Subject: Re: FITS WCS routines
Posted by Jeremy Bailin on Fri, 20 Aug 2010 13:09:08 GMT
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On Aug 19, 4:49 pm, wlandsman <wlands...@gmail.com> wrote:
> On Aug 19, 3:51 pm, Jeremy Bailin <astroco...@gmail.com> wrote:
>
>> Does anyone know of a good IDL implementation or wrapper of up-to-date
>> routines to deal with world coordinate systems in FITS files? The ones
>> in the astronomy library aren't sufficient - in particular, I need
>> something that can deal with a TNX coordinate system (tangent point
>> plane with distortions).
>
> Well, to be fair, there is no established standard yet for
> representing distortions within FITS. (There is a draft standard
> that has been in the works for at least 10 years -- but nobody uses
> it (see Paper IV inhttp://www.atnf.csiro.au/people/mcalabre/WCS/index.html)
>
> The TNX distortion keywords and convention were created by the IRAF
> software group (http://fits.gsfc.nasa.gov/registry/tnx.html). I
> have implemented a more popular distortion convention -- the Simple
> Imaging Polynomial or SIP (http://fits.gsfc.nasa.gov/registry/sip.html) in the Astronomy
> Library. Unfortunately, that won't help you if you are given files
> using the TNX keywords.
>
> I think I once saw IDL code for parsing the TNX keywords but I can't
> remember where just now. Perhaps someone else will have idea. --
> Wayne

Yeah, I thought about putting "standard" in quotes. ;-)

Right now my tentative solution is to get IDL to write an IRAF script
that uses wcsctran to do the coordinate transformation, spawn IRAF to
run the script, and then read in the transformed coordinates. Which is
not exactly elegant.

The other solution is to take my current FITS file, use IRAF to
reproject it into an undistorted tangent plane projection, and then
use that reprojected image with XYAD etc. But for various reasons I'm
suspicious about what's happening in that projection step, so I'd
rather be able to operate on the original image.

-Jeremy.