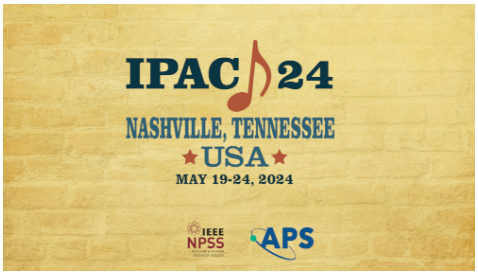

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Revised error sensitivity study for the ESS proton linac

Thursday, 23 May 2024 16:00 (2 hours)

The normal-conducting injector of the superconducting proton linac of the European Spallation Source (ESS) was commissioned in 2023. Commissioning of the superconducting linac is planned by end of 2024, followed by first beam on the spallation target in 2025. One of the prominent challenges in commissioning and operation of high power accelerators, such as the linac of the ESS, is to minimize beam loss to protect its components from excessive activation and potential damage. Sensitivity studies looking at various types of errors were conducted in the past during the design phase for defining requirements and tolerances. With the commissioning of the full linac approaching, a revised error sensitivity study was carried out, and the result is presented in this paper. The aim of the revised study is to better understand the relation between potential error sources and loss patterns.

Footnotes

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Primary author: MIYAMOTO, Ryoichi (European Spallation Source ERIC)

Co-authors: NOLL, Daniel (European Spallation Source ERIC); ESHRAQI, Mamad (European Spallation Source ERIC); SERLUCA, Maurizio (European Spallation Source ERIC); MILAS, Natalia (European Spallation Source ERIC); JOHANNESSON, Sofia (European Spallation Source ERIC); LEVINSEN, Yngve (European Spallation Source ERIC)

Presenter: JOHANNESSON, Sofia (European Spallation Source ERIC)

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