



Contribution ID: 383

Type: Talk

## **【334】 Precision Luminosity Measurement at the LHC**

*Wednesday 1 September 2021 17:45 (15 minutes)*

The goal of the study is to reach 1% uncertainty - the most precise luminosity measurement for high pile-up pp machine. The accumulated experience and detector upgrades give a unique opportunity to improve the measurement during Run 3 and prepare for demanding HL-LHC conditions. Better luminosity precision is required to minimize its impact on numerous particle physics measurements.

The focus is put to study the beam-beam effects during the VdM and operational scans, as these effects are the main limiting factor for high luminosity. COMBI code is used for understanding them and evaluating corrections. The new optimized luminometer is assembled to provide linear measurement and stability over the operating period.

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**Session Classification:** Nuclear, Particle- & Astrophysics

**Track Classification:** Nuclear, Particle- and Astrophysics (FAKT - TASK)