MT25 Conference 2017 - Timetable, Abstracts, Orals and Posters



Contribution ID: 539

Type: Regular 15 minutes Oral Presentation

Measurements of Persistent Current Effects in FNAL 11 T Nb3Sn Dipole Models

Monday 28 August 2017 18:00 (15 minutes)

Fermilab, in collaboration with CERN, has developed a twin-aperture 11 T Nb3Sn dipole suitable for the highluminosity LHC upgrade. During the 2012-2014, a 2-m long single-aperture dipole demonstrator and three 1-m long single-aperture dipole models were fabricated and tested at FNAL Vertical Magnet Test Facility. Collared coils from the two 1-m long models were then used to assemble the first twin-aperture dipole demonstrator. This magnet was extensively tested in 2015-2016 including quench performance, quench protection and field quality. The paper reports the results of measurements of persistent current effects in the single-aperture and twin-aperture 11 T Nb3Sn dipoles and compares them with similar measurements in previous FNAL magnets.

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Session Classification: Mon-Af-Or7

Track Classification: A1 - Superconducting Accelerator Magnets