

An Investigation on the Current Limitation Technology using Superconducting Resistive Fault Current Limiters

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For limitation and interruption of short circuit currents from low voltage to extra high voltage applications, various electrical equipment including fuses, circuit breakers, power semiconductors, reactors and superconducting fault current limiters are developed and introduced these days. But in order to anticipate increasing needs for effective and competitive device for limiting the growing fault current in electrical power systems, fault current limiters adopting superconducting technologies are promising solutions and could be applied to distribution and transmission networks in the near future.

According to these trends, a lot of projects had been set up and investigated the applications of high temperature superconducting materials(HTSC) into the current limiting devices. In Korea, resistive superconducting fault current limiters are under development by KEPCO and LGIS.

In this research, the necessities of current limitation technology were introduced, and the various types of resistive superconducting fault current limiters which were developed by many institutes were analyzed. Finally, the investigation of resistive type fault current limiters which is under development by LG and KEPCO were introduced.

keywords : Superconductor, Fault current limiters, YBCO

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