



Contribution ID: 17

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How to maximize the HL-LHC performance (HL-LHC)? (20' + 10')

Wednesday 30 October 2013 14:00 (30 minutes)

Abstract:

The contribution presents the baseline HL-LHC upgrade options (25ns LIU parameters, large aperture triplets, crab cavities) among the options that can maximize the LHC performance after LS3. The analysis covers the preservation of the LIU beam parameters from the injection process to stable conditions for physics, the minimization of the luminous region volume while preserving the separations of multiple vertices, the luminosity control mechanisms to extend the duration of the most efficient data taking conditions together with the associated concerns (machine efficiency beam instabilities, halo population, cryogenic load, beam dump frequency) and risks (failure scenarios, radiation damages). In conclusion the expectations of the integrated luminosity per fill and year are presented.

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Session Classification: Session 4 - Upgrade scenario 2 (decoupled from scenario 1)