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Wed-Af-Po3.18-10 [46]: Insulation Design for 10kV Three-phase Concentric High-Temperature Superconducting Cable

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This paper introduced a insulation design for a 10kV three-phase concentric high temperature superconducting cables by cold dielectric method. Insulation properties of the PPLP (Polypropylene laminated paper) and its dielectric strengths un-der AC voltage endurance test and the lightning test in liquid ni-trogen have been studied. According to test results and the standard for 10kV paper insulation cable, The main insulation and the stress cone for the 10kV three-phase concentric high temperature superconducting cables have been designed. The voltage endurance test under power frequency and the lightning impulse test have been carried out, indicating that the cable is complied with the requirements after the verification of the test.

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