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Wed-Mo-Po3.09-02 [64]: Comparison of Fault Current Limiting Characteristics between the separated Three-phase Flux-lock Type SFCL and the Integrated Three-phase Flux-lock Type SFCL

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We investigate the comparison of fault current characteristics between the separated three-phase flux-lock type superconducting fault current limiter(SFCL) and integrated three-phase flux-lock type superconducting fault current limiter(SFCL). The single-phase flux-lock type SFCL consists of two coils. The primary coil is wound in parallel to the secondary coil on an iron core and superconducting elements are connected to secondary coil in series. Superconducting elements are used by the YBCO coated conductor. The separated three-phase flux-lock type SFCL consists of single-phase flux-phase type SFCL in each phase. But the integrated three-phase flux-lock type SFCL consists of three-phase flux-reactors wound on an iron core. Flux-reactor consists of the same turn's ratio between coil 1 and coil 2 for each single phase. To compare the current limiting characteristics of the separated three-phase flux-lock type SFCL and integrated three-phase flux-lock type SFCL, the short circuit experiments are carried out fault condition such as the single line-to-ground fault. The experimental result shows that fault current limiting characteristic of the separated three-phase flux-lock type SFCL was better than integrated three-phase flux-lock type SFCL. And the integrated three-phase flux-lock type SFCL has an effect on sound phase.

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