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Design and Preliminary Test Results of the 60T Pulsed High Magnetic Field Facility at Xi'an Jiaotong University

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A 60T pulsed high magnetic field facility is designed for the study of magnetic material at Xi'an Jiaotong University. The pulsed high magnetic field facility is energized by two 1.2MJ/3.84mF capacitive power supplies. Each supply consists of 24 capacitor banks, a protection inductor, crowbar circuit, dump circuit. To simplify system configuration, two supplies are equipped with one charge unit, one thyristor switch and one switchgear. The magnet wound with CuNb wire reinforced internally with Zylon fiber composite and externally with stainless steel shell is designed to provide 60T/60ms magnetic field in a bore of 26mm. The control system provide integrated charge/discharge procedure and a remote control terminal. The whole system will be installed in May 2017, and the Preliminary test results will provided in the paper.

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