



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
...
 10  energy                eV          Real4          0: 1000000.0      nominal energy of ev
 11  pi                    chan         Int4           1:1024           pulse invariant ener
 12  fltgrade              Int2         0:255         event grade, flight
 13  grade                  Int2         0:7           binned event grade
 14  status[4]             Bit(4)      event status bits
...

unix% dmtcalc infile="input.fits" outfile="output.fits" expression="(float)pha*0.1"

unix% dmlist output.fits cols
...
 10  pi                    chan         Int4           1:1024           pulse invariant ener
 11  fltgrade              Int2         0:255         event grade, flight
 12  grade                  Int2         0:7           binned event grade
 13  status[4]             Bit(4)      event status bits
 14  ENERGY               Real8       -Inf:+Inf     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, `dmcopy` 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

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Columns for Table Block EVENTS
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ColNo  Name          Unit      Type      Range
 1  time         s         Real8     84244214.7546979934: 84253882.0425609946
 2  pha          adu       Int4      0:36855      total pulse height o
 3  ENERGY     Real8     -Inf:+Inf User defined column
 4  pi          chan     Int4      1:1024      pulse invariant ener
```

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

FAQ Entry – CIAO 3.4

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