



Contribution ID: 128

Type: 20-minute talk

## Optimization of experiment and accelerator performance using beam synchronous EPICS data

*Wednesday, April 26, 2023 11:40 AM (20 minutes)*

Live observation of synchronized accelerator and photon data is crucial for best use of machine development time, and to setup demanding FEL configurations for the users. A Matlab class and a GUI have been developed and used in the last decade at the LCLS to acquire accelerator and photon data from different sources via EPICS and to present them. Data are synchronized on a pulse-to-pulse basis, processed, and displayed with low latency time, thus being useful for discovering correlations, live tuning, and understanding underlying physics while the data are taken. Scans are available by setting EPICS process variables and validating machine status by data timestamp. Consideration on the temporal latency, and the amount of data required for the system to be effective will be given.

### Please select if talk will be in person or on zoom

On Zoom

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**Session Classification:** Plenary Session

**Track Classification:** AI/ML