

## **Squeezing with colliding beams**

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### **Abstract**

There are two main reasons why performing the squeeze with colliding beams may be beneficial for the operation of the LHC after LS1. First, this procedure allows to achieve luminosity leveling in a robust way on a large range, pros and cons of this technique are being compared to luminosity leveling with a transverse offset at the interaction point.

Secondly, recent observations suggest that the beams brightness is already limited by impedance driven instabilities. It may be greatly beneficial for the beam stability to profit from the tune spread provided by head-on beam-beam collision, which is significantly larger than the one provided by the octupoles. The two options have different consequences on the operation of the LHC, both are being discussed based on 2012 operational experience and MD results.