NAME

fits2rdb - Converts FITS binary table to RDB table

SYNOPSIS

fits2rdb

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[ -i | --input the_input_FITS_filename ]

[ -o | --output the_output_RDB_filename ]

[ -e | --extname the_FITS_extension_name ]

[ -n | --extnum the_FITS_extension_number ]

[ -m | --comment ]

[ -c | --column column_name_to_include_in_output ]

[ -r | --rcolumn regex_for_included_FITS_column_names ]

[ -C | --vcolumn column_name_to_exclude_from_output ]

[ -R | --rvcolumn regex_for_excluded_FITS_column_names ]

[ -d | --defformat FITS_type=printf_style_format ]

[ -f | --colformat column_name=printf_style_format ]

[ -a | --arraysep array_element_seperator ]

[ -t | --trim yes|no ]

[ -T | --truevalue string_representation_of_true ]

[ -F | --falsevalue string_representation_of_false ]

[ -I | --invalidvalue string_representation_of_invalid ]

[ -B | --byte str|num ]

[ -x | --maxrows rows_per_read ]

[ -h | --help ]

[ -u | --usage ]
```

```
[ -v | --version ]

[ -V | --verbose ]

[ the_input_FITS_filename ]

[ the_output_FITS_filename ]
```

DESCRIPTION

fits2rdb converts a FITS binary table extension to an RDB table. Default behavior is to convert the entire table. The user may specify that only certain columns be converted and output using the **--column**, **--rcolumn**, **--vcolumn**, and **--rvcolumn** options. Column specifications are case insensitive; Output column names are all lowercase. For **--rcolumn** and **--rvcolumn**, the regular expressions are Perl5 regular expressions. See the pcre manpage for a description of the few exceptions.

The user may also specify that the FITS header data unit(HDU) be converted into RDB comments using the **--comment** option.

The input FITS file is specified via the **--input** option. To specify a particular FITS extension within the file, the user may provide the extension name and extension number via the **--extname** and **--extnum** options.

If the user is familiar with the Funtools IRAF-style bracket notation, it is possible to specify the file, extension, and filters with the **--input** option.

It is also possible to specify input and output filenames as non-option arguments on the commandline. To do so, simply specify the input name and, optionally, the output name.

Here are three commandlines illustrating the various syntax.

fits2rdb --comment --input=test_input.fits **--output**=converted_output.rdb

fits2rdb --comment -i test_input.fits **-o** converted_output.rdb

fits2rdb --comment test_input.fits converted_output.rdb

If no extension name is specified, **fits2rdb** searches for the first extension with the name EVENTS, STDEVT, or RAYTRACE. Failing that, it reopens the file and searches each extension until it finds a binary table. **fits2rdb** then processes the binary table.

The conversion is handled as follows:

A column with scalar value is output as an RDB column with scalar value.

A column with non-bit array value is output as an RDB column with array elements seperated by **--arraysep**.

A column with bit array value is output as an RDB column with each 8 bit byte represented in hexidecimal format and seperated by **--arraysep**.

For bit fields, bits are output in the same order as specified in the FITS standard, MSB to LSB.

If no column options are specified all columns will be output. If any column options are specified, only the columns matching the specification will be output.

If column options are present on the command line, output columns are are determined by building a list of column consisting of the columns specified with the **--column** and **--rcolumn** options, less the columns specified with the **--vcolumn** and **--rvcolumn** options.

If the **--comment** option is specified, FITS HDU keywords are output as RDB comment variables. Keywords are lowercased upon output. FITS 'COMMENT' and 'HISTORY' keywords are appended with '_XXX' where XXX is an integer specifying the order of the 'COMMENT' or 'HISTORY' keyword in the header. If the *LONGSTRN* keyword is present, **fits2rdb** will join lines which are continued across multiple FITS cards into a single RDB comment.

OPTIONS

fits2rdb uses a **getopt** style interface with POSIX syntax for command line options. Mixing option and non-option arguments is not allowed.

-i | **--input** *the_input_FITS_filename* | *the_input_FITS_filename*

Name of the FITS file. If **--input** equals 'stdin', input is read from STDIN. Defaults to stdin.

-o | **--output** *the_output_RDB_filename* | *the_output_FITS_filename*

Name of the output RDB file. If **--output** equals 'stdout', output is written to STDOUT. Defaults to stdout.

-e | **--extname** *the_FITS_extension_name*

The name of the FITS extension upon which to operate.

-n | **--extnum** *the_FITS_extension_number*

The number of the FITS extension upon which to operate.

-m | **--comment**

If specified, print the HDU keywords as RDB comment variables.

-c | **--column** *column_name_to_include_in_output*

Column name to select for output. **--column** may be specified multiple times with different values or may be a comma or whitespace seperated list.

-r | **--rcolumn** *regex_for_included_FITS_column_names*

Regular expression to match against column names in the binary table. **--rcolumn** may be specified multiple times with different values or may be comma or whitespace seperated list. The regular expression pattern matching is done using the same syntax and semantics as Perl 5. See the pcre man page for more info.

-C | **--vcolumn** *column_name_to_exclude_from_output*

Excludes the named column from the output table. **--vcolumn** may be specified multiple times with different values or may be a comma or whitespace seperated list.

-R | **--rvcolumn** *regex_for_excluded_FITS_column_names*

Excludes columns that match the regular expression from the output table. **--rvcolumn** may be specified multiple times with different values or may be a comma or whitespace seperated list. The regular expression pattern matching is done using the same syntax and semantics as Perl 5. See the pcre man page for more info.

-d | **--defformat** *FITS_type=printf_style_format*

Default output formats. The user may specify any FITS data type(A,E,I,etc...) and a printf style format string.

-f | **--colfformat** *column_name=printf_style_format*

Column specific output formats. The user may override the output formats on a column by column basis by specifying the column name and a printf style format string.

-a | **--arraysep** *array_element_seperator*

Seperator used when printing arrays. Defaults to ','.

-t | **--trim** *yes|no*

If set to yes(default behavior), trim leading and trail whitespace from RDB comments and table string fields. Otherwise, don't trim whitespace.

-T | **--truevalue** *string_representation_of_true*

Allows the user to set the RDB representation of a FITS logical field.

-F | **--falsevalue** *string_representation_of_false*

Allows the user to set the RDB representation of a FITS logical field.

-I | **--invalidvalue** *string_representation_of_invalid*

Allows the user to set the RDB representation of a FITS logical field.

-B | **--byte** *str|num*

Represent bytes as string(str) or numbers(num).

-x | **--maxrows** *rows_per_read*

Sets the maximum number of rows per read call. Setting this to a large number may speed reading of data up to a point. The default is 8192 rows read at a time.

-h | **--help**

Print just a list of options and exit.

-u | **--usage**

Print this usage info and exit.

-v | **--version**

Print version info and exit.

-V | **--verbose**

Print warnings about column matches that fail.

AUTHORS

M. Tibbetts (mtibbetts@head-cfa.harvard.edu)