Contribution ID: **1390** Contribution code: **TUPM120** Type: **Poster Presentation**

LHC crystal collimation tests with 6.8 Z TeV Pb beams

Tuesday, 9 May 2023 16:30 (2 hours)

In the next heavy ion runs at the LHC, the cleaning of the beam halo will rely on crystal collimation. A test system installed in the collimation cleaning insertion is being upgraded for the operational challenges of the ion runs. Therefore, it is crucial to experimentally test the performance of the newly installed crystal primary collimators. During a dedicated short Pb ion beam test in 2022, crystal collimation was tested for the first time with 6.8 Z TeV Pb beams. These results provide very important input for the configuration of the Pb ion run at the LHC in 2023. In this paper, the results and analysis of the crystal measurements in the 2022 ion test are presented.

Funding Agency

Footnotes

*Research supported by the HL–LHC project

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Session Classification: Tuesday Poster Session

Track Classification: MC4: Hadron Accelerators: MC4.T19: Collimation