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The cylindrical GEM detector of the KLOE-2 experiment

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Content

The KLOE-2 experiment started its data taking campaign in November 2014 with an upgraded tracking system at the DAΦNE electron-positron collider at the Frascati National Laboratory of INFN. The new tracking device, the Inner Tracker, operated together with the KLOE-2 Drift Chamber, has been installed to improve track and vertex reconstruction capabilities of the experimental apparatus. The Inner Tracker is a cylindrical GEM detector composed of four cylindrical triple-GEM detectors, each provided with an X-V strips-pads stereo readout. Although GEM detectors are already used in high energy physics experiments, this device is considered a frontier detector due to its fully-cylindrical geometry: KLOE-2 is the first experiment benefiting of this novel detector technology.

Alignment and calibration of this novel detector will be presented together with its operating performance and reconstruction capabilities.

Summary

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Session Classification : Micropattern gas detectors

Track Classification : Tracking and vertex detectors