MAGNETIC PROPERTIES OF Co/Nd MULTILAYERS

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9.7 cm

In this paper we present the results of structural and magnetic study of Co/Nd multilayers prepared in UHV conditions by subsequent evaporation of metallic elements on a glass substrate at room temperature. Two samples with a nominal composition of Co 30Å/Nd 30Å were deposited with a different position of 1ML ^{57}Fe probe layer within the cobalt film. Modulated structure was confirmed by the presence of Bragg peaks in the low angle X-ray diffraction spectra. Sample surface roughness was measured ex-situ using Atomic Force Microscope. Magnetization measurements in the configuration with magnetic field parallel and perpendicular to the film plane were performed by VSM at different temperatures. Moessbauer spectroscopy of 57Fe probe layer made at 300 K and 4.2 K revealed significant differences for the probe layer positioned 1Å below the interface comparing to the one placed in the middle of Co layer. Magnetic coupling and magnetic anisotropy in Co/Nd multilayers will be discussed.

13.4 cm

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