



## Abstract

### **The Superconducting Power Technology in China**

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China is a country with plentiful renewable energies, but most of the renewable energies are distributed in the west and north area, and most of the loads locates in the east and south area. Therefore, large capacity power transmission would be needed for the future grid, and the stability and safety of the power grid would be important issues. The superconducting power technology would be very helpful in enhancing the transmission capacity, safety and stability of the future grid. Since 2005, the high  $T_c$  power cable, fault current limiter, transformer, and SMES have been successfully demonstrated in the distribution level system, and a superconducting power substation has been successfully built and demonstrated in Baiyin City, Gansu Province. The substation consists of a 75m/10kV superconducting power cable, a 630kVA/10kV/400V superconducting power transformer, a 10kV superconducting fault current limiter and a 1MJ/500kVA superconducting energy storage system. Besides, a 380m/10kA DC cable is being built, and it would serve for a electrolytic aluminum plant of Zhongfu Group in Henan Province.

