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Development of prototype components for the Silicon Tracking System of the CBM experiment at FAIR

The detector module is the building block of the CBM Silicon Tracking System. It comprises of double-sided silicon microstrip sensors, ultra-thin read-out cables and novel front-end electronics. Various types of modules will be employed in the proposed detector system, differing in sensor size and cable length according to the position. We report on the development of these module components. The silicon micro-strip sensors have a CBM specific layout. The performance of recent full-size prototypes will be presented. The cables are stacks of two low-mass signal layers, based on fine-pitch aluminum lines, and spacers. They bridge the distance between the sensors and the read-out electronics. The electronics comprises self-triggering ASICs. The integration of sensors, read-out cables and electronics into detector modules has been realized. We summarize the construction and performance of recent prototypes at in-beam test conducted at Juelich with the proton beam of 2.4 GeV.

Invited Talk (yes/no)?

no

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