# Magnetic properties of $(FePt)_{100-x}Cu_x$ thin films

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Abstract: A series of $(FePt)_{100-x}Cu_x$ (x = 0, 5, 8 and 11) thin films have been prepared by RF sputtering. The as-deposited films are nanocrystalline with fine particles. Upon annealing, the films transfer to the ordered fct FePt phase, which is hard magnetic. The influences of the Cu content, as well as the heat treatment conditions, on the magnetic properties of the films have been studied. Addition of 5 - 8 at.% Cu lowers the optimum annealing temperature and improves the magnetic squareness and convexity of the hysteresis loop. Addition of a higher Cu content weakens the hard magnetic properties of the films. The dependence of the hard phase formation on the annealing conditions is investigated.
Author Keywords: Coercivity; FePt; L10 structure

Year: 2008
Source title: Journal of the Korean Physical Society
Volume: 52
Issue: 5
Page : 1435-1438
Link: Scorpus Link
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ISSN: 3744884
Language of Original Document: English
Abbreviated Source Title: Journal of the Korean Physical Society
Document Type: Article
Source: Scopus
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