

Production and Test of Micromegas boards for the ATLAS New Small Wheel project

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The muon system of the ATLAS Experiment will be upgraded in 2021 with Micromegas detectors covering an active area of about 1280 m², being the largest system based on Micro Pattern Gaseous Detector (MPGD) ever built so far. The key element of the detectors are the anode boards which carry the readout strips, the resistive protection layer and the insulating pillars supporting the mesh. In total more than 2000 boards of 16 different types with size up to 40x220 cm² have to be produced.

The boards are produced by two industries in Europe, which opened the road to MPGD mass production, with the production being now reaching the end. The boards undergo a detailed quality control and quality assurance checks at CERN, prior to be mounted into the final detectors. The talk will review the technological transfer effort made by CERN and ATLAS to make the Micromegas board production an industrial process. The main problems encountered during the industrialisation and the adopted solution will be presented in detail, together with the results of the QA/QC performed at CERN.

I read the instructions

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