

# Misure di luminosità con gli esperimenti ATLAS e CMS a LHC

*Tuesday, 9 April 2019 11:00 (10 minutes)*

A precise measurement of the luminosity delivered by LHC to the experiments such as ATLAS and CMS is important for a variety of reasons. Online, the luminosity measurement provides real-time feedback on the LHC performance and operation and is crucial to optimize the experiments operations such as setting and adjustment of the trigger prescale factors. Offline, the uncertainty on the luminosity is a relevant source of systematics in all cross-section measurements and for potential observations of new physics: in particular for precision measurements it proves to be a dominant effect. During the whole LHC running period many steps forward have been made in the comprehension of the uncertainties related to luminosity monitoring and calibration, which led to an unprecedented accuracy at hadron colliders. In this presentation, the main luminosity monitors of both ATLAS and CMS are described, together with the method adopted for their absolute calibration. The main systematic uncertainties affecting the luminosity measurement and the final precision obtained by ATLAS and CMS will be presented. Finally perspectives on the luminosity measurement at HL-LHC will be discussed.

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