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GSI Test facility at CERN

Tuesday 1 April 2025 11:50 (30 minutes)

Oral presentation (20 min) + Q&A (10 min)

As part of the FAIR project and within the GSI and CERN collaboration, the superferric magnet production series —key components of the Superconducting FRagment Separator (SuperFRS) under construction at GSI Darmstadt, Germany—are undergoing rigorous testing at CERN in a dedicated cryogenics test facility.

The tested magnets include dipoles and various types of multiplets (composed of different numbers of quadrupoles, steering dipoles, sextupoles, and octupoles, housed inside a shared vacuum vessel), which must be qualified for cryogenics, electrical and magnetic field performances.

For this workshop, we will present the actual status of the cryogenics facility that is composed of three test benches. Each bench can be connected up to nine power converters for the purpose of multiplet testing. The cryogenics, the quench detection and the energy extraction systems will be shown.

The status of the SuperFRS magnet testing will then be exposed along with the main results obtained so far. A quick discussion around magnet training will be launched.

At last, the future of the test facility will be presented in terms of possible improvements and upcoming upgrades.

Presenter: BAJAS, Hugo (GSI)