MAGNETORESISTANCE EFFECT ELEMENT, AND MAGNETIC HEAD AND MAGNETIC RECORDING DEVICE USING THEREOF

Abstract of the Disclosure

A spin valve GMR element comprises a pair of magnetic biasing films disposed with a predetermined gap and a spin valve GMR film disposed in such a manner that at least both edge portions thereof are stacked on the pair of magnetic biasing films. The spin valve GMR film has a free layer containing a magnetic layer large in its saturation magnetization such as a Co containing magnetic layer. The magnetic biasing film has a laminate film composed of a high saturation magnetization magnetic layer and a magnetic hard layer. The high saturation magnetization layer, for a saturation magnetization Ms^{free} of a free layer and a saturation magnetization of Ms^{hard} of a magnetic hard layer, has a saturation magnetization Ms^{high} satisfying at least one of $Ms^{high} \geqq Ms^{free}$ and $Ms^{high} \geqq Ms^{hard}$. According to such a bias structure, when a spin valve GMR element of an over laid structure is narrowed in its track, Barkhausen noise can be effectively suppressed from occurring.

Figure 1

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