MT25 Conference 2017 - Timetable, Abstracts, Orals and Posters



Contribution ID: 50

Type: Regular 15 minutes Oral Presentation

High-field dipoles using superconducting cable-in-conduit

Thursday 31 August 2017 10:15 (15 minutes)

Dipoles with 15-20 T operating field are required for some designs of future hadron colliders. Such dipoles require the use of high-field superconductors Nb3Sn, Bi-2212, and REBCO. Designs are presented for block-coil dipoles using superconducting cable-in-conduit. This approach conveys several benefits that are important for high-field operation: cable-level stress management; compact, robust flared ends; and in-cable cryogen flow. It naturally accommodates a hybrid coil configuration in which sub-windings of Bi-2212, Nb3Sn, and NbTi can be separately heat-treated, assembled, and preloaded in a compact assembly.

Submitters Country

US

Authors: MCINTYRE, Peter (Texas A&M University); BREITSCHOPF, Jeff (Texas A&M University); Mr CHAVEZ, Daniel (Universidad Guanajuato); GERITY, James (Texas A&M University); Mr KELLAMS, Joshua (Accelerator Technology Corp.); Dr SATTAROV, Akhdiyor (Texas A&M University)

Presenter: MCINTYRE, Peter (Texas A&M University)

Session Classification: Thu-Mo-Or28

Track Classification: A1 - Superconducting Accelerator Magnets