CLAIMS

1. A magnetic thin film comprising an ordered alloy, wherein the ordered alloy comprises: at least one first element selected from the group consisting of Fe and Ni; at least one second element selected from the group consisting of Pt, Pd, Au and Ir; and Sc;

wherein the Sc is in an amount ranging from 1.2 at% to 3.8 at%.

2. The magnetic thin film according to Claim 1, wherein the first element is Fe, and the second element is Pt.

3. The magnetic thin film according to Claim 1, wherein the ordered alloy has an Ll_0 type ordered structure.

4. The magnetic thin film according to Claim 1 having a granular structure consisting of magnetic crystal grains comprising the ordered alloy, and a non-magnetic crystal grain boundary, wherein the non-magnetic crystal grain boundary comprises at least one material selected from the group consisting of carbon, boron, an oxide, and a nitride.

5. A magnetic recording medium comprising a non-magnetic substrate and a magnetic recording layer, wherein the magnetic recording layer comprises the magnetic thin film according to Claim 1.

6. A magneto-resistive element comprising the magnetic thin film according to Claim 1.

7. A tunnel magneto-resistive element comprising a fixed magnetic layer, a free magnetic layer, and a barrier layer, wherein the barrier layer is disposed between the fixed magnetic layer and the free magnetic layer, and least of the fixed magnetic layer and the free magnetic layer comprises the magnetic thin film according to Claim 1.

8. A magnetic random access memory comprising the magneto-resistive element according to Claim 6.

9. A micro electro mechanical system comprising the magnetic thin film according to Claim 1.