

9th Beam Telescopes and Test Beams Workshop



Contribution ID: 41

Type: **not specified**

Recent Improvements of the Caribou DAQ System

Monday, 8 February 2021 17:40 (20 minutes)

Developing a new silicon detector requires significant effort for preparing the readout hardware and software for the prototype to be operated in the laboratory and test beams. The Caribou DAQ framework significantly reduces the development effort and cost for such readout systems. By utilizing modern system-on-chip (SoC) platforms, it combines programmable logic and a processing system and thereby brings unprecedented flexibility to the DAQ design. A universal interface card connects the SoC with the detector prototype, housing power supplies for biasing as well as DACs and ADCs for setting and measuring operational parameters, test pulses, etc. Through this versatile hardware and the modular design, the turnaround time for supporting new detectors is minimized. The system is completed by a set of configurable firmware blocks for commonly used functionality as well as the DAQ software Peary.

This talk presents the Caribou system and gives an overview over recent developments, such as a new and improved hardware revision, integration of oscilloscope readout, and integration of the new ATTRACT FASTpix chip.

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Session Classification: DAQ Systems