

Workshop on Radiation Effects in Superconducting Magnet Materials 2015 (RESMM'15)

Contribution ID : 13

Radiation Heat Deposition in LHC IR Quadrupoles

Monday 11 May 2015 at 13:00 (00h45')

Content :

Fermilab is involved in the development of high field superconducting accelerator magnets for LHC IRs based on NbTi and Nb₃Sn superconductors. Brief overview of the low-beta quadrupole thermal analyses, operation margin calculation, measurements of quench limits and temperature margins for 70mm-bore NbTi and 90mm-bore Nb₃Sn model magnet are presented. The design of 120-mm aperture Nb₃Sn quadrupole with special spacers made of a low-Z material as well as the results of study of Matrimid5292 as a coil impregnation material with high radiation-resistance are also discussed.

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Session classification : Session A: Superconducting Magnet Designs

Track classification : Design of Superconducting Magnets for High Radiation Environment

Type : Abstract