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Effect of Ag Seed in FeCo Powder Alloy Produced by Using the Polyol Method

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The nanoparticles have several interesting properties which cannot be shown in their bulk materials because of their high ratio of surface area to volume. FeCo alloy nanoparticles with soft magnetic properties is demanded for various applications such as optics, electronics and magnetics. Through the polyol method, highly purified particles with mono-dispersibility in various sizes can be produced, and the particles produced can be used as high-tech functional materials.

In this study, the magnetic characteristics of FeCo alloy with Ag seed added in process of the production of nano-particles mono-dispersed through the polyol method was investigated.

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Microstructure and Magnetic Properties of YIG Powder Prepared by Coprecipitation Process

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Nano-sized Yttrium iron garnet (YIG; Y₃Fe₅O₁₂) particles have been synthesised using the coprecipitation and heat treatment process. The YIG particles were obtained from nitrate and chloride salt solution. pH concentrations of the solution were fixed 10.5 and 12, respectively.

Samples were characterized by X-ray diffraction (XRD), thermal gravimetry-differential thermal analysis (TG-DTA), scanning electron microscopy (SEM) transmission electron microscopy (TEM), and vibrating sample magnetometer (VSM), respectively.

REFERENCES

- [1] A. G. Teijerio *et al.*, J. Magn. Magn. Mater. 140-144, 2129 (1995).
- [2] M. Jafelicci Jr., R. H. M. Godoi, J. Magn. Magn. Mater. 226-230, 1421 (2001).
- [3] M. Ristic, *et al.*, Materials Letters 57, 2584 (2003).
- [4] M. Rajendran, S. Deka, P. A. Joy, A. K. Bhattacharya, J. Magn. Magn. Mater. 301, 212 (2006).
- [5] Y. J. Wu, *et al.*, J. Alloys Compd. (2008).