

18. A top pinned spin valve sensor comprising:

- (a) a seed layer comprising nickel, chromium, tantalum, titanium, manganese, copper, tungsten, platinum, gold, silver, or mixtures thereof;
- (b) a free layer, positioned on top of said seed layer, comprising nickel, cobalt, iron, or mixtures thereof; and
- (c) a spacer layer, positioned on top of said free layer, comprising copper, silver, gold, or mixtures thereof;
- (d) a pinned layer, positioned on top of said spacer layer, comprising cobalt, iron, nickel, chromium, platinum, tantalum, or mixtures thereof;
- (e) an antiferromagnetic layer, positioned on top of said seed layer, comprising platinum, manganese, nickel,

chromium, iridium, rhodium, palladium, copper, ruthenium, iron, or mixtures thereof; and

- (f) a cap layer, positioned on top of said antiferromagnetic layer, comprising tantalum nitride.

19. The spin valve sensor of claims **16**, **17**, or **18**, wherein said cap layer comprises a monolayer of tantalum nitride

20. The spin valve sensor of claims **16**, **17**, or **18**, wherein said cap layer comprises a bilayer having a first layer comprising tantalum nitride and a second layer comprising copper.

21. A disc drive comprising the spin valve sensor of claims **1**, **16**, **17**, or **18**.

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