
Subject: Plotting time

Posted by [clivecook59](#) on Fri, 25 Nov 2005 16:37:32 GMT

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I'm trying to plot in IDL with time on the x-axis. Now i can do this in direct graphics mode by converting my x values into julian time and then using the tickunits='time' and tick_format='LABEL_DATE' comands. However i am trying to do this in an object plot and i just cannot get it to work. Whats the best way to plot time correctly in object graphics?

many thanks

Clive Cook

Subject: Re: Plotting time

Posted by [David Fanning](#) on Tue, 29 Nov 2005 16:56:23 GMT

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Clive,

> It means that the x-axis does not display the time correctly. I used
> the idlgraxis comand and specify an xrange with the start and stop time
> in julian time however i cannot get it to display correctly.

Umm, mine looks fine. Guess I'd need an example. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Subject: Re: Plotting time

Posted by [clivecook59](#) on Tue, 29 Nov 2005 18:08:32 GMT

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Here's the code for the x-axis,

```
dummy = LABEL_DATE(DATE_FORMAT=['%H:%I'])  
xrange1 = [julday(10,1,2005,5,0,0),julday(10,1,2005,10,0,0)]
```

```
xAxis1a = Obj_New("IDLgrAxis",0,Color=[0,0,0],Ticklen=0.025,$
  Range=xrange1,title=xtitle1,Location=[position2(0),position2 (1)],$
/Exact,tickunits='time',TICKFORMAT ='LABEL_DATE')
```

```
xAxis1a->GetProperty, Ticktext=xAxisText
xAxisText->SetProperty, Font=helvetica10pt
```

I would assume that this should give me an axis from 5:00 to 10:00
however i get nothing

many thanks

Clive

Subject: Re: Plotting time
Posted by [David Fanning](#) on Tue, 29 Nov 2005 18:37:09 GMT
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clivecook59@gmail.com writes:

```
> Here's the code for the x-axis,
>
> dummy = LABEL_DATE(DATE_FORMAT=['%H:%I'])
> xrange1 = [jday(10,1,2005,5,0,0),jday(10,1,2005,10,0,0)]
>
> xAxis1a = Obj_New("IDLgrAxis",0,Color=[0,0,0],Ticklen=0.025,$
> Range=xrange1,title=xtitle1,Location=[position2(0),position2 (1)],$
> /Exact,tickunits='time',TICKFORMAT ='LABEL_DATE')
>
> xAxis1a->GetProperty, Ticktext=xAxisText
> xAxisText->SetProperty, Font=helvetica10pt
>
> I would assume that this should give me an axis from 5:00 to 10:00
> however i get nothing
```

Humm. Well, I get *something*, but it is clearly not right.
In my example, using your axis range, tickunits, and tickformat,
I can see just a portion of the axis. The rest is off to the
left of my view somewhere. So, it appears that it cannot be
positioned and scaled like other axes. I would guess bug
at this point. Maybe we could get someone at RSI to respond.

Cheers,

David

--

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Subject: Re: Plotting time
Posted by [clivecook59](#) on Tue, 29 Nov 2005 18:42:53 GMT
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I was wondering if this is a problem with the way in which the idlgraxis receives the different values. What i mean by this is that for instance it reads the xrange and xcoord_conv values as floating points instead of as double precission numbers. Could this be the problem?

Clive

Subject: Re: Plotting time
Posted by [David Fanning](#) on Tue, 29 Nov 2005 18:55:26 GMT
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clivecook59@gmail.com writes:

> I was wondering if this is a problem with the way in which the
> idlgraxis receives the different values. What i mean by this is that
> for instance it reads the xrange and xcoord_conv values as floating
> points instead of as double precission numbers. Could this be the
> problem?

This is my working hypothesis at the moment, too.

Cheers,

David

--

David Fanning, Ph.D.
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Subject: Re: Plotting time
Posted by [Mark Hadfield](#) on Tue, 29 Nov 2005 22:09:43 GMT
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David Fanning wrote:
> clivecook59@gmail.com writes:

>
>
>> I was wondering if this is a problem with the way in which the
>> idlgraxis receives the different values. What i mean by this is that
>> for instance it reads the xrange and xcoord_conv values as floating
>> points instead of as double precision numbers. Could this be the
>> problem?
>
>
> This is my working hypothesis at the moment, too.

Yes, but the problem is not with the axis object, which keeps its data in double precision, but with the view object. Set the view object's DOUBLE property and these problems should disappear.

--
Mark Hadfield "Kei puwaha te tai nei, Hoesa tahi tatou"
m.hadfield@niwa.co.nz
National Institute for Water and Atmospheric Research (NIWA)

Subject: Re: Plotting time
Posted by [David Fanning](#) on Tue, 29 Nov 2005 22:18:33 GMT
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Mark Hadfield writes:

> Yes, but the problem is not with the axis object, which keeps its data
> in double precision, but with the view object. Set the view object's
> DOUBLE property and these problems should disappear.

Well, that changed things. The axis moved further to the LEFT,
and I wanted it over here on the RIGHT. Sigh...

I checked all the inputs, etc. everything appears to be in
double precision.

It is a mystery.

Cheers,

David

--
David Fanning, Ph.D.
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Subject: Re: Plotting time

Posted by [Mark Hadfield](#) on Tue, 29 Nov 2005 22:57:21 GMT

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David Fanning wrote:

- > Well, that changed things. The axis moved further to the LEFT,
- > and I wanted it over here on the RIGHT. Sigh...
- >
- > I checked all the inputs, etc. everything appears to be in
- > double precision.

And I thought I could get away with offering standard answer #127. Now I have to go and actually read the code in question...

How are you or the OP locating the axis in the x direction? You're not under the illusion that you can do this with the POSITION keyword are you? Oh no. For an X/Y/Z axis the 0/1/2nd element of POSITION is ignored.

Incidentally, LABEL_DATE is evil; the C() formats are much better, and not *that* hard to construct.

--

Mark Hadfield "Kei puwaha te tai nei, Hoea tahi tatou"

m.hadfield@niwa.co.nz

National Institute for Water and Atmospheric Research (NIWA)

Subject: Re: Plotting time

Posted by [David Fanning](#) on Tue, 29 Nov 2005 23:09:34 GMT

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Mark Hadfield writes:

- > And I thought I could get away with offering standard answer #127. Now I
- > have to go and actually read the code in question...
- >
- > How are you or the OP locating the axis in the x direction? You're not
- > under the illusion that you can do this with the POSITION keyword are
- > you? Oh no. For an X/Y/Z axis the 0/1/2nd element of POSITION is ignored.

Hang on a minute and I'll make it easy for you. :-)

- > Incidentally, LABEL_DATE is evil; the C() formats are much better, and
- > not *that* hard to construct.

It is screwy with or without LABEL_DATE.

Cheers,

David

--

David Fanning, Ph.D.

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Subject: Re: Plotting time

Posted by [Mark Hadfield](#) on Wed, 30 Nov 2005 00:57:24 GMT

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David Fanning wrote:

> Hang on a minute and I'll make it easy for you. :-)

David sent me some code in which a date axis as described by the OP was grafted into his XPLOT plotting window application thingy. The axis appeared in the wrong place, off the left-hand edge of the plot window, as reported. I traced the problem. XPLOT gets the axes in the right place by adjusting the scaling, something like this

```
xAxis->GetProperty, CRange=xrange  
xs = Normalize(xrange, Position=[xn0,xn1])  
xAxis->SetProperty, XCoord_Conv=xs
```

where xn0 & xn1 are the desired end points of the axis in normalised coordinates.

NORMALIZE was doing its calculations in single-precision floating point and returning a single-precision result. Once I changed everything to double-precision, the axis appears in the right place.

>> Incidentally, LABEL_DATE is evil; the C() formats are much better, and

>> not *that* hard to construct.

>

> It is screwy with or without LABEL_DATE.

Sure. That was just me riding one of my hobby horses.

--

Mark Hadfield "Kei puwaha te tai nei, Hoesa tahi tatou"

m.hadfield@niwa.co.nz

National Institute for Water and Atmospheric Research (NIWA)

Subject: Re: Plotting time

Posted by [David Fanning](#) on Wed, 30 Nov 2005 01:31:13 GMT

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Mark Hadfield writes:

```
> David sent me some code in which a date axis as described by the OP was
> grafted into his XPLOT plotting window application thingy. The axis
> appeared in the wrong place, off the left-hand edge of the plot window,
> as reported. I traced the problem. XPLOT gets the axes in the right
> place by adjusting the scaling, something like this
>
>   xAxis->GetProperty, CRange=xrange
>   xs = Normalize(xrange, Position=[xn0,xn1])
>   xAxis->SetProperty, XCoord_Conv=xs
>
> where xn0 & xn1 are the desired end points of the axis in normalised
> coordinates.
>
> NORMALIZE was doing its calculations in single-precision floating point
> and returning a single-precision result. Once I changed everything to
> double-precision, the axis appears in the right place.
```

Ah, *my* NORMALIZE does it's calculations in double precision. But I just noticed that my XPLOT has an *old* copy that does it in single precision. Just another reminder to all you aspiring IDL programmers out there that you should really, REALLY check your assumptions. :-)

Thanks, Mark.

Cheers,

David

P.S. The *new* version of XPLOT will not include NORMALIZE. :-)

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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Subject: Re: Plotting time

Posted by [clivecook59](#) on Wed, 30 Nov 2005 20:44:28 GMT

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Hi,

Thanks for the help. The problem was solved once i set the idlgview to double.

cheers

Clive
