

Scrubbing: Expectations and Strategy, Long Range Perspective

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Electron cloud buildup simulations and machine experience during Run 1 showed that electron cloud effects could significantly limit the performance of the LHC when operating with 25 ns bunch spacing. Beam induced scrubbing will have to be used to lower the Secondary Electron Yield (SEY) of the beam chambers and therefore reduce electron cloud induced pressure rises, heat load and beam degradation.

This contribution will review the experience accumulated on electron cloud effects during Run 1 and define a possible scrubbing strategy to allow operation with 25 ns beams in 2015. Several measures taken during LS1 should allow for an improved scrubbing efficiency compared with Run 1. Moreover, the potential of using a dedicated scrubbing scheme based on the “doublet” beam, following the promising SPS tests in 2012, will be described and analyzed. To conclude, possible alternatives of operation scenarios will be defined, which will depend on the degree of success of the scrubbing runs.

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