

a magnetoresistive sensor stack responsive to an external magnetic field;

a first and second magnetic shield wherein said magnetoresistive sensor stack is disposed between said first and second magnetic shield;

a first insulating layer disposed between said magnetoresistive sensor stack and said first magnetic shield;

a second insulating layer disposed between said magnetoresistive sensor stack and said second magnetic shield; and,

a high resistance soft magnetic layer disposed between at least one of said insulating layers and one of said magnetic shields.

12. A disk drive as in claim 11 wherein said high resistance soft magnetic layer has a composition of A-B-C where A is selected from the group consisting of Fe and Co, B is selected from the group consisting of Hf, Y, Ta, and Zr, and C is selected from the group consisting of O and N.

13. A disk drive as in claim 11 wherein said high resistance soft magnetic layer has a composition of CoFeHfO.

14. A disk drive as in claim 11 wherein said high resistance soft magnetic layer has a composition of FeHfN.

15. A disk drive as in claim 11 wherein said high resistance soft magnetic layer has a magnetic moment greater than about 80 emu/cc.

16. A disk drive as in claim 11 wherein said high resistance soft magnetic layer has a resistivity greater than about 2000 micro-ohm-cm.

17. A disk drive as in claim 11 wherein permeability is greater than about 200.

18. A disk drive as in claim 11 wherein said first and second insulating layers comprise a material selected from the group consisting of alumina, silicon oxide, silicon nitride, and tantalum oxide.

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