

URL: http://cxc.harvard.edu/ciao3.4/faq/dmtcalc move.html

Last modified: 26 October 2007

Why is the column moved to the end of the table when I try to update it in place?

Columns that existed in the input file that are modified in the output file are treated like new columns by dmtcalc and new columns are added by default at the end of the file. For example:

```
unix% dmlist input.fits cols
                                                 0: 1000000.0
    energy
                                   Real4
 10
                                                                     nominal energy of event
     pi
fltgrade
                                                  1:1024
 11
                                     Int4
                                                                     pulse invariant energy
 12
                                     Int2
                                                  0:255
                                                                      event grade, flight sys
 13
    grade
                                     Int2
                                                                     binned event grade
 14 status[4]
                                     Bit(4)
                                                                      event status bits
unix% dmtcalc infile="input.fits" outfile="output.fits" expression="energy=((float)pha)*0.1"
unix% dmlist output.fits cols
 10 pi
                                    Int4
                                                  1:1024
                                                                     pulse invariant energy
                                                 0:255
 11 fltgrade
                                    Int2
                                                                     event grade, flight sys
 12 grade
                                     Int2
                                                                     binned event grade
 13 status[4]
                                     Bit(4)
                                                                      event status bits
 14 ENERGY
                                                  -Inf:+Inf
                                     Real8
                                                                      User defined column
```

The name of the energy column in the output file is in upper case (no matter what its case is in the input file) since its values have been changed.

If you would like to reorder the columns after running the tool, <u>dmcopy</u> the file with a list of columns in the desired order (note that this method will only copy the specified columns):

```
unix% dmcopy "output.fits[cols time,pha,energy,pi]" reordered.fits
unix% dmlist reordered.fits cols
Columns for Table Block EVENTS
ColNo Name
                        Unit
                                  Type
                                                 Range
                                                84244214.7546979934: 84253882.0425609946 S/G
  1 time
                        S
                                   Real8
                                                0:36855 total pulse height of
  2 pha
                                   Int4
                        adu
  3 ENERGY
                                   Real8
                                                -Inf:+Inf
                                                                  User defined column
                        chan
                                   Int4
                                                1:1024
                                                                 pulse invariant energy
```

FAQ Entry – CIAO 3.4

although FITS files and the software that reads them generally are not supposed to care about the order of the columns.

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