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## **Magnetic Properties of Carbon-Doped FePt Nanocomposite Thin Films**

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Equiatomic FePt and CoPt alloy thin films have received considerable attention as possible magnetic and magneto-optic recording media mainly because of their high magnetic anisotropy energy [1]. On the other hand, the ultrahigh density magnetic recording media with low media noise imposes the need of a material, which consists of magnetically isolated grains with size below 10 nm [2]. So, in this work, the effect of Carbon doping on the magnetic properties of FePt nanoparticles were investigated. The coercivity increases up to 20 vol % Carbon doping sample and then decreases drastically with increasing Carbon content. Moreover, the saturation magnetization ( $M_s$ ) also decreases with increasing Carbon. In contrast to other doping materials, the Carbon-doped samples show a clear spin-reorientation transition from perpendicular to in-plane direction. The observed magnetic properties in this Carbon-doped FePt systems are correlated with microstructural properties.

[참고문헌]

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2. D. J. Sellmyer, M. Yu, Nanostruct. Mater. 12, 1021(1999)