

# Data Quality Monitoring and Prompt Processing in the protoDUNE-SP experiment

*Tuesday 10 July 2018 16:40 (20 minutes)*

The DUNE Collaboration is pursuing an experimental program (named protoDUNE) which involves a beam test of two large-scale prototypes of the DUNE Far Detector at CERN in 2018. The volume of data to be collected by the protoDUNE-SP (the single-phase detector) will amount to a few petabytes and the sustained rate of data sent to mass storage will be in the range of a few hundred MB per second. After collection the data will be committed to storage at CERN and immediately transmitted to Fermi National Accelerator Laboratory in the US for processing, analysis and long-term preservation. The protoDUNE experiment requires substantial Data Quality Monitoring capabilities in order to ascertain the condition of the detector and its various subsystems. We present the design of the protoDUNE Prompt Processing System, its deployment at CERN and its performance during the data challenges conducted in 2017 and 2018.

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**Session Classification:** Posters

**Track Classification:** Track 1 - Online computing