



Contribution ID: 111

Type: **Poster Presentation of 1h45m**

## **Thermal and electric analysis of the flux pump to apply conduction cooled superconducting magnet**

*Tuesday 29 August 2017 13:15 (1h 45m)*

Current leads of a superconducting magnet are one of the largest heat source to the superconducting magnet cryo-system. A flux pump is one possible way to remove the current leads by replacing conductive connection to magnetic coupling. However, the heat loss of the flux pump should be analyzed in order to apply to conduction cooled magnet because of little temperature margin in conduction cooled system. In this research, the thermal link for the linear type flux pump applied conduction cooled magnet is investigated. The heat generation of the linear type flux pump is calculated based on the AC loss theory. Temperature stability of a thermal link for the flux pump system is analyzed with different design parameters. A design of thermal link for the flux pump of conduction cooled magnet is suggested by summarizing the results of analysis.

### **Submitters Country**

Korea, Republic of

**Primary authors:** LEE, Woo Seung (JH Engineering Corp.); PARK, Kwang Myung (JH Engineering Corp.); CHUNG, Yoon Do (Suwon Science College)

**Presenter:** LEE, Woo Seung (JH Engineering Corp.)

**Session Classification:** Tue-Af-Po2.11

**Track Classification:** H2 - Power Supplies and Flux Pumps