Subject: Re: FITS IO Problem
Posted by wlandsman on Fri, 23 Apr 2010 21:13:54 GMT

One possiblity is that you have an incompatible versions of mrdfits
and fxposit.pro (a procedure it calls to open the FITS file).
mrdfits.pro was modified in March 2009 to OPENR the file with the /
SWAP_IF_LITTLE keyword, rather than explcitly performing the byte
swapping.   (This provides a significant speed improvement.)
However, if you have a new version of mrdfits.pro but an old version
of fxposit.pro then the byte swapping would not be perfomed, leading
to nonsensical values such as you describe.   (I'm not sure why the
first row would be OK, though)

If that is not the problem, then the next step is to figure out
whether the culprit is mrdfits.pro or mwrfits.pro.   Can other FITS
I/O programs read the file created by mwrfits.pro?

--Wayne

On Apr 23, 4:30 pm, John B <bochan...@gmail.com> wrote:
> Hi All,
>
> I am writing an anonymous structure (52 columns by 21 rows) out to a
> FITS file, using mwrfits.pro from the astrolib library. When I take
> that file and read it back in (from the same machine), I get garbage
> values throughout the
> structure. Nans, infs and just random longs... very confusing.
> Neither program complains, and until now, both have worked
> spectacularly.
>
> I have noticed that the first row is preserved properly, and that I
> can isolate a single row and write it out, then read it in, and it is
> ok.
>
> Any suggestions??
>
> Thank you!

Subject: Re: FITS IO Problem
Posted by John B on Sat, 24 Apr 2010 03:05:36 GMT

On Apr 23, 5:13 pm, wlandsman <wlands...@gmail.com> wrote:
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> and fxposit.pro (a procedure it calls to open the FITS file).

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> However, if you have a new version of mrdfits.pro but an old version
> of fxposit.pro then the byte swapping would not be perfomed, leading
> to nonsensical values such as you describe.   (I'm not sure why the
> first row would be OK, though)

I updated to the latest version of astrolib (I was using a version in
Schlegel's idlutils), and I still get the same error.

>
> If that is not the problem, then the next step is to figure out
> whether the culprit is mrdfits.pro or mwrfits.pro.   Can other FITS
> I/O programs read the file created by mwrfits.pro?
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Readfits.pro is choking since this isn't a standard fits file (NAXIS
isn't defined). Is there another one I can use?

J

> --Wayne
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>> Thank you!
>
>

Subject: Re: FITS IO Problem
Posted by wlandsman on Sat, 24 Apr 2010 12:09:40 GMT

>
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> isn't defined). Is there another one I can use?
>
There is a nice (non-IDL) program FITSVerify (
 http://heasarc.gsfc.nasa.gov/docs/software/ftools/fitsverify /) to
check the validity of a FITS file.   You can also upload your FITS
file to the online verifier.

Does MWRFITS work with the simple examples provided in the
documentation?

You wouldn't be using GDL (the free IDL clone) rather than IDL, would
you?   I recently discovered that GDL has a slightly different
treatment of nested loops than IDL, that led to disastrous
consequences for a different set of FITS I/O routines.   --Wayne

Subject: Re: FITS IO Problem
Posted by John B on Sat, 24 Apr 2010 13:18:55 GMT

On Apr 24, 8:09 am, wlandsman <wlands...@gmail.com> wrote:
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>> isn't defined). Is there another one I can use?
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http://heasarc.gsfc.nasa.gov/docs/software/ftools/fitsverify /) to
> check the validity of a FITS file.   You can also upload your FITS
> file to the online verifier.

Cool. I submitted it and got this error:

File name: test.fits
                         Run Number 8232

        fitsverify 4.15 (CFITSIO V3.181)
        ----

2 Header-Data Units in this file.

================== HDU 1: Primary Array ==================

```
  1 | SIMPLE  =              T /Dummy Created by MWRFITS v1.4a
  2 | BITPIX  =              8 /Dummy primary header created by
MWRFITS
  3 | NAXIS   =              0 /No data is associated with this
header
  4 | EXTEND  =              T /Extensions may (will!) be
present
  5 | END
```

 5 header keywords

 Null data array; NAXIS = 0

================== HDU 2: BINARY Table ====================

*** Error: checking data fill: tried to move past end of file
*** Error: String in row #3, column #3 contains non-ASCII text.
         (Other rows may have errors).

I don't know entirely how to interpret this.

>
> Does MWRFITS work with the simple examples provided in the
> documentation?

Yes, MWRFITS is working for other applications on my system.
>
> You wouldn't be using GDL (the free IDL clone) rather than IDL, would
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> treatment of nested loops than IDL, that led to disastrous
> consequences for a different set of FITS I/O routines.

Nope... I am using IDL.

 --Wayne

Subject: Re: FITS IO Problem
Posted by Craig Markwardt on Sat, 24 Apr 2010 20:08:28 GMT
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On Apr 24, 9:18 am, John B <bochan...@gmail.com> wrote:
> On Apr 24, 8:09 am, wlandsman <wlands...@gmail.com> wrote:
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> Nope... I am using IDL.
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>   --Wayne

Are you by any chance overwriting an existing file? To me it looks
like you attempted to write a file, but it got stopped after writing
the primary extension. If the bits from the previous existing file
are still there, then it would look like a bogus 2nd FITS extension.

Craig

Subject: Re: FITS IO Problem
Posted by John B on Sun, 25 Apr 2010 16:37:29 GMT

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On Apr 24, 4:08 pm, Craig Markwardt <craig.markwa...@gmail.com> wrote:
> On Apr 24, 9:18 am, John B <bochan...@gmail.com> wrote:
>
>
>
>> On Apr 24, 8:09 am, wlandsman <wlands...@gmail.com> wrote:
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> Craig

Hi Craig,
   No, I am writing a new file each time.

Cheers,
John

On Apr 25, 12:37 pm, John B <bochan...@gmail.com> wrote:
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>
>
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>
>> Craig
>
> Hi Craig,
>   No, I am writing a new file each time.
>
> Cheers,
> John

It seems that updating to the latest astrolib version took care of the
problem. Thanks for all your help.

John

Subject: Re: FITS IO Problem
Posted by m_schellens on Mon, 21 Jun 2010 08:59:27 GMT
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On 24 Apr., 18:09, wlandsman <wlands...@gmail.com> wrote:
>> Readfits.pro is choking since this isn't a standard fits file (NAXIS
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> you?   I recently discovered thatGDLhas a slightly different
> treatment of nested loops than IDL, that led to disastrous
> consequences for a different set of FITS I/O routines.   --Wayne

I just stumbled over this statement now.
I am not aware of any different handling of nested loops.
Could you post an example showing the different behaviour of GDL?
The actual tarball is 0.9rc4
(http://sourceforge.net/projects/gnudatalanguage/files/gdl/0. 9rc4/
gdl-0.9rc4.tar.gz/download)
This version already contains a corrected handling of GOTO in and out
of loops.

Regards,
Marc