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## Intensity reach in the CERN PSB with the high-current LINAC4 source

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The CERN Proton Synchrotron Booster (PSB) was upgraded within the LHC Injectors Upgrade (LIU) project and delivers a large variety of high-intensity beams for fixed target experiments and high-brightness beams for collisions at the LHC. In the context of the Physics Beyond Colliders (PBC) study and of a possible upgrade of the ISOLDE experimental area, intensities up to  $1500 \times 10^{10}$  particles per ring are considered. High-intensity tests have thus been performed during machine development studies in 2023 injecting the nominal or higher beam current from Linac4. In this contribution, the intensity reach and the main performance limitations for the production of high-intensity beams in the PSB are presented. The results are compared to numerical simulations.

### Footnotes

### Funding Agency

### Paper preparation format

LaTeX

### Region represented

Europe

**Primary author:** PREBIBAJ, Tirsi (European Organization for Nuclear Research)

**Co-authors:** BRACCO, Chiara (European Organization for Nuclear Research); SARGSYAN, Edgar (European Organization for Nuclear Research); ASVESTA, Foteini (European Organization for Nuclear Research); DI GIOVANNI, Gian Piero (European Organization for Nuclear Research); BELLODI, Giulia (European Organization for Nuclear Research); BARTOSIK, Hannes (European Organization for Nuclear Research); LALLEMENT, Jean-Baptiste (European Organization for Nuclear Research); SKOWRONSKI, Piotr (European Organization for Nuclear Research); ALBRIGHT, Simon (European Organization for Nuclear Research)

**Presenter:** PREBIBAJ, Tirsi (European Organization for Nuclear Research)

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