

Studying the ferromagnetic-paramagnetic phase transition in thin films of L10 FePt1-xRh_x

Valiullin A., Kamzin A., Ishio S., Hasegawa T., Ganeev V., Tagirov L., Zaripova L.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2015, Allerton Press, Inc. FePtRh films with different Rh concentrations (FePt_{1-x}Rh_x) are fabricated by magnetron sputtering. The magnetic structure and ferromagnetic-paramagnetic phase transition in thin films of L10 FePt_{1-x}Rh_x with different Rh concentrations ($0 \leq x \leq 0.40$) are studied. It is demonstrated that thin films of FePt_{1-x}Rh_x with $0 < x < 0.34$ are in the ferromagnetic state with high magnetocrystalline anisotropy energy at room temperature, while similar films with $0.34 < x < 0.4$ are paramagnetic.

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