
Subject: Re: convert to pixel to RA and DEC in degrees?

Posted by [adisn123](#) on Wed, 02 Aug 2006 16:50:30 GMT

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Forgot one more thing.

When applying "xyad" procedure to convert pixel coordinates to RA and DEC,
the North direction of RA and DEC coords should align with the North
direction of pixel coords?

If it is, then the image should be rotated in such a way that its North
in RA and DEC should
match with the North of pixel coords. I took a look at the image 's
header to look for how many degrees I should rotate such that they
align perfectly each other, but I can't find anything relevant to the
rotation degrees.

adisn123@yahoo.com wrote:

> Does anyone know a procedure which does converting job from pixel
> coordinates to RA and DEC in degrees using the image's fits header?
>
> I know there is xyad procedure in IDL library, but I want my result
> goes up to double precision.
>
> Is there any better one than xyad?
>
> Thanks.

Subject: Re: convert to pixel to RA and DEC in degrees?

Posted by [Wayne Landsman](#) on Wed, 02 Aug 2006 16:57:00 GMT

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xyad.pro in the IDL Astronomy library does return the RA and Dec vectors as
double precision

```
IDL> xyad,h,23,23,aa,dd
```

```
IDL> help,aa,dd
```

```
AA      DOUBLE   =  -0.0063888890
```

```
DD      DOUBLE   =   0.0063888890
```

Perhaps you are confused by the optional printing, which is to display to
tenths of a degree in declination

```
IDL> xyad,h,23,23
  X    Y    RA    DEC    RA_2000    DEC_2000
23.00 23.00 -0.0064 0.0064 23 59 58.47 +00 00 23.0
```

The hr mn sc display format can be adjusted using the the PRECISION keyword

```
IDL> xyad,h,23,23,precis=4
  X    Y    RA    DEC    RA_2000    DEC_2000
23.00 23.00 -0.0064 0.0064 23 59 58.46667 +00 00 23.0000
```

--Wayne

<adisn123@yahoo.com> wrote in message
news:1154536095.539610.137920@i3g2000cwc.googlegroups.com...
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>

Subject: Re: convert to pixel to RA and DEC in degrees?
Posted by [Craig Markwardt](#) on Thu, 03 Aug 2006 14:12:40 GMT
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adisn123@yahoo.com writes:
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It doesn't have to be aligned. It depends on how the telescope or camera was pointed.

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> align perfectly each other, but I can't find anything relevant to the
> rotation degrees.

Some FITS images have a CROTAn keyword. Others have a rotation matrix, which is stored in CDn_n, I believe. More info can be found here,

http://fits.gsfc.nasa.gov/fits_wcs.html

Craig

--

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

Subject: Re: convert to pixel to RA and DEC in degrees?

Posted by [adisn123](#) on Thu, 03 Aug 2006 16:45:22 GMT

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THank you all. It was a great help.

Craig Markwardt wrote:

> adisn123@yahoo.com writes:

>> Forgot one more thing.

>>

>> When applying "xyad" procedure to convert pixel coordinates to RA and

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>

> Craig

>

> --

> -----

> Craig B. Markwardt, Ph.D. EMAIL: craigmnet@REMOVEcow.physics.wisc.edu
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