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Operational deployment of high brightness LHC beams in the SPS

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Following the LHC Injector Upgrade programme (LIU) there has been a gradual ramp-up of the intensity of LHC beams in the CERN Super Proton Synchrotron (SPS). This was initially hampered by vacuum issues in several critical components, such as RF cavities and kicker magnets, requiring extensive scrubbing campaigns to condition these components. This paper reviews the current status of the high brightness LHC beams in the SPS, including commissioning evolution, aspects related to beam stability and beam optimization and the current brightness reach. An assessment of the operational readiness of these beams for the High Luminosity LHC era is also given.

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