Contribution ID: **17** Type: **Oral Contribution**

R&D on Double-end Readout RPC for ATLAS Phase-II Upgrade

Tuesday, February 11, 2020 9:30 AM (20 minutes)

A large number of thin gap RPCs with new type of electronics board will be installed in the ATLAS BI region during the Phase-II Upgrade. A new double-end readout method is proposed. In precondition of satisfying the upgrade performance requirement, this method will potentially reduce the detector thickness, the dead area between units and save the electronics channels. With the signals read out from both ends of each strip, the time difference is proportional to the hit position along the strips. The performance of this method is tested in USTC based on RPC prototypes with 1 mm gas gap and 140 cm length. The measured spatial resolution is around 1 cm which meets the requirement for the Phase II Upgrade.

Primary authors: LI, Quanyin (USTC); AIELLI, Giulio (ROMA2); SUN, Yongjie; ZHAO, Zhengguo (University of Science and Technology of China (USTC))

Presenters: LI, Quanyin (USTC); SUN, Yongjie

Session Classification: New Ideas