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Update on the cryogenic design for the FCC-ee machine

Thursday 2 June 2022 10:00 (30 minutes)

Now entering its phase II, the FCC Study capitalizes on the work of the Conceptual Design Report to refine its results, to serve as input for the next ESPP Update in 2026/2027.

Considering recent adjustments that have been made to the accelerator conceptual design, the architecture of the cryogenic systems for both FCC-ee and -hh machines is currently under revision and shall be updated.

From the recent review of the accelerator layout to the ongoing work on the RF cavities design, there is an important amount of new process data to consider that are directly impacting the design of the cryogenic infrastructure.

This presentation will first recall the current status of the study, with an emphasis on the cryogenic architecture foreseen for the lepton collider. The proposed update of the cryogenic infrastructure, layout, implementation and process will be addressed, taking into consideration the modification of the layout of the accelerator and the heat loads issued from the main users, while focusing on the encountered integration issues. Availability requirements of such a facility will be investigated. Consolidated organization of the cryogenics work package will be presented, including tentative timeline and upcoming objectives.

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