

Abstract Submitted
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Growth of Co/Ni Multilayers with Perpendicular Magnetic Anisotropy¹ N. SORIANO, UPV/EHU, Spain, M.H. KILINC, Bogazici University, Turkey, H.F. BELLIVEAU, University of South Florida, USA, C. REDONDO, UPV/EHU, Spain, D. NAVAS, University of Porto, Portugal, C. GARCIA, Bogazici University, Turkey, R. MORALES, UPV/EHU-BCMaterials & IKERBASQUE, CASEY W. MILLER, University of South Florida, USA — Thin films with perpendicular magnetic anisotropy (PMA) have attracted wide interest for perpendicular recording media applications as well as for devices based on the spin transfer torque effect. In particular, Co/Ni multilayers with strong PMA have been considered one of the most promising candidates for these applications [1]. Understanding the elements which determine the preferred orientation of magnetization in these multilayers involves the study of several factors such as Co/Ni thicknesses, number of bilayers, deposition conditions (base and deposition pressure) and the material and thickness of the underlayer [2]. In this work, we outline our fabrication methods for ultrathin Co/Ni multilayers with a thickness ratio of 1:2 and 1:3 by sputtering at room temperature and using Cu as underlayer. The magnetic behavior of the samples was characterized by polar and transverse magneto optical Kerr effect magnetometer and structural studies were made by X-ray diffractometry.

[1] Guangzhong Wang et al., J. Appl. Phys. 113, 17C111 (2013).

[2] F.J.A. den Broeder, E. Janssen, W. Hoving and W.B. Zeper, IEEE Trans. Magn., 28, 2760 (1992).

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