THIS SHEET HAS BEEN REPLACED

SPIN VALVE READ HEAD WITH LOW MOMENT, HIGH COERCIVITY PINNING LAYER

ABSTRACT

A spin valve sensor is provided with a spacer layer sandwiched between a free layer (202) and a pinned layer (206). The pinned layer (206) is pinned by a pinning layer (402) constructed of a material having a high coercivity, and a low magnetic moment. The high coercivity is employed for pinning the pinned layer (206), and the low moment assures that stray fields from the pinning layer (402) do not affect the coercivity of the free layer (202). The magnetic moment is preferably less than 300 emu/cc and the coercivity is preferably greater than 500 Oe. The magnetic orientation of the pinning layer (402) is set by a magnetic field at room temperature that may be applied at the suspension level. The materials with which the pinning layer (402) may be formed are amorphous materials TbFeCo and CoSm, and a non-amorphous material CoPtCr, provided the Cr is of sufficient proportion to minimize the moment of the CoPtCr material.

Fig. 14

This Sheet Has Been Replaced