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First results of the PixelGEM central tracking system of COMPASS

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For its physics program with a high-intensity hadron beam of 2 x $10^{\circ}7$ particles per second, the COMPASS experiment at CERN requires tracking of charged particles scattered by very small angles with respect to the incident beam direction. While good resolution in time and space is mandatory, the challenge is imposed by the high beam intensity, requiring radiation-hard detectors which add very little material to the beam path in order to minimize secondary interactions. To this end, a set of five triple-GEM detectors with 1 x 1 mm2 pixels in the beam region and 2-D strips with a pitch of 400 micrometer in the periphery is currently being installed in the COMPASS spectrometer. First results of the performance of the full PixelGEM central tracking system in the COMPASS 2008 hadron beam run will be presented.

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