



Contribution ID: **170** Contribution code: **FRBC3**

Type: **Contributed Oral Presentation**

SPS fast spill monitor developments

Friday, 13 September 2024 11:40 (20 minutes)

The North Area facility (NA) receives the 400 GeV proton beam through a slow extraction process at the CERN Super Proton Synchrotron (SPS). To improve the SPS spill quality, it is crucial to monitor the spill intensity from the nA up to the μ A range with a bandwidth extending from a few Hz up to several GHz along the extraction line. The most promising measurement options for this purpose are the Optical Transition Radiation-PhotoMultiplier (OTR-PMT) and the Cherenkov proton Flux Monitor (CpFM). This document presents recent improvements of both devices based on the operational experience gathered throughout the 2023 Run. It includes a detailed analysis and discussion of the present performance, comparing the capabilities of each instrument. Additionally, future ideas for multi-GHz detectors, particularly for the SHIP collaboration, are also outlined.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

Primary author: BENITEZ BERROCAL, Sara (European Organization for Nuclear Research)

Co-authors: Mrs GOLDBLATT, Aurelie (CERN); BELOHRAD, David (European Organization for Nuclear Research); RONCAROLO, Federico (European Organization for Nuclear Research); Mr MARTIN NIETO, Miguel (CERN); MAZZONI, Stefano (European Organization for Nuclear Research); Mr BURGER, Stephane (CERN)

Presenter: BENITEZ BERROCAL, Sara (European Organization for Nuclear Research)

Session Classification: FRB: Beam Loss Monitors and Machine Protection/Beam Charge and Current Monitors

Track Classification: MC1: Beam Charge and Current Monitors