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Thu-Mo-Po4.12-04 [91]: The model and characteristics of SMES coil (1MJ) constructed of corc cable

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SMES coil constructed of YBCO coated conductor has been researched these years for its advantage of stored energy without loss under operated temperature. However, the flexible corc cable which can wind with small radius and can work under high magnetic field may be a promising option for smes coil for higher stored energy and higher current. Therefore, it is necessary to consider the smes coil wounded by corc cable.

We proposed a smes coil design (1MJ) constructed by corc cable which has a better performance than smes coil using Rooble cable and YBCO coated conductor.

This paper presented a smes coil model wounded by corc cable with 1MJ stored energy and 10 KA working current in COMSOL, and the maximum energy density and critical current are studied and summarized in this paper.

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