

8th High Power Targetry Workshop (HPTW2023)



8th High Power Targetry Workshop
November 6-10, 2023



Contribution ID: 50

Type: **Contributed Oral**

Target Systems integration for a high intensity facility in the CERN'S North Area

Friday, 10 November 2023 11:30 (15 minutes)

A new high-intensity fixed-target facility could be accommodated at CERN by exploiting a proposed increase of the proton flux delivered by the Super Proton Synchrotron (SPS). Multiple physics experiment proposals such as BDF/SHiP, HIKE and SHADOWS are being considered, all requiring high power target systems. Amongst the different possibilities to locate such experiments and their respective target complex at CERN, the ECN3 hall in the North Area has been selected for further study.

This contribution will detail the status of the implementation of the two possible target complexes in the existing cavern TCC8 as the different experiments require substantially different facilities. To assess the feasibility, a detailed system integration study of the two concepts has been performed. Different aspects were addressed to respect the expected levels of radiation, including radiation protection considerations, remote handling strategy, utilities requirements, installation, operation, maintenance, decommissioning, and sustainability, which are herein discussed.

Themes for the contribution

5 Target facility challenges:

Primary authors: GRENARD, Jean-Louis (CERN); CALVIANI, Marco (CERN)

Co-authors: FRASER, Matthew (CERN); AHDIDA, Claudia (CERN); NOWAK, Elzbieta (CERN); BERNHARD, Johannes (CERN); FRANQUEIRA XIMENES, Rui (CERN); BRUGGER, Markus (CERN); ESPOSITO, Luigi (CERN); JACOBSSON, Richard (CERN); MARTIN RUIZ, José (CERN); KRZEMPEK, Lukasz (CERN); MAZZOLA, Giuseppe (CERN); RAMJAWAN, Rebecca (CERN)

Presenter: GRENARD, Jean-Louis (CERN)

Session Classification: Topic5-3