

**NAME**

pyFAI-waxs – powder diffraction integration

**DESCRIPTION**

usage: pyFAI-waxs [options] **-p** ponifile file1.edf file2.edf ...

Azimuthal integration for powder diffraction.

**positional arguments:**

**FILE** Files to integrated

**optional arguments:**

**-h, --help**

show this help message and exit

**-v, --version**

show program's version number and exit

**-p** PONIFILE

PyFAI parameter file (.poni)

**-n** NPT

Number of points in radial dimension

**-w** WAVELENGTH, **--wavelength** WAVELENGTH

wavelength of the X-Ray beam in Angstrom

**-e** ENERGY, **--energy** ENERGY

energy of the X-Ray beam in keV (hc=12.398419292keV.A)

**-u** DUMMY, **--dummy** DUMMY

dummy value for dead pixels

**-U** DELTA\_DUMMY, **--delta\_dummy** DELTA\_DUMMY

delta dummy value

**-m** MASK, **--mask** MASK

name of the file containing the mask image

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

name of the file containing the dark current

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

name of the file containing the flat field

**-P** POLARIZATION\_FACTOR, **--polarization** POLARIZATION\_FACTOR

Polarization factor, from **-1** (vertical) to **+1** (horizontal), default is None for no correction, synchrotrons are around 0.95

**--error-model** ERROR\_MODEL

Error model to use. Currently on 'poisson' is implemented

**--unit** UNIT

unit for the radial dimension: can be  $q\_nm^{-1}$ ,  $q\_A^{-1}$ , 2th\_deg, 2th\_rad or r\_mm

**--ext** EXT

extension of the regrouped filename (.xy)

**--multi**

Average out all frame in a file before integrating

**--average** AVERAGE

Method for averaging out: can be 'mean' (default), 'min', 'max' or 'median'

**--do-2D**

Perform 2D integration in addition to 1D

pyFAI-waxs is the script of pyFAI that allows data reduction (azimuthal integration) for Wide Angle

Scattering to produce X-Ray Powder Diffraction Pattern with output axis in 2-theta space.