Annual meeting of the Swiss Physical Society 2018



Contribution ID: 204 Type: Talk

[325] Production of the first 1-m long Canted-Cosine-Theta (CCT) model magnet at PSI

Thursday 30 August 2018 15:30 (15 minutes)

The Canted-Cosine-Theta (CCT) PSI magnet program aims at demonstrating that the CCT technology has the potential for the development of 16 T dipole magnets, required for the "near"future of circular colliders. The first step in this direction is the implementation of a Nb3Sn 1-m-long, 2-layer CCT single-aperture dipole model, referred to as Canted Dipole One (CD1) which is designed to achieve a peak field in the bore of ~11 T. The in-house manufacturing and assembly of CD1 requires to setup at PSI a number of fabrication steps. In this paper, the authors review the production process of Nb3Sn CCT model magnets at PSI. Thus, particular attention is paid on each manufacturing sub-step describing also the related commissioning phase.

Primary authors: AUCHMANN, Bernhard (CERN); CALZOLAIO, Ciro (Paul Scherrer Institut); MONTEN-ERO, Giuseppe (PSI); BROUWER, Lucas (Lawrence Berkeley National Laboratory); Mr FELDER, Roland (Paul Scherrer Institut); Mr SIDOROV, Serguei (Paul Scherrer Institut); CASPI, Shlomo; SANFILIPPO, stephane (Paul Scherrer Institut)

Presenter: MONTENERO, Giuseppe (PSI)

Session Classification: Nuclear, Particle- & Astrophysics (TASK)

Track Classification: Nuclear, Particle- and Astrophysics (TASK)