NAME

scatfile_convert − converts binary format scattering distributions to FITS format

SYNOPSIS

scatfile_convert [OPTIONS]

DESCRIPTION

For each line the *scatter_db*, **scatfile_convert** converts the binary format scattering distribution to a FITS file. Each scattering distribution file is placed in a single FITS binary table.

The *hdosxform_db* and *mirror_db* are used to determine the zone geometry in the body center coordinates.

OPTIONS

The following options are supported:

hdosxformdb
RDB database mirror dimensions. See FILES.

mirrordb
RDB database of mirror positions. See FILES.

scatterdb
RDB database of zone positions and scattering distribution files. See FILES.

outputdir
Directory into which the output files are written. The output files will be named after the binary scat_files in the *scatter_db*.

help
Print brief usage information and exit.

usage
Print usage information and exit.

version
Print version information and exit.

EXAMPLE

```
scatfile_convert                                                \
  --hdosxformdb /proj/axaf/simul/databases/mirror/hdos_xform.rdb  \
  --mirrordb /proj/axaf/simul/databases/mirror/EKCHDOS06.rdb      \
  --scatterdb /proj/axaf/simul/databases/scatter/HDOS_980623a.rdb \
  --outputdir ./HDOS/980623a/tables
```

FILES

HDOS Transform Database

The HDOS transform database must contain the mirror name, mirror end cut position, and mirror length in the *mirror*, *Z_ec*, and *L* columns respectively.

Mirror Database

The mirror database must contain the mirror name and Z position of the body center of the optic in the *mirror* and *z0* columns respectively.

Scatter Database

The scatter database must contain the mirror name, Z position of the zone minimum, Z position of the zone maximum, and the binary format scattering distribution file in the *mirror*, *zmin*, *zmax*, and *scat_file* columns respectively.

Scattering Distribution Files

These files are assumed to be binary format files with the following structure:

integer
an integer representing the number of elements in the scattering distribution(ndist).

float
a float representing energy times sine of the graze angle(esa).

float
a float representing the minimum probability in the scattering distribution(p0).

float
a float representing the distance between probabilties in the scattering distribution(pdelta).

float
a float representing the maximum probability in the scattering distribution(ptop).

float
a float representing the normalization factor for the value being raise to a power(normtop).

float
a float representing the power to which the normalized(normtop) value is raised(powtop).

float
a number(ndist) of floats representing the scattering distribution (pdist).

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VERSION

This documents version `@VERSION@` of **scatfile_convert**.

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