CLAIMS

1. An alloy for a soft magnetic film layer in a perpendicular magnetic recording medium, wherein

the alloy comprises:

one or more selected from Ru, Rh, Pd, Re, Os, Ir, and Pt;

one or more selected from Sc, Y, lanthanoids (atomic numbers 57 to 71), Ti, Zr, Hf, V, Nb, Ta, Mo, W, and B; and

the balance of Co and Fe with unavoidable impurities; and

satisfies all of the following formulae (1) to (4):

(1) $0.1\% \leq TCR \leq 10\%$;

(2) $5\% \leq TAM \leq 25\%$;

(3) $13\% \leq TCR/2 + TAM + TNM \leq 25\%$; and

(4) $0 \leq Fe\%/(Fe\% + Co\%) \leq 0.80$

provided that:

TCR = Ru% + Rh% + Pd% + Re% + Os% + Ir% + Pt%;

TAM = Sc% + Y% + total% of lanthanoids + Ti% + Zr% + Hf% + V% + Nb% + Ta% + Mo% + W% + B%/2,

wherein as for B, a value of 1/2 thereof is used because B has an amorphous promotion effect that is about two times those of the other elements; and

TNM = C% + Al% + Si% + P% + Cr% + Mn% + Ni%/3 + Cu%/3 + Zn% + Ga% + Sn%,

wherein as for Ni and Cu, values of 1/3 thereof are used because Ni and Cu cause reductions in saturation magnetic flux density that are about one-third of those of the other elements.

2. The alloy for a soft magnetic film layer in a perpendicular magnetic recording medium according to claim 1, further comprising one or more selected from C, Al, Si, P, Cr, Mn, Ni, Cu, Zn, Ga, and Sn.

3. A sputtering target material, comprising the alloy for a soft magnetic film layer according to claim 1 or 2.