
Subject: Re: Problems with JULDAY and CALDAT
Posted by [landsman](#) on Wed, 07 Apr 1999 07:00:00 GMT
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In article <370B879B.41C6@iasdev1.gsfc.nasa.gov>, "John J. Boia"
<jboia@iasdev1.gsfc.nasa.gov> writes...

> CALDAT does not correctly return the month/day/year
> values for Julian day numbers that correspond to leap days
> (Feb 29) in the leap years 1584 through 1604.

John,

As a replacement for CALDAT, you might look at DAYCNV.PRO available at
<http://idlastro.gsfc.nasa.gov/ftp/pro/astro/daycnv.pro>. It passes your time
test for all years except for the peculiar year 1582 itself.

(I don't know what the algorithm error in CALDAT is, since it uses a
different algorithm from DAYCNV.PRO. But CALDAT does have a most un-IDL like
programming style, with a special subroutine that only does scalar calculations
that is called in a loop. Ugly.)

Although not directly to your question, you might also look the time utilities
in IDL written by Bill Thompson at
<http://sohowww.nascom.nasa.gov/solarsoft/gen/idl/time/>

> JULDAY seems to return Julian date values with an offset
> of 0.5 from the accepted definition, when hours, minutes,
> and seconds are passed in as arguments Integer julian
> day numbers correspond to 12:00 noon UT.

I'm not sure what you are referring to here -- I don't see any problems with
JULDAY. JULDAY should return an integer value when the hour is 12:00 noon --
which it does.

```
IDL> print,julday(4,7,1999,0)
      2451275.5
IDL> print,julday(4,7,1999,12)
      2451276.0
```

--Wayne Landsman

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