

**NAME**

pyFAI-average – Image preprocessing tool

**DESCRIPTION**

usage: pyFAI-average [options] [options] **-o** output.edf file1.edf file2.edf ...

This tool can be used to average out a set of dark current images using mean or median filter (along the image stack). One can also reject outliers by specifying a cutoff (remove cosmic rays / zingers from dark)

**positional arguments:**

**FILE** Files to be processed

**optional arguments:**

**-h, --help**

show this help message and exit

**-V, --version**

show program's version number and exit

**-o OUTPUT, --output OUTPUT**

Output/ destination of average image

**-m METHOD, --method METHOD**

Method used for averaging, can be 'mean' (default) or 'min', 'max', 'median', 'sum', 'quantiles'

**-c CUTOFF, --cutoff CUTOFF**

Take the mean of the average  $\pm$  cutoff \* std\_dev.

**-F FORMAT, --format FORMAT**

Output file/image format (by default EDF)

**-d DARK, --dark DARK**

Dark noise to be subtracted

**-f FLAT, --flat FLAT**

Flat field correction

**-v, --verbose**

switch to verbose/debug mode

**-q QUANTILES, --quantiles QUANTILES**

average out between two quantiles **-q** 0.20–0.90

**--quiet**

Only error messages are printed out

It can also be used to merge many images from the same sample when using a small beam and reduce the spotty-ness of Debye–Sherrer rings. In this case the "max-filter" is usually recommended.