

Analysis of diffraction data

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The tutorial *analysis of diffraction data* will provide an overview of the diffraction geometries normally used during powder and single crystal diffraction experiment at synchrotron beamlines. Examples mostly from Elettra diffraction beamlines (XRD1, MCX, XPRESS) and other synchrotrons will provide a synthetic overview of different experimental possibilities.

A step by step data processing from powder diffraction data collection with area detector, experimental geometry and energy calibration, data integration will be presented, using two freely available softwares commonly used (Fit2D and Diopbase). An example of simple data analysis (structural and quantitative analysis is also provided, using GSAS/GSAS-II software.

An example of single crystal data processing of inorganic crystal structure/mineral, is also presented.