

**NAME**

diff\_map – Azimuthal integration for diffraction imaging

**DESCRIPTION**

usage: diff\_map [options] **-p** ponifile imagefiles\* If the number of files is too large, use double quotes like "\*.edf"

Azimuthal integration for diffraction imaging. Diffraction mapping is an experiment where 2D diffraction patterns are recorded while performing a 2D scan. Diff\_map is a graphical application (based on pyFAI and h5py) which allows the reduction of this 4D dataset into a 3D dataset containing the two motion dimensions and the many diffraction angles (thousands). The resulting dataset can be opened using PyMca roitool where the 1d dataset has to be selected as last dimension. This result file aims at being NeXus compliant. This tool can be used for diffraction tomography experiment as well, considering the slow scan direction as the rotation.

**positional arguments:**

**FILE** List of files to integrate. Mandatory without GUI

**optional arguments:**

**-h, --help**

show this help message and exit

**-V, --version**

show program's version number and exit

**-o FILE, --output FILE**

HDF5 File where processed map will be saved. Mandatory without GUI

**-v, --verbose**

switch to verbose/debug mode, default: quiet

**-P FILE, --prefix FILE**

Prefix or common base for all files

**-e EXTENSION, --extension EXTENSION**

Process all files with this extension

**-t FAST, --fast FAST**

number of points for the fast motion. Mandatory without GUI

**-r SLOW, --slow SLOW**

number of points for slow motion. Mandatory without GUI

**-c NPT\_RAD, --npt NPT\_RAD**

number of points in diffraction powder pattern. Mandatory without GUI

**-d FILE, --dark FILE**

list of dark images to average and subtract (comma separated list)

**-f FILE, --flat FILE**

list of flat images to average and divide (comma separated list)

**-m FILE, --mask FILE**

file containing the mask, no mask by default

**-p FILE, --poni FILE**

file containing the diffraction parameter (poni-file), Mandatory without GUI

**-O OFFSET, --offset OFFSET**

do not process the first files

**-g, --gpu**

process using OpenCL on GPU

**-S, --stats**

show statistics at the end

**--gui** Use the Graphical User Interface

**--no-gui**

Do not use the Graphical User Interface

**--config CONFIG**

provide a JSON configuration file

Bugs: Many, see hereafter: 1)If the number of files is too large, use double quotes "\*.edf" 2)There is a known bug on Debian7 where importing a large number of file can take much longer than the integration itself: consider passing files in the command line