



Contribution ID: 2

Type: **not specified**

## Liquid helium heat transfer in superconducting cables insulation of accelerator magnets

The electrical insulation of superconducting cables poses the largest heat barrier between the heat exchanger and the cable for accelerator magnets.

This issue is of major importance for current accelerator magnets and undoubtedly will become a critical issue for magnets subjected to a higher heat deposition. We will first present a review of heat transfer studies on the LHC cable insulations in liquid helium pursued by CEA Saclay and by KEK, focusing on the key parameters involved in such heat transfer process. This will be followed by the overview of the NED program on heat transfer in light of these works.

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**Track Classification:** Liquid helium heat transfer in superconducting cables insulation of accelerator magnets