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Quench detection and protection for HTS accelerator magnets (20'+5')

Friday, 11 September 2015 10:55 (25 minutes)

Quench protection of the future HTS-based accelerator magnets is a challenging task. I will outline key differences between HTS and LTS conductors that impact their quench behavior, and show simulation results for the hot spot temperature and time margin in quenching HTS conductor using adiabatic approximation. Next, I will give an overview of the recently reported activities related to HTS quench detection and protection and compare existing approaches. Finally, I will propose a combined quench detection and protection technique for HTS accelerator magnets based on split conductor geometry.

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Session Classification: Protection