BSXCUBE: A CONTROL SYSTEM FOR BIOSAXS EXPERIMENTS

R. N. Fernandes, D. P. Spruce, ESRF, Grenoble

Abstract

Many synchrotron centres have beamlines specialized in biological small-angle X-ray scattering (BioSAXS). However, few have a system that fully controls and process the experiments done in these beamlines. At the European Synchrotron Radiation Facility, a new system named BsxCuBE (BioSAXS Customized Beamline Environment) is being developed to fulfill this need. Its aim is to control the experiments at beamline ID14-3 in an automated way by integrating disparate tools into a single interface. The system has been in operation over the last few months with promising results: it is capable of successfully controlling a data acquisition procedure and users feel comfortable using it. BsxCuBE can display, in near real time, the data (i.e. images) being acquired as well as the corresponding 1D curves. At this stage, post-processing of the 1D curves is also possible, such as cropping, subtracting or filtering according to the radiation damage. Further post-processing operations are planned for integration into the system. After a period of maturation, this new control system will allow good quality BioSAXS data to be obtained by users with little experience of the experimental techniques.

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