



Contribution ID: 259

Type: poster

## Construction and Performance Studies of Large Resistive Micromegas Quadruplets

In view of the use of micromegas detectors for the upgrade of the ATLAS muon system, we have constructed two detector quadruplets with an area of 0.5 m<sup>2</sup> per plane serving as prototypes for future ATLAS chambers. They are based on the resistive-strip technology and thus spark tolerant. The detectors were built in a modular way. The quadruplets consist of two double-sided readout panels and three support (or drift) panels equipped with the micromesh and the drift electrode. The panels are bolted together such that the detector can be opened and cleaned, if required. Two of the readout planes are equipped with readout strips inclined by 1.5 degree.

In this poster, we present the results of detailed performance studies based on X-Ray measurements, cosmic ray- and test-beam measurements that have been conducted in the past months. In addition, we foresee to present preliminary results on aging studies, conducted at the GIF++ facility.

**Authors:** VALDERANIS, Chrysostomos (Johannes-Gutenberg-Universitaet Mainz (DE)); LIN, Tai-Hua (Johannes-Gutenberg-Universitaet Mainz (DE))

**Co-authors:** KUGER, Fabian (Bayerische Julius Max. Universitaet Wuerzburg (DE)); SEKHNIADZE, Givi (Universita e INFN, Napoli (IT)); WOTSCHACK, Joerg (Aristotle Univ. of Thessaloniki (GR)); SCHOTT, Matthias (Johannes-Gutenberg-Universitaet Mainz (DE)); BIANCO, Michele (CERN); SIDIROPOULOU, Ourania (Bayerische Julius Max. Universitaet Wuerzburg (DE)); IENGO, Paolo (CERN)

**Presenter:** LIN, Tai-Hua (Johannes-Gutenberg-Universitaet Mainz (DE))

**Track Classification:** Detector R&D and Data Handling