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## Wed-Mo-Po.10-05: Analysis on Fault Current Limiting Operation of Flux-Coupled Type SFCL with Adjustable Reactor Tap

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In modern power distribution systems, ensuring stability and reliability has become increasingly important due to the continuous rise in electricity demand. Overcurrent incidents can cause severe damage to electrical equipment and widespread power outages, making the implementation of effective fault current limiting solutions essential. The flux-coupled type superconducting fault current limiter (SFCL) has attracted attention as an efficient method for mitigating overcurrent issues by utilizing flux coupling and superconducting elements. This study focuses on analyzing the fault current limiting characteristics of the flux-coupled type SFCL with an adjustable reactor tap. The adjustable reactor tap allows for fine-tuning the SFCL's operational characteristics, enhancing its adaptability to various fault conditions. Through simulations and experimental validations, this study evaluates the impact of different reactor tap settings on current-limiting performance under fault conditions. The results confirm that optimizing the reactor tap settings improves the overall performance of the SFCL and effectively reduces fault current.

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