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Magnetization Measurements on Electrodeposited $Cu_{1-x}Co_x$ Alloy Films

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Abstract: The magnetic properties of $Cu_{1-x}Co_x$ alloy films prepared by electrodeposition technique were investigated by Alternating Gradient Force Magnetometer. The magnetization curves of $Cu_{0.94}Co_{0.06}$, $Cu_{0.87}Co_{0.13}$ and $Cu_{0.74}Co_{0.26}$ films were easily saturated while the other $Cu_{1-x}Co_x$ samples with x= 0.17, 0.19 and 0.21 had more inclined magnetization curves. The saturation magnetization value of $Cu_{1-x}Co_x$ film increased with increasing Co content in the film. The minimum values of the ratio of remanence to magnetization and the coercive field were determined in the $Cu_{0.81}Co_{0.19}$ alloy film among the others. The ferromagnetic order in the $Cu_{1-x}Co_x$ films was between 2.5-29%.

Key Words: Electrodeposited alloy, Magnetization curves

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