

Abstract Submitted  
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**Magnetic Properties and Magnetization Dynamics in Amorphous Ferromagnetic Microwires**<sup>1</sup> JOÃO PAULO SINNECKER, RAFAEL NOVAK, Instituto de Física - Universidade Federal do Rio de Janeiro - CP 68528 - 21941-972 - Rio de Janeiro - BRAZIL — The dynamics of the domain walls during magnetization reversal processes in amorphous ferromagnetic microwires is studied. The studies have been based in measurements made in magnetic bistable  $\text{Fe}_{77.5}\text{Si}_{7.5}\text{B}_{15}$  microwires. In bistable microwires the magnetization reversal process generally happens through the propagation of a single domain wall along the axial direction, i.e., a large Barkhausen jump. This reversal process is initiated at the wire ends, where a complex domain structure, characterized by the presence of closure domains, is found. Samples with diameters between 20 and 40  $\mu\text{m}$ , and lengths between 7 and 12 centimeters have been studied. The dynamics has been investigated through the analysis of the signal induced in search coils by the domain walls movement. The influence of externally applied magnetic fields in the dynamics of domain wall propagation has been investigated. Through these studies it was possible to distinguish the different magnetization processes taking place at the extremities and the central part of the microwires.

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