ABSTRACT

SPUTTERING TARGET, ANTI-FERROMAGNETIC MATERIAL FILM FORMED USING THEREOF AND MAGNETO-RESISTANCE EFFECT ELEMENT FORMED USING THE SAME

A sputtering target consisting essentially of Mn and at least one kind of R element selected from a group of Ni, Pd, Pt, Co, Rh, Ir, V, Nb, Ta, Cu, Ag, Au, Ru, Os, Cr, Mo, W, and Re. The sputtering target, at least as a part of target texture, comprises one member selected from a group of an alloy phase and a compound phase formed between the R element and Mn. In addition, oxygen content in the target is is 1 weight % or less (including 0). With such a sputtering target, an anti-ferromagnetic material film consisting of RMn alloy excellent in corrosion resistivity and thermal performance can be stabilized in its film composition and film quality. By employing the anti-ferromagnetic material film, when an exchange coupling film is formed by stacking the anti-ferromagnetic material film and the ferromagnetic material film, sufficient exchange coupling force is obtained stably. Such an exchange coupling film can be used in a magneto-resistance effect element and the like.

Figure 1