THE HALL EFFECT IN Co-RICH THIN FILMS

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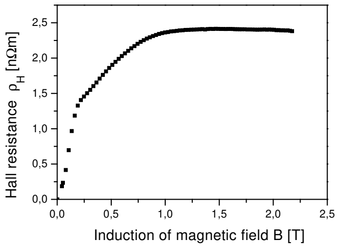
9.7 cm

The aim of this work was to study the influence of structural changes on Hall effect in Co-M-Si-B (M = Fe, Mn, Ni) thin films after annealing. Thin films were prepared by ion-beam sputtering. Crystallographic structure was observed by TEM in as-deposited state and also after annealing in a vacuum furnace at temperature range 300-500^{o}C. Hall effect was measured using DC method. Structural changes in the samples after annealing caused expected decreasing of spontaneous Hall coefficient of all samples with M=Mn,Ni in whole range of annealing temperatures. On the other hand, two ferromagnetic phases could be detected from Hall curves $\rho_H(B)$ measured on samples with M=Fe annealed at temperatures 400-450^{o}C (fig.). After annealing at temperature of 500^{o}C unconventional shape of $\rho_H(B)$ curve was observed for all the samples which is probably caused by presence of columnar Co crystals with uniaxial anisotropy perpendicular to the surface of sample.



13.4 cm

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