HIGH COERCIVITY MULTIFILM HARD MAGNETIC LAYER FOR MAGNETICALLY STABILIZING A SPIN VALVE SENSOR

ABSTRACT OF THE DISCLOSURE

A bilayer seedlayer is employed between a hard magnetic biasing layer and a nickel oxide (NiO) pinning layer of a bottom spin valve sensor wherein the biasing layer stabilizes the magnetic domains of magnetic layers in the spin valve sensor. The bilayer seedlayer includes a tantalum (Ta) layer on the nickel oxide (NiO) pinning layer and a chromium (Cr) layer on the tantalum (Ta) layer. The hard magnetic layer is on the chromium (Cr) layer. The hard magnetic layer is a cobalt (Co) based hard magnetic material. In a preferred embodiment the total thickness of the bilayer seedlayer has been reduced to less than 70 Å without sacrificing the required coercivity of the hard magnetic layer for withstanding magnetic incursions which tend to switch the magnetic spins of the hard magnetic layer.

Fig. 1