

Collimators and beam cleaning: first results and future plans

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The LHC collimation system has been used for beam cleaning and passive machine protection this year for the first time. The hardware commissioning tests carried out in preparation for operations with beam are presented. Setup procedure towards nominal injection settings is analyzed together with reproducibility and total beam time spent for collimator setup. Locations of beam losses are reviewed and reasons for the highest losses investigated. The achieved cleaning efficiency is also discussed. Operational performance and stability of the system, interlock thresholds and interlock statistics (number of false interlocks generated) are treated. Software procedures, settings and threshold limits are analyzed, also in view of machine protection. Finally, plans for higher intensity operation and improvements (both on a short and long term) are presented.

Summary

Performance, measurements vs. expectations, problems encountered, is related software sufficient, necessary improvements, appropriate for 3.5TeV running?

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