



Tue 15.15

Design, construction and test of an MSGC module for the CMS forward tracker

S. Bachmann^a, F. Beissel^a, C. Camps^a, V. Commichau^a, G. Flügge^a,
K. Hangarter^a, R. Ischebeck^a, J. Kremp^a, D. Macke^a, A. Nowack^a,
O. Pooth^a, R. Schulte^a and M. Tonutti^a

^a*III. Physikalisches Institut, RWTH Aachen, Germany*

The III. Physikalisches Institut, RWTH Aachen developed a closed MSGC detector module for the CMS forward tracker. Special emphasis is laid on safe treatment of the substrate surfaces by closing the detection volume at an early construction stage directly after the alignment of the MSGC substrates inside the module. The banana shaped module houses four substrates with wedge shaped patterns without dead area and 2048 read out channels on 800 cm². A special alignment tool and glueing jig combination provides a precise, fast and safe production procedure and is presented in this talk. The concept foresees the frontend electronic and HV adapter outside the detection volume to avoid pollution of the counting gas. Three prototypes read out by the PreMux128 frontend chip were tested in the laboratory and particle beam experiments.