CBF: Issues for Vendors

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Overview

· Documenting the Experiment

· Simple Experiments: Getting Beam Lines to Use CBF.

· Adding Additional Experiment Info

Documenting the Experiment

Documenting the Experiment

CBF Headers -- three information groups:

* 1. Detector information: Time, date, detector settings, etc.
* 2. Experimental information: Distance, angles, beam center, wavelength, etc.
   3. Experimental information: Beam line info (slits, focusing, which beam line) and ring info (current, which synchrotron, etc.)

* Sufficient for automatic data processing

Documenting the Experiment

Vendor Headers – ADSC smv, for example:

1. Detector information: Time, date, detector settings, etc.
2. Experimental information: Distance, angles, beam center, wavelength, etc.

NOT sufficient for automatic data processing without additional information. Biggest problem is beam center (no convention).
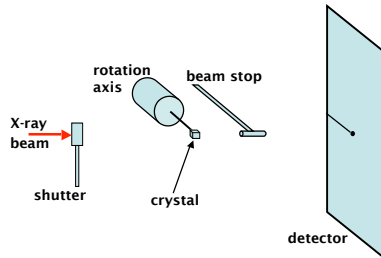

Simple Experiments
Getting Beam Lines to Use CBF

Simple Experimental Setup

Generating CBF Files Automatically

With the addition two extra items supplied to the standard ADSC detector control library:

Beam center in Pixels, origin in upper left hand corner of detector.

Axis rotation different than convention (most beam lines use the same axis rotation convention).

CBF files could be generated with no additional external information or templates. This could lower the bar for using CBF.

Software Notes.

The current CBFlib distribution contains programs:
adscimg2cbf.c   adscimg2cbf_sub.c
adsccbf2img.c   adsccbf2img_sub.c

These will only work properly if the
axis rotation is "conventional" and
the beam center is defined in mm
as it is in the display program *adxv*.

Changes need to be made to support different beam center/rotation conventions (perhaps some of the information in LABELIT can be used?)

Adding Additional Experimental Information

Using CBF Templates

Additional beam line and ring information is available, but not conventionally passed to vendor detector interface software.

The methods for harvesting this information are quite different across synchrotrons and frequently the information is scattered across multiple control platforms.

CBF templates generated before each image containing info not generally found in vendor headers is the only general solution.

Using CBF Templates

A convention would be that any item specified in the beam line template would override what would be generated by translating the vendor header.

CBF templates generated need to be accurate.

We need an example program in the CBFlib distribution which shows how to generate a template. Again, this lowers the bar for implimentation.

Recommendations (mostly for me)

Add the extra items (center in pixels, rotation direction) to the ADSC interface library.

Organize a data base of beam line specific information based on Nick Sauter's work that can be included in the CBFlib distribution and used to properly translate file formats.

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