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Operational beta* levelling at the LHC in 2022 and beyond

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During the third run period of the CERN Large Hadron Collider (LHC), as well as for the future High-Luminosity LHC era, luminosity levelling by beta*is a key technique to control the pile-up in the high-luminosity experiments ATLAS and CMS while maintaining Landau damping through the head-on beam-beam interaction. This implies changing the machine optics in the interaction regions while keeping high-intensity beams in collision and the experimental detectors in their data taking configuration.*
This contribution summarizes the implementation and operational experiences obtained during the first year of operation with beta levelling at the LHC and provides an outlook for the following years, when the beta* levelling range will be further extended.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary author: HOSTETTLER, Michi (CERN)

Co-authors: CALIA, Andrea (CERN); FARTOUKH, Stephane (CERN); JACQUET, Delphine (CERN); WENNINGER, Jorg (CERN)

Presenter: HOSTETTLER, Michi (CERN)

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