Subject: Converting days since 0-01-01 to Julian/Gregorian days - how can IDL recognise 0 AD?
Posted by Jasdeep Anand on Tue, 07 Oct 2014 13:21:44 GMT
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I have data which has been given timestamps with the units: "days since 0-01-01 00:00", which I'm assuming means since January 1st, 0 AD. I'd like to convert this into a format I can actually use, preferably Julian days so IDL can recognise the date format when plotting.

From what I understand I can't use any of the default IDL programs for this task (JULDAY, GREG2JUL, etc) because of the fact that the year 0 AD doesn't exist (IDL's calendar instead goes straight from -1 to 1 to conserve leap years).

What should I do? I'm unsure of the timestamps used to calculate the data (all I have is the year and month) and I'll be comparing this with data from a separate dataset which does not have this problem. I don't think I can use -1 or 1 in this case as the year because the final Julian day will be wrong. Has anyone encountered this problem at all?

Thanks,

J. Anand

Subject: Re: Converting days since 0-01-01 to Julian/Gregorian days - how can IDL recognise 0 AD?
Posted by Michael Galloy on Tue, 07 Oct 2014 17:29:58 GMT
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On 10/7/14, 7:21 AM, Jasdeep Anand wrote:
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>
> J. Anand
>

This is what CF conventions say about "year 0":

http://cfconventions.org/Data/cf-conventions/cf-conventions- 1.7/build/ch07s04.html

Mike
--
Michael Galloy
www.michaelgalloy.com
Modern IDL: A Guide to IDL Programming (http://modernidl.idldev.com)
Research Mathematician
Tech-X Corporation

Subject: Re: Converting days since 0-01-01 to Julian/Gregorian days - how can IDL recognise 0 AD?
Posted by Valeri Golev on Fri, 17 Oct 2014 10:39:08 GMT
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>
>
>
> Thanks,
>
>
>

> J. Anand

Please, check

```
IDL> print, JULDAY(1, 1, 1, 0, 0, 0)   ; Jan 01, 1 AD
      1721423.5
IDL> print, JULDAY(12, 31, -1, 0, 0, 0); Dec 31, 1 BD
      1721422.5
```

As you can see, the difference is exactly one day. It happens because there the year 0 AD in the calendar does not exists by definition!

Don't worry about .5 fraction, it comes from old astronomical tradition (Julian days start at noon).

Cheers,

Valeri
