Subject: Re: Physical constants in IDL with !CONST
Posted by Craig Markwardt on Wed, 19 Dec 2012 07:49:25 GMT
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On Tuesday, December 18, 2012 5:34:53 PM UTC-5, Chris Torrence wrote:
> Here's my question: What am I missing? Are there any physical constants that most people would find useful for their day-to-day work. The key is "most" people - nothing too esoteric, or limited to a single scientific discipline, etc.

That's a nice idea. I would suggest some form of traceability field, a string, like 'CODATA2010', so people know the source of the data. After all, when CODATA2013 comes out and you update IDL, your "constants" will change, right? At least with some kind of traceability, people can figure out why the results of their programs changed.

I would suggest a few additions. The mass of the Sun and Earth. Also the definition of the astronomical unit "au". The most recent versions are here:
http://maia.usno.navy.mil/NSFA/IAU2009_consts.html
The table gives the adopted 2009 International Astronomical Union values, including "GMsun" and "GMearth". You would divide those values by your value of Newton's G. There are TCB-, TDB- and TT-compatible values, but for your purposes you can use TCB (and document that choice).

Craig