

Analytical investigation and experimental validation of thermal & AC characterization of HTS Tape for modular superconducting fault current limiter

Thursday 25 July 2024 10:00 (15 minutes)

Abstract. A short circuit test set up is used to generate a fault with a specific number of cycles at input AC voltage of 20, 40 & 60 on a specific length of HTS tape immersed in liquid nitrogen. The fault current characteristics at 78 K by using copper and SS laminated HTS tape were measured at different operating voltage and with variable no of cycles. The voltage, current and temperature profile during the fault and the recovery is monitored with time and same has been analyzed. The resistance of wire with temperature along with corresponding nucleate boiling heat transfer coefficient was evaluated and validated with theoretical value. The experimental details along with the result will be discussed in detail in this presentation.

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