26th National Symposium on Cryogenics and Superconductivity

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AC CHARATERIZATION OF MODULAR HIGH TEMPERATURE SUPERCONDUCTING FAULT CURRENT LIMITER

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Content :

Superconducting fault current limiter (SFCL) is now becoming popular in electrical power system. SFCL may be the most effective solution to limit high level of fault currents to a safe operating levels till the circuit breaker opens the circuit and stops the current. An SFCL remains invisible during normal circuit operations acting only during fault occurrences and after the conflict is resolved it returns to normal operating conditions. We have deigned a high temperature superconductor (HTS) based modular SFCL configuration. AC characterization of two types of 2G HTS tape of Superpower Inc and American Superconductor (AMSC) have been planned in the test rig at 77K. Test rig consists of an AC power supply with maximum 300A nominal current, fault generator, fault phase controller, SFCL module , LN2 test dewar etc. This paper will briefly describe the design details of a modular SFCL configuration with its electrical performances

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