MAGNETORESISTANCE OF THIN MAGNETIC FILMS WITH BLOCH-WALL-TYPE MAGNETIC STRUCTURES

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9.7 cm

The magnetoresistance originating from magnetic structures with gradually rotating magnetic moments, like a Bloch wall, was investigated using soft-magnetic (NiFe)/hard-magnetic (CoSm) bilayers, which provide a system with well characterized magnetic structures [1]. The magnetoresistance was measured with an electric current parallel and perpendicular to the film plane; the former geometry corresponds to the magnetoresistance measurement with a current parallel to a Bloch wall and the latter corresponds to that with a current perpendicular to a Bloch wall. The observed magnetoresistance curves were explained by combination of anisotropic magnetoresistance, GMR-type magnetoresistance, and some additional magnetoresistance effects.

[1] K. Mibu *et al.*, Phys. Rev. B **58** (1998) 6442.

13.4 cm

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