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## Updated analysis of beam halo measurements in LHC Run 2 and 3

*Thursday, 23 May 2024 16:00 (2 hours)*

Measurements of the transverse beam halos in the LHC deliver crucial input for the evaluation of the performance of collimation configuration at the HL-LHC. Such measurements are carried out in various phases of the LHC operational cycle by scraping the beam with movable LHC collimators. Understanding the halo-population and halo formation mechanisms is crucial for the accelerator performance. The analysis of collimation scan data allows the evaluation of the future needs for active halo depletion mechanisms at the HL-LHC, or other ways of mitigating halo-related risks to machine availability and protection. In this contribution, LHC Run 2 and Run 3 measurements are analysed using measured bunch-by-bunch beam intensity data. Different beam parameters are explored by profiting from the availability of upgraded beam parameters in the LHC injection complex.

### Footnotes

### Funding Agency

### Paper preparation format

LaTeX

### Region represented

Europe

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