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# CLS PyAcq Data Aquisition System

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PyAcq is a Python-based data acquisition and visualization platform under active development for the BioXAS-Imaging Beamline at the Canadian Light Source. PyAcq consists of several separate components. A pure Python EPICS-aware server fetches queued scans, runs them, and writes collected data to HDF5 files. Native EPICS applications provide the server with SSCAN records for step scans, hardware driven fast scans, and a beamline configuration wrapper. A pure Python client (GUI), decoupled from EPICS, connects to the server. The client is used to configure scans, queue them, and visualize results. The user can dynamically adjust MCA ROIs, input math functions, and visualize the effect on both running and completed scans. Multiple windows allow different parameter combinations with the same or different scans to be visualized simultaneously. Multiple clients can connect to the server simultaneously. Finally, the client can run in standalone mode for visualizing completed scans. Users can take a copy of the client home with them to immediately visualize their data on Windows, Linux, or MacOS platforms using the same user interface with which it was collected.

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