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Online analysis of proton and lead ion LHC schottky spectra

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The Schottky signals encode various beam and machine parameters, such as betatron tune, chromaticity, momentum deviation and transverse emittance. In this contribution we present the architecture and the performance of the system estimating these parameters in real-time, providing the only non-invasive measurement of chromaticity at the Large Hadron Collider. The obtained results are assessed based on chromaticity drift predictions and the measurements from the independent instruments. The remaining challenges are discussed with the outlook for further development given.

Footnotes

Paper preparation format

Region represented

Europe

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