



Contribution ID: 73

Type: **not specified**

Low Voltage Power for the ATLAS New Small Wheel

Wednesday, August 5, 2015 4:00 PM (15 minutes)

The New Small Wheel (NSW) is an upgrade for enhanced triggering and reconstruction of muons in the forward region of the ATLAS detector. It will have over 2.5 million readout channels and over 7400 Front End boards. The large LV power demands - 51kW at 1.2V to 2.5V - necessitate a point-of-load architecture with on-detector power conversion to meet these requirements. We present final results from an extensive campaign to test commercial power devices in radiation and magnetic fields. An alternate solution is described, based on a custom, radiation-hard power conversion ASIC produced by CERN. We detail the challenges and solutions in integrating this device into the NSW mechanical environment, and outline the full resulting power system.

Oral or Poster Presentation

Oral

Primary author: EDGAR, Ryan Christopher (University of Michigan (US))

Presenter: EDGAR, Ryan Christopher (University of Michigan (US))

Session Classification: Accelerators, Detectors, Computing

Track Classification: Detectors