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PSB Half Sector Test

The LHC Injectors Upgrade (LIU) program for the PSB (LIU-PSB project) comprises two parts, the connection to Linac4, CERN’s future linear accelerator, and the increase of the PSB extraction energy from 1.4 to 2 GeV.

Linac4 will deliver an H- beam at 160 MeV to the PSB compared to the current 50 MeV proton beam from Linac2. The H- charge-exchange injection process will make use of a stripping foil installed in a new injection chicane to produce the required protons for the PSB rings. In addition, it will be possible to paint horizontally the phase space with the help of four kicker magnets (‘painting bump’).

The H- charge-exchange injection principle is new for CERN and involves many challenges, which could lead to long run-in times after LS2 and the risk of beam quality issues. Also the technical implementation of the future PSB injection section in a very restricted space and for the four PSB rings represents quite some risks in terms of installation duration and integration. As risk mitigation strategy it has therefore been proposed to install parts of the future PSB injection equipment in the Linac4 transfer line to be able to run tests with 160 MeV protons from Linac4 during 2016.

Mandate

The mandate consists of the planning, realisation and commissioning of a test installation of PSB injection equipment in the Linac4 transfer line.

Project Work Breakdown Structure

Project leader: B. Mikulec, BE-OP

Work breakdown structure:
Commissioning - Open Points to follow up

PSBHalfSectorTest Web Utilities

- advanced search
- WebTopicList - all topics in alphabetical order
- WebChanges - recent topic changes in this web
- WebNotify - subscribe to an e-mail alert sent when topics change
- WebRss, WebAtom - RSS and ATOM news feeds of topic changes
- WebStatistics - listing popular topics and top contributors
- WebPreferences - preferences of this web