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## The CMS Beam Halo Monitor Detector System

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A new Beam Halo Monitor (BHM) detector system has been installed in the CMS cavern to measure the machine-induced background (MIB) from the LHC. This background originates from interactions of the LHC beam halo with the final set of collimators before the CMS experiment and from beam gas interactions. The BHM detector uses the directional nature of Cherenkov radiation and event timing to select particles coming from the direction of the beam and to suppress those originating from the interaction point. It consists of 40 quartz rods, placed on each side of the CMS detector, coupled to UV sensitive PMTs. For each bunch crossing the PMT signal is digitized by a charge integrating ASIC and the arrival time of the signal is recorded. The data are processed in real time to yield a precise measurement of per-bunch-crossing background rate. This measurement is made available to CMS and the LHC, to provide real-time feedback on the beam quality and to improve the efficiency of data taking. In this talk we will describe the detector system, its operation and present the first results obtained in Run II.

### Oral or Poster Presentation

Oral

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