LENS/CMP Seminar

March 8, 2013

Speaker: Abdella Lisfi, Morgan State University

Title: “Magnetism of Epitaxial Two-Dimensional Ferrites”

Abstract: The increasing interest for magnetic oxides over the last years has been driven by scientific curiosity and technological demands. Cobalt ferrite (CoFe$_2$O$_4$) belongs to the spinel ferrites family and has demonstrated its potential use in spintronics and multifunctional applications. On the other hand, the large magneto-elastic effects of Cobalt ferrite promote this material to be the model of choice for investigating the intrinsic properties of two-dimensional spinel ferrites.

This talk will begin with a brief presentation of the different ongoing research projects led by the author (A. Lisfi). In the second part of the talk, the speaker will review and discuss his recent findings and discoveries in epitaxial two-dimensional ferrites. This will include the magnetic anisotropy, the spin alignment, the lattice relaxation and the magnetization reversal mechanism in these low-dimensional structures. The study of interest has been conducted on CoFe$_2$O$_4$ films epitaxially grown by pulsed laser deposition (PLD) on (100) and (110) MgO substrates.