

Abstract Submitted  
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**Dynamics of magnetic flux jumps in highly dense MgB<sub>2</sub> samples** C. ROMERO, O.A. HERNANDEZ, IF-UAP, F. MORALES, IIM-UNAM, A. DURAN, D.H. GALVAN, CCMC-UNAM, R. ESCUDERO, IIM-UNAM — Flux jumps in magnetization curves were investigated experimental and theoretically in a polycrystalline MgB<sub>2</sub> dense sample. We performed magnetization cycles of M-H at different temperatures. Theoretical calculation were performed using an adiabatic critical-state model, that considers the heating effects due to the motion of flux lines, the instability process that originates flux jumps, and the flux redistribution towards a new metastable critical state. The flux jump and temperature dependence in the final state were successfully reproduced from experimental M-H curves. The number of the flux jumps and the jump size increase as the temperature is decreased corroborating the typical flux jump in hard type-II superconductor.

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