Structure-magnetism relation in epitaxial metallic nanostructures

A. Cebollada.
Instituto de Microelectrónica de Madrid, IMM (CNM-CSIC)
alfonso@imm.cnm.csic.es

In this talk, different examples of the influence that structuration at the atomic, nanometric and micrometric scale have on the magnetic properties of several epitaxial magnetic nanostructured systems will be presented. Specifically, it will be shown how growth-induced and post-growth nanostructuration of magnetic binary alloys, metallic ultrathin films and metal/insulator magnetic multilayers can lead to the modification of a number of physical properties of fundamental and technological relevance.

Among others, aspects that will be described are magnetic anisotropies, either of crystalline, interfacial or shape origin; magneto optic activity and its enhancement correlated with chemical order; dipolar and exchange interactions between nanomagnets and micromagnets in 2 and 3 dimensions or magnetotransport properties in magnetic tunnel junctions.