Claims

1. A soft magnetic alloy for magnetic recording comprising in at.%:

(A) 0.5% or more of one or two or more of elements selected from the group consisting of Ta, Nb and V;

(B) 0.5% or more of one or two or more of elements selected from the group consisting of Cr, Mo and W;

(C) 0 to 5% of one or two or more of elements selected from the group consisting of Ti, Zr and Hf;

(D) 0 to 30% of ~~one or two of elements selected from the group consisting of Ni and~~ Mn;

(E) 0 to 5% of one or two of elements selected from the group consisting of Al and Cu; and

(F) 0 to 10% of one or two or more of elements selected from the group consisting of Si, Ge, P, B and C; and

the balance Co and Fe and unavoidable impurities,

wherein a ratio of Fe:Co is 10:90 to 70:30; and the total amount of the (A) group element, the (B) group element and the (C) group element is 10 to 30% of the alloy.

2. The alloy according to claim 1, consisting of:

(A) 0.5% or more of one or two or more of elements selected from the group consisting of Ta, Nb and V;

(B) 0.5% or more of one or two or more of elements selected from the group consisting of Cr, Mo and W;

(C) 0 to 5% of one or two or more of elements selected from the group consisting of Ti, Zr and Hf;

(D) 0 to 30% of ~~one or two of elements selected from the group consisting of Ni and~~ Mn;

(E) 0 to 5% of one or two of elements selected from the

group consisting of Al and Cu; and

(F) 0 to 10% of one or two or more of elements selected from the group consisting of Si, Ge, P, B and C; and

the balance Co and Fe and unavoidable impurities.

3. The alloy according to claim 1 or 2, comprising:

more than 0% and not more than 30% of ~~one or two of~~ the (D) group element~~s~~;

more than 0% and not more than 5% of one or two of the (E) group elements;

more than 0% and not more than 10% of one or two or more of the (F) group elements.

4. The alloy according to any one of claims 1 to 3, comprising 2 to 20% of one or two or more of the (A) group elements.

5. The alloy according to any one of claims 1 to 4, comprising 1 to 20% of one or two or more of the (B) group elements.

6. The alloy according to any one of claims 1 to 5, comprising 2 to 4% of one or two or more of the (C) group elements.

7. The alloy according to any one of claims 1 to 6, comprising more than 0% and not more than 10% of ~~one or two of~~ the (D) group element~~s~~.

8. The alloy according to any one of claims 1 to 7, comprising 1 to 4% of one or two of the (E) group elements.

9. The alloy according to any one of claims 1 to 8, comprising 1 to 8% of one or two or more of the (F) group elements.

10. A sputtering target material comprising the alloy according to any one of claims 1 to 9.

11. A magnetic recording medium comprising a soft magnetic layer comprising the alloy according to any one of claims 1 to 9.