

Abstract Submitted  
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**Structure and magnetism of epitaxial NiMn single layers and Co/NiMn bilayers on Cu<sub>3</sub>Au(100)**<sup>1</sup> WALDEMAR MACEDO, (1), WOLFGANG KUCH, (2), PEDRO GASTELOIS, (1), JORGE MIGUEL<sup>2</sup>, (2), MAXIMILIANO MARTINS, (1), YAQOOB KHAN, (2), 1- NANOTECNOLOGIA, CENTRO DESENV. TECNOL. NUCLEAR, BELO HORIZONTE, MG, BRAZIL TEAM, 2- EXPERIMENTALPHYSIK, FREIE UNIV. BERLIN, GERMANY TEAM — The structure of single-crystalline Ni<sub>x</sub>Mn<sub>100-x</sub> (NiMn) ultrathin films on Cu<sub>3</sub>Au(100) and also the magnetic properties of Co films on the NiMn/Cu<sub>3</sub>Au(100) films have been investigated by multiple techniques. For  $10 \leq x \leq 77$ , our results revealed good epitaxial, layer-by-layer growth at a substrate temperature of 300 K for all NiMn films with near equiatomic composition. The results indicate a face-centered tetragonal (fct) structure for NiMn, as expected for the L1<sub>0</sub> phase, and with the c-axis along the film normal. For the Co/NiMn bilayers, MOKE hysteresis loops show a thickness independent coercivity, suggesting no magnetic coupling at the Co/NiMn interface. Although the structural results indicate the formation of ftc NiMn in the equiatomic concentration range, we have no indication of antiferromagnetism for NiMn on Cu<sub>3</sub>Au(100) at room temperature. This is contrary to the observations for Co/NiMn on Cu(100).

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