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Probe for Luminosity Measurement at LHCb

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A new detector capable of measuring the LHC luminosity has been installed at the interaction point of LHCb. It is named Probe for LUMinosity MEasurement - PLUME. This detector is undergoing commissioning and will operate throughout LHC Run 3. It will enable real time monitoring of beam condition parameters such as luminosity, number of visible interactions per bunch crossing, background; it will cross-check the LHC filling scheme in real time, and contribute to the centrality determination for the LHCb fixed-target programme. The detector is based on the detection of Cherenkov light produced in quartz material by charged particles coming upstream from the LHCb collision region. PLUME is charged with providing both online and offline measurements with a time response that can be as fast as a fraction of a second, and it will ensure the vital luminosity-levelling procedure at LHCb and act as real-time alarm for LHC.

In-person participation

Yes

Primary author: NEUBERT, Sebastian (Bonn University)**Presenter:** SPEDICATO, Eugenia (Istituto Nazionale di Fisica Nucleare)**Session Classification:** Poster Session**Track Classification:** Operation, Performance and Upgrade (Incl. HL-LHC) of Present Detectors