Subject: Re: IDL 5.4 label_date function
Posted by David Fanning on Wed, 07 Nov 2001 15:51:08 GMT
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Chad Bahrmann (cbahrmann@ou.edu) writes:

> Has anyone encountered problems in using the label_date function in IDL 5.4?
> From the documentation for IDL 5.4. This plot gives you data from
> 11/01/2001 at 1200 through 11/02/2001 at 1200 when I would expect data from
> 11/01/2001 at 0000 through 11/02/2001 at 0000. I have had success using
> this function in older versions of IDL but this one appears not to work
> properly? The actual code had revisions on
> ; MODIFICATION HISTORY:
> ; DMS, RSI. April, 1993. Written.
> ; DMS, RSI. March, 1997. Added Time format.
> ; DMS, RSI. Jan, 1999. Rounded least significant time unit
> ;   CT, RSI.   May 2000. Completely rewrote to use calendar format codes.
> ;   Added Level argument for new date/time TICKUNITS.
> ;   Added AM_PM and DAYS_OF_WEEK keywords, '%A' and '%W' codes.
> ;-
>
> PRO test
>
> ; Create format strings for a two-level axis:
>
> dummy = LABEL_DATE(DATE_FORMAT=['%H%I!C%N/%D/%Y'])
>
> ;Generate the Date/Time data
> time = TIMEGEN(START=JULDAY(11,1,2001), FINAL=JULDAY(11,2,2001))
>
> ;Generate the Y-axis data
> data = RANDOMN(seed, N_ELEMENTS(time))
>
> ;Plot the data
> PLOT, time, data, XTICKUNITS = ['Time'], $
>   XTICKFORMAT='LABEL_DATE', XSTYLE=1, XTICKS=6, YMARGIN=[6,2]
>
>
> end

I don't know. The second paragraph in the TIMEGEN
documentation seems pretty clear:

  The Julian date is the number of days elapsed
  since Jan. 1, 4713 B.C.E., plus the time expressed
  as a day fraction. Following the astronomical
  convention, the day is defined to start at 12 PM
  (noon). Julian date 0.0d is therefore Jan. 1,

4713 B.C.E. at 12:00:00.

Cheers,

David

--
David W. Fanning, Ph.D.
Fanning Software Consulting
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: IDL 5.4 label_date function
Posted by Craig Markwardt on Wed, 07 Nov 2001 18:57:53 GMT
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"Chad Bahrmann" <cbahrmann@ou.edu> writes:

> Has anyone encountered problems in using the label_date function in IDL 5.4?
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...
> ;Generate the Date/Time data
> time = TIMEGEN(START=JULDAY(11,1,2001), FINAL=JULDAY(11,2,2001))

I agree with David. This has nothing to do with LABEL_DATE, and

Midnight comes at Julian day fraction 0.5.

Craig

--
 -- --------------
Craig B. Markwardt, Ph.D.   EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response
 -- --------------

Subject: Re: IDL 5.4 label_date function
Posted by Mark Hadfield on Wed, 07 Nov 2001 20:45:44 GMT
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From: "Craig Markwardt" <craigmnet@cow.physics.wisc.edu>
>
> "Chad Bahrmann" <cbahrmann@ou.edu> writes:
>
>> Has anyone encountered problems in using the label_date function in IDL
5.4?
>> From the documentation for IDL 5.4. This plot gives you data from
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>> this function in older versions of IDL but this one appears not to work
>> properly? The actual code had revisions on
> ...
>> ;Generate the Date/Time data
>> time = TIMEGEN(START=JULDAY(11,1,2001), FINAL=JULDAY(11,2,2001))
>
> I agree with David. This has nothing to do with LABEL_DATE, and
> everything to do with the Julian dates you created in your array.
> Midnight comes at Julian day fraction 0.5.

To expand on Craig's answer, Chad has been bitten by one of the curious
aspects of JULDAY. When it is given only three arguments (year, day, month)
it returns an integral Julian Date, representing 12:00 on the day in
question. When it is given another 3 (...hour,minute,second) it returns a
double Julian date, eg:

IDL> print, JULDAY(11,1,2001), JULDAY(11,1,2001,0,0,0)
2452215 2452214.5

This would have made sense 2000 years ago when the date changed at midday,
but these days it only makes sense to IDL developers.

And don't even start me on the perversity of the (year, day, month) order!

Mark Hadfield
m.hadfield@niwa.cri.nz http://katipo.niwa.cri.nz/~hadfield
National Institute for Water and Atmospheric Research

--
Posted from clam.niwa.cri.nz [202.36.29.1]
via Mailgate.ORG Server - http://www.Mailgate.ORG

Subject: Re: IDL 5.4 label_date function
Posted by Mark Hadfield on Wed, 07 Nov 2001 21:01:29 GMT

From: "Mark Hadfield" <m.hadfield@niwa.cri.nz>

[Re; JULDAY's argument order]

> And don't even start me on the perversity of the

> (year, day, month) order!

Oops that should be (month, day, year). I told you it was perverse!

Mark Hadfield

m.hadfield@niwa.cri.nz http://katipo.niwa.cri.nz/~hadfield

National Institute for Water and Atmospheric Research

--

Posted from clam.niwa.cri.nz [202.36.29.1]

via Mailgate.ORG Server - http://www.Mailgate.ORG

Subject: Re: IDL 5.4 label_date function
Posted by Chad Bahrmann on Wed, 07 Nov 2001 22:37:14 GMT

Thanks to all for the information....I guess I really did not fully

understand julday

Chad

"Chad Bahrmann" <cbahrmann@ou.edu> wrote in message

news:QscG7.6556$o4.12893@news.ou.edu...

> Has anyone encountered problems in using the label_date function in IDL

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```
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> PLOT, time, data, XTICKUNITS = ['Time'], $
>    XTICKFORMAT='LABEL_DATE', XSTYLE=1, XTICKS=6, YMARGIN=[6,2]
>
>
> end
>
>
>
```

Subject: Re: IDL 5.4 label_date function
Posted by Wayne Landsman on Wed, 07 Nov 2001 22:54:50 GMT
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> This would have made sense 2000 years ago when the date changed at midday,
> but these days it only makes sense to IDL developers.
>

Well, it also once made a small amount of sense to (non-solar) astronomers,
since starting at noon meant that telescope observations taken over one night
would all have the same integral value of Julian date (JD).   Of course, this
is irrelevant for telescope observations from space , or for Australia/New
Zealand/Japan where noon UT (Greenwich time) occurs in the middle of the
night.   So even astronomers now typically use modified Julian date (MJD)
defined as JD- 2400000.5 and which does begin at midnite.

Wayne Landsman   landsman@mpb.gsfc.nasa.gov