



Contribution ID: 882 Contribution code: THPA061

Type: **Poster Presentation**

The consolidation of the interlock systems for the CERN North Area

Thursday, 11 May 2023 16:30 (2 hours)

The interlock systems of the CERN Experimental North Area will be consolidated in CERN's Long Shutdowns 3 and 4, planned to start in 2026. The new interlock systems will guarantee the safe and efficient operation of the machine protection systems for the coming 25 years. The consolidation work includes not only the primary beam areas but also the secondary beam lines and possible new beam lines, as part of the Physics Beyond Colliders program.

This contribution describes the limitations of the present North Area interlock systems in terms of reliability and response, and gives the details of the proposed new interlocking systems based on CERN standard hardware, the Warm Magnet Interlock Controller (WIC) and the Beam Interlock System (BIS). The WIC protects the magnets against overheating and additionally interfaces with the power converters and the BIS. The BIS collects operational information from many different systems. The BIS will be SPS machine-cycle dependent and will act on the beam dump system in the SPS and on the beam intercepting devices in the North Area beam lines.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary authors: COLINET, Antoine (European Organization for Nuclear Research); ROMERA, Iván (European Organization for Nuclear Research)

Co-authors: GUASCH-MARTINEZ, Josep (European Organization for Nuclear Research); KALINOWSKI, Michal (European Organization for Nuclear Research); MARTIN, Christophe (European Organization for Nuclear Research); MOMPO, Richard (European Organization for Nuclear Research); SECONDO, Raffaello (European Organization for Nuclear Research); UYTHOVEN, Jan (European Organization for Nuclear Research)

Presenter: ROMERA, Iván (European Organization for Nuclear Research)

Session Classification: Thursday Poster Session

Track Classification: MC6: Beam Instrumentation, Controls, Feedback and Operational Aspects:
MC6.T23: Machine Protection