

GMR COEFFICIENT ENHANCEMENT OF A SPIN VALVE STRUCTURE

ABSTRACT

A bottom structure for a spin valve sensor (400) is configured to provide an increased GMR coefficient through the use of a crystallographically aligned seed layer (407) in one embodiment and an improved pinned layer (410) in a further embodiment. This improvement occurs through the avoidance of current shunting of the sensing layers, softening of sensing and pinned layers through even layer texturing, and a stronger coupling between the antiferromagnetic (408) and pinned layers. The improved seed layer of the present invention may be formed with a face-centred cubic (FCC) material having a (111) crystallographic plane parallel to an underlying substrate (406). One preferred material for use in the seed layer is $\text{Ni}_{42}\text{Fe}_{50}\text{Nb}_8$.



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Fig.5.



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