Contribution ID: **101** Type: **Talk**

Bruno Fernandes - Overview, experience and first results of MTCA applications at European XFEL Experiments

Thursday 6 December 2018 16:45 (15 minutes)

The European X-Ray Free Electron Laser facility (European XFEL) has had its first lasing on May of 2017. Ultra short coherent X-Ray flashes spaced by 220 ns and with a duration of less than 100 femtoseconds are being delivered to the photon beamlines, where different scientific experiments are performed. The MicroTCA platform is heavily used in different fields, such as timing distribution, data processing from large 2D detectors, fast digitization of pulse signals with algorithms for peak and energy detection as well as low latency communication protocol for VETO systems.

In this presentation, we will give an overview of our experience with the MicroTCA platform in this first year of operation, presenting first results, both raw and processed in hardware, implementation details that take advantage of the MicroTCA standard as well as future developments and other platforms and boards currently being considered.

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Session Classification: Session 8