MT25 Conference 2017 - Timetable, Abstracts, Orals and Posters



Contribution ID: 651

Type: Poster Presentation of 1h45m

## Low loss NbTi Superconducting Wires for the SIS100 Main Magnets made by Luvata

Monday 28 August 2017 13:15 (1h 45m)

The "Facility for Antiproton and Ion Research - FAIR" will be built near the premises of the renowned physical research institute GSI Helmholtzzentrum für Schwerionenforschung GmbH in Darmstadt Germany. The company Luvata has been the sole supplier for low loss Superconducting wires for the SIS100 main magnets. SIS100 is a ring accelerator (heavy ion synchrotron) with a circumference of 1100 meters to be associated with a complex system of cooler and storage rings and experimental setups. The synchrotron will deliver ion beams of unprecedent intensities and energies. A total of 1030 km of 25 000 ultrafine filament wire having filament diameters around 3  $\mu$ m, has been delivered for the project. The OK25000 wire has a CuMn interfilamentary matrix embedded in a high purity copper matrix, all manufactured in house at the premises of Luvata. To guarantee low loss performance Luvata incorporated several technologies to reduce the AC losses. In this paper we will present the results of the wires electromagnetic performances, including critical current density, twist pitch, hysteresis losses, RRR and resistivity compared to the customer specified values.

## **Submitters Country**

Finland

Author: Mr HOLM, Mikael (Luvata Pori Oy)
Co-author: Mr SEPPÄLÄ, Jarmo (Luvata Pori Oy)
Presenter: Mr HOLM, Mikael (Luvata Pori Oy)
Session Classification: Mon-Af-Po1.08

Track Classification: F1 - Low-Tc Wires and Cables