

## **Injectors Beam Performance evolution during run 2**

This contribution gives an overview of the beam performance of the LHC injector chain during Run 2. The various beam types used for LHC luminosity production with protons (e.g. 25 ns standard, 25 ns BCMS, 8b4e, BCS) and the achieved performance are summarized. The present performance limitations of each machine of the injector chain are discussed together with the current achievements in terms of e.g. beam brightness, intensity, losses and batch spacing in the SPS. Special high intensity beams, studied within the LIU framework and provided for LHC MDs, are also covered.

The second part of this contribution describes the evolution of the ion beams for the LHC throughout Run 2 and their optimization for luminosity production.