

INVITED

Research and Development of SMES System in Korea

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Research and development on superconducting magnetic energy storage (SMES) system have been done to realize efficient electric power management for several decades. Korea Electrotechnology Research Institute(KERI) has developed a LTS and HTS SMES system to improve power quality in sensitive electric loads. It consists of an IGBT based power converter, superconducting coil and a cryostat with HTS current leads. Our final goal will be a commercialization of 5MJ class HTS SMES system for increase of a power quality within 5 years hence. This paper describes the fabrication and experimental results of a LTS and HTS SMES system.

Keywords : SMES, power quality, IGBT, superconducting coil, cryostat