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The mircoTCA.4 fast control and processing board for generic control and data acquisition applications for HEP experiments

The MircoTCA.4 Fast Control and Processing board (u4FCP) is an FPGA-based double-width MircoTCA.4 compatible Advanced Mezzanine Card (AMC) for generic control and data acquisition applications in high energy physics (HEP) experiments. Built around the Xilinx Kintex UltraScale+ FPGA, the u4FCP provides users with a platform which has access to on-board FPGA Mezzanine Card (FMC) sockets with an array of configurable I/O and high-speed links up to 200 Gbps. In addition, the rear transition module (RTM) allows separation of processing and I/O functionality with the Kintex -7 FPGA and more FMC sockets. The increased processing capacity and area on the RTM allow a significant increase in the amount of FPGA logic and I/O connections. The on-going R&D effort carried out on applications in Shanghai HIgh repetition rate XFEL aNd Extreme light facility (SHINE) and Taishan Antineutrino Observatory (TAO), supported by laboratory results, will also be presented.

Minioral

No

IEEE Member

No

Are you a student?

No

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