

MicroTCA applications at the European XFEL Experiments - Experience and outlook

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The European X-Ray Free Electron Laser facility (European XFEL) has been receiving users for three years now. Multiple experiments have been conducted using the generated ultra short coherent X-Ray flashes, spaced by 220 ns and with a duration of less than 100 femtoseconds, with results now starting to be published in articles and magazines. The MicroTCA platform is at the centre of timing distribution, data processing from large 2D detectors, fast digitization and processing of pulse signals as well as low latency communication protocol for VETO and Machine Protection System.

The confinement imposed this year gave us an opportunity to focus our efforts in stabilizing our hardware solutions and how they are integrated into the acquisition software at XFEL. We spend more time meeting our Instrument colleagues to understand the analysis done in the acquired data, to orient our future developments in the hardware algorithms while also integrating more digitizer boards to our XFEL repository. Finally, we work with an external company to define a suitable hardware solution that will bridge the MicroTCA platform with our PLC infrastructure.

In this presentation, we will provide a summary of our activity surrounding the MicroTCA platform and where we plan to go next year.

Summary

Author: FERNANDES, Bruno (Eur.XFEL (European XFEL))

Presenter: FERNANDES, Bruno (Eur.XFEL (European XFEL))

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