

## Magnetic Pinning Properties and Flux Jumps in Superconducting MgB<sub>2</sub>

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Magnetization studies have been carried out on MgB<sub>2</sub> polycrystalline samples in the temperature range of 5-44K and in the magnetic field up to 7 Tesla. The critical current density was calculated from hysteresis loops using the Bean's critical state model, and the highest value of  $J_c$  at 20K was  $2.7 \times 10^5$  A/cm<sup>2</sup> at 2 Tesla. The hysteresis loops were carefully examined to determine the temperature and magnetic field range where flux jumps appeared. The first jump occurred typically at 1 Tesla. Due to the strong pinning, we observed the presence of flux jump below  $H=1$  Tesla at temperature below 30K.

Keywords: MgB<sub>2</sub>, flux jump, pinning property