Breakout Session 1B: Data acquisition and handling

Organized by Taito Osaka (SACLA)

This session aims to share the current capabilities of data acquisition and handling at SACLA. Using **Python-based APIs developed at SACLA (dbpy, stpy, ippy, ecpy etc.)**, **users can design/code advanced data acquisition and handling processes**, which are not able to be accomplished by standard tools officially supported by SACLA. In addition to overview of these tools, the current status and perspectives on data access environment from your institutes will be presented. Then, some good examples that realized efficient experiments by means of those APIs will be introduced by leading users. Finally, we will discuss **how we can maximize scientific outcomes from the view point of data acquisition / handling capabilities**.

Introduction (20-25 min, recorded and uploaded online)
"Efficient experiments at SACLA using **Python APIs**"
T. Osaka (SACLA)

Facility talk (10 min)
"Current status and perspectives on data access environment"
Open OnDemand **Y. Joti (SACLA)**

Talks of leading users (15 min each)
"Efficient pump–probe experiments"
T. Sato (LCLS)

"Efficient nonlinear X-ray optics experiments"
Z. Abhari (U. Wisconsin–Madison)

Discussion **Chair: T. Osaka (SACLA)**

Discussion

Q1. Have you visited SACLA HPC Portal more than twice ?
no 3 / 26+

Q2. Which do you typically use DataConvert or Python APIs (or another) for online analysis ?
DataConvert 5, PythonAPIs 10

(if DataConvert): Do you know at least one of the Python APIs ?
yes 1 / 5

Q3. Do you want to use ecpy ? or Is standard RunControlGUI enough for your experiments ?
ecpy 3+

Q4. What will make your SACLA life better (regarding data acquisition / handling environment) ?

- Examples of data handling / analysis codes on Jupyter notebook
- Flexible DAQ
- Interactive data management system & elog