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MicroTCA.4 BPM system at CRYRING@ESR

Wednesday 9 December 2015 11:45 (15 minutes)

GSI Helmholtz Centre for Heavy Ion Research is developing a BPM system for CRYRING@ESR - the heavy ion storage ring formerly located at Stockholm University. The base platform in AMC/MicroTCA.4 and ANSI/VITA FMC form factors was developed by Warsaw University of Technology and is being modified deeply by GSI to include FESA and WhiteRabbit support.

This presentation describes the process of development and integration of:

- FPGA firmware for AFC board that is used as the digital back-end for BPM digital signal processing and orbit feedback in a processing node
- MicroTCA.4 WhiteRabbit receiver node
- RTOS-based MMC firmware with an additional task included to avoid implementing the soft microprocessor in FPGA

This presentation also describes additional tools developed to debug and verify the system.

Primary author: Mr MIEDZIK, Piotr (GSI)

Presenter: Mr MIEDZIK, Piotr (GSI)

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