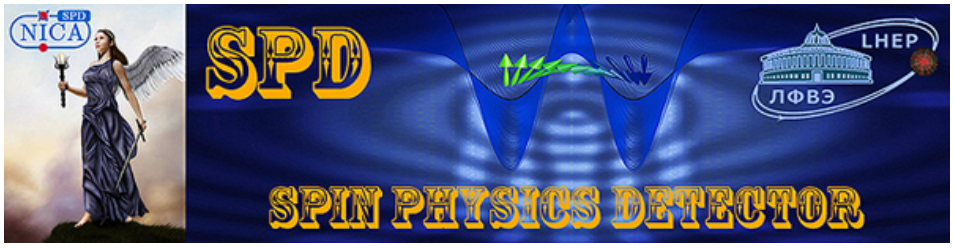

Contribution ID: **20** Type: **not specified**

The Data Acquisition System for the COMPASS++/AMBER Experiment

Thursday 6 June 2019 09:30 (20 minutes)

COMPASS++/AMBER experiment is a multipurpose spectrometer at the CERN SPS. It will be a place where variety of measurements with different beams and targets address fundamental questions of Quantum Chromodynamics. A development of the data acquisition had a challenge to fulfil requirements of a wide physics program with different event selection criteria on one side and a high event rate capability on the other needed for high precision measurements. The first part of the solution was to employ trigger less front-end electronics, which continuously digitizes detectors'signals and streams zero suppressed data to the next stage of the data acquisition. The second part was a built-in digital trigger processor which reduces data rate to a level below 1 GB/s. The trigger processor and the event builder are being realized in cost effective configurable hardware using Field Programmable Gate Array(FPGA) technology. The system will be capable to process 20 GB of data per second.
The architecture of the DAQ and the state of the development will be presented.

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Session Classification: Session 5