



Contribution ID: 961

Type: **Poster Presentation of 1h45m**

Fabrication of the 7.2 m long coils for the prototype of MQXFB, the Nb₃Sn low-b quadrupole magnet for the Hi-LHC

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

The High Luminosity LHC Project target is to reach an integrated luminosity of the LHC of 3000 fb⁻¹, corresponding to a factor 10 increase in number of collisions with respect to the current accelerator. One major improvement foreseen is the reduction of the beam size at the collision points. This requires the development of 150 mm single aperture quadrupoles for the interaction regions. These quadrupoles are under development in a joint collaboration between CERN and the US-LHC Accelerator Research Program (LARP). The chosen approach for achieving a nominal quadrupole field gradient of 132.6 T/m is based on the Nb₃Sn technology. The coils with a length of 7281 mm will be the longest Nb₃Sn coils fabricated so far for accelerator magnets. The production of the long coils was launched in 2016 based on practice coils made with copper cable. This paper provides a status of the production of the coils made with low grade and full performance Nb₃Sn cable and will describe the production process and applied quality control. Furthermore an outlook for the prototype assembly will be provided.

Submitters Country

Switzerland

Authors: LACKNER, Friedrich (CERN); FERRACIN, Paolo (CERN); TODESCO, Ezio (CERN); TRIQUET, Stephane (CERN); POZZOBON, Marc (CERN); PEREZ, Juan Carlos (CERN); SCHEUERLEIN, Christian (CERN); CAVANNA, Eugenio; GENESTIER, Thibault; PRINCIPE, Rosario (CERN); AMBROSIO, Giorgio (Fermilab); SAVARY, Frederic (CERN)

Presenter: LACKNER, Friedrich (CERN)

Session Classification: Mon-Af-Po1.01

Track Classification: A1 - Superconducting Accelerator Magnets