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Growth, structure and magnetic properties of layered 3d metals nanostructures

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Abstract:

The magnetism of nanostructured materials in the form of ultrathin films is an important current topic in material science and technology. The magnetic behaviour of metals can be strongly affected and modified by changes and distortion of their lattice structure, and epitaxy has been widely used to manipulate the structure and, consequently, to allow the investigation of the correlation between the structural and magnetic properties of 3d metals in the form of ultrathin films. Also, exchange bias in ferronagnetic / antiferromagnetic (F/AF) systems still present many open issues. In this talk, it will be presented and discussed experimental results on the growth, structure and magnetic properties of epitaxial Co/NiMn on Cu₃Au(001), FeCo on Rh(001), and also on the investigation of depth-dependent spin structure in exchange-biased F/AF nanostructured bilayers (Fe/MnF₂ and FeCo/IrMn).

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