



the director of National High Magnetic Field Center
at Wuhan

Since April 2008 the Pulsed High Magnetic Field facility funded by the Chinese National Development and Reformation Committee has been under development at the Wuhan National High Magnetic Field Center at Huazhong University of Science and Technology (HUST). Magnets with bore sizes from 12 to 34 mm and the peak fields up to 83 tesla have been developed and are in operation. The power supplies for these magnets are a capacitor bank with 13 modules of 1MJ/25 kV each, a 100 MVA/100 MJ flywheel pulse generator and a 100 kAh battery bank. The objective of the facility is to accommodate external users for extensive experiments in pulsed high magnetic fields. 8 measurement stations including transport, magnetization, magneto-optics, Electron Spin Resonance (ESR), NMR and so on have been developed and are operational at temperatures in the range from 50 mK to 400 K. Experiments have been carried out with extensive materials such as HTS, topologic insulators, semiconductors, molecular magnets and so on. Quantum oscillations and phase transitions have been observed in both the transport and the magnetization measurements. Magneto-optic Kerr Effect (MOKE), Faraday Rotations, magneto-optical photoluminescence, magneto-optical absorption and reflection have been measured at the magneto-optics measurement station. The designing and the construction of the facility and the experimental results from each measurement station are presented.

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