

Determining Detector Orientation In the Hutch

Surprisingly, this is often a difficult problem, because:

- detectors can be mounted in so many ways
- knowing which pixel the DAQ "reads out first" is tricky
- different tools can introduce flips, introducing uncertainty about whether the detector is viewed from in front of the camera or behind

In our experience, unless rotations are done about x/y in the psana geometry file, all views we have seen are from the "front" for cspad/cspad2x2 /pnCCD. AMI ignores x/y rotations, so it's views are also from the front for those detectors. The one exception we know of is the XOnline viewer for the pnCCD which views images from the back of the camera (which is preferred in astronomy).

The presentation [here](#) has a few slides illustrating how these questions were answered for pnCCD/cspad2x2. These slides are likely too complex for the casual user.

Ask the analysis group or your experiment POC if you need help determining detector orientations or motor directions.