Contribution ID: **134** Type: **Poster (Session A)**

The Laser Alignment System for the CMS Silicon Microstrip Tracker

In the CMS Microstrip Tracker the algorithms that are used for the online track reconstruction, require the alignment of the tracker modules on a level of better than 100 μm. A Laser Alignment System has been developed that is able to detect possible movements or deformations of the Tracker mechanical structure with this level of precision. This system works with infrared laser beams which are detected by the silicon microstrip sensors, allowing to monitor movements of a subset of the tracker modules with respect to each other. In this presentation an overview of the Laser Alignment System is given, and first measurements with the integrated system are presented. The system has been shown to work properly and it confirms the expected mounting precision of the sensor modules in the detector endcaps. During one cooling cycle no significant deformation of the endcap structure was observed.

Author: WITTMER, Bruno (I. Physikalisches Institut (B) - Rheinisch-Westfaelische Technis)

Presenter: WITTMER, Bruno (I. Physikalisches Institut (B) - Rheinisch-Westfaelische Technis)