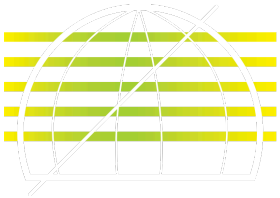

RPC 2022

Contribution ID: **80** Type: **Oral**

Commissioning and first measurements with LHC collisions of BIS78 RPCs, an innovative detector for ATLAS HL-LHC upgrades

Monday 26 September 2022 11:25 (25 minutes)

The BIS78 project, BI pilot project, consists of 16 sMDT + RPC chambers installed in the barrel-endcap transition region with the function of helping in the reduction of the fake muons produced upstream of the cryostats. The BIS78 RPCs represents a new generation of RPCs, basing their largely improved performance on a novel and highly performing front-end (FE) electronics, which is able to detect 1-2 fC of induced signals increasing rate capability by a factor of 10 with respect to the present ATLAS RPCs.
BIS78 are equipped with a gas gap of 1 mm thick, granting a time resolution of 350ps and less weight and space occupancy. Additionally, the new electronics could make the BIS78 apparatus more easily compatible with the new eco-gas mixtures. The entire BIS78 apparatus has been installed successfully within the ATLAS experimental cavern and its commissioning will be illustrated along with its performance at the beginning of LHC Run 3

Presenter: SIMSEK, Sinem (Istinye University (TR))

Session Classification: RPC@LHC