wherein said conductive spacer comprises a material having a face centered cubic structure and wherein said absolute value is less than approximately 0.12 eV.

13. The sensor as in claim **11**,

wherein said ferromagnetic layers comprise materials having a body centered cubic structure; and

wherein said conductive spacer comprises material having a body centered cubic structure and wherein said absolute value is less than approximately 0.07 eV.

14. A magnetoresistive sensor disposed on a substrate comprising in combination:

a first ferromagnetic layer means formed over said substrate and having a first electronegativity;

electrically conductive spacer means formed on said first ferromagnetic layer means and having a second electronegativity

so that a magnetoresistance effect (ΔR/R) of the sensor is optimized by correlating said first and second electronegativities to ΔR/R by the following equation:

$$\Delta R/R \simeq A - B|\Delta\chi|^{1/2},$$

where A and B are constant values and $|\Delta\chi|$ is an absolute value of the difference between said first and second electronegativities; and

a second ferromagnetic layer means formed on said substrate.

15. The sensor as in claim **14**, wherein said ferromagnetic layer means constitutes a plurality of ferromagnetic layers; and said conductive spacer means comprises a number of spacer layers interposed between said ferromagnetic layers; and

wherein said absolute value is minimized.

16. The sensor as in claim **15**,

wherein said ferromagnetic layers comprise materials having face centered cubic structures; and

wherein said conductive spacer comprises a material having a face centered cubic structure, and wherein said absolute value is less than 0.12 eV.

17. A magnetoresistive sensor disposed on a substrate comprising:

first and second ferromagnetic layers, wherein at least one of said layers comprise a superlattice material; and

an electrically conductive spacer interposed between said ferromagnetic layers.

18. The sensor of claim **17**, wherein said electrically conductive spacer comprises a superlattice material.

19. The sensor of claim **17**, wherein said first ferromagnetic layer has a first electronegativity, said electrically conductive spacer has a second electronegativity and an absolute value of a difference between said first and second electronegativities is minimized.

20. A magnetoresistive sensor comprising:

a first and second ferromagnetic layer; and

an electrically conductive spacer interposed between said ferromagnetic layers;

wherein said first ferromagnetic layer comprises a first compound ferromagnetic layer having a first material with a first magnetostriction and a first thickness and a second ferromagnetic material with a second magnetostriction and a second thickness; and

wherein a difference between a first product of said first thickness and said first magnetostriction and a second product of said second thickness and said second magnetostriction is minimized.

21. The sensor as in claim **20**, wherein a ratio between said first and second products is in a range of approximately 0.3 to approximately 3.

22. The sensor as in claim **20**, wherein said first and second materials have a first and second coercivity, respectfully, and an average of said first and second coercivities is minimized.

23. The sensor as in claim **22**, wherein said average is less than approximately ten oersteds.

24. The sensor as in claim **20**, wherein said first ferromagnetic material has a first electronegativity and is in atomic contact with said electrically conductive spacer, wherein said spacer has a second electronegativity and wherein an absolute value of a difference between said first and second electronegativities is minimized.

25. The sensor as in claim **20**, wherein said second ferromagnetic layer comprises a second compound ferromagnetic layer having a third ferromagnetic material and a fourth ferromagnetic material in atomic contact with said electrically conductive spacer, and wherein said first and fourth ferromagnetic materials comprise substantially the same composition and said second and third ferromagnetic materials comprise substantially the same composition.

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