and no explicit minimum Y value is specified." So

> it _should_ be able to "see" into the future!

Then maybe the flaw is in the manuals here...

The behaviour of axis seems to be like this:

- if yrange is explicitly given, use that yrange (/ynozero not relevant)
- if yrange is not given, than take !y.crange as yrange (/ynozero not relevant)
- if !y.crange is undefined (that is, equal [0,0], I guess) than use [0,1] as yrange (/ynozero again unrelevant)

(example:

```
IDL> plot,[10,13,12,11],yrange=[10,20]
```

```
IDL> axis,1,0,/yaxis,yrange=[9,15]
```

```
IDL> axis,1.25,0,/yaxis
```

```
IDL> !y.crange=[0,0]
```

```
IDL> axis,1.5,0,/yaxis
```

```
)
```

So it seems to me that /ynozero does not really affects the behavior of AXIS, and maybe its documentation should be removed from the manuals...

Cheers,
Paolo

```
>  
> Anyway, I think for me this isn't worth pursuing further as my  
> "solution" is perfectly adequate.  
>  
> Gary  
>
```
