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Flux jumps in irradiated MgB_2 dense samples E. VERDIN, DF-UNISON, C. ROMERO, IF-UAP, F. MORALES, IIM-UNAM, E. ADEM, J. RICKARDS, IF-UNAM, A. DURAN, D.H. GALVAN, M.B. MAPLE, UCSD, R. ESCUDERO, IIM-UNAM — This work shows magnetic flux jumps and changes in specific heat measurements studied in MgB_2 dense bulk samples irradiated: with ^{60}Co (500 mrad), electrons (500 mrad), and protons ($1x10^6$ cm^2). Magnetic susceptibility measurements χ(T) show that the Tc ($\sim$38.5 K) is independent of irradiation doses. M vs H data display flux jumps strongly dependent of the temperature. Specific heat measurements show an increase in the magnitude of Cp/T vs T curves just in the transition temperature for the irradiated protons, suggesting enhanced local disorder. The behavior of specific heat data at low temperature is analyzed using a two band model in order to clarify the effect of local disorder with the gap superconducting structure.

Roberto Escudero
IIM-UNAM

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