

## Investigation of Exchange Coupled Composites with Scanning Transmission X-ray Microscopy

*Thursday, 19 September 2013 12:30 (2 hours)*

Novel exchange coupled composites incorporating a hard and a soft magnetic layer have the potential for a number of applications including magnetic recording, sensors, MRAM and oscillators. We investigate the magnetic behaviour of ferromagnetic L10 FePt thin films exchange coupled to soft ferrimagnets, including FeGd and FeTb, using Scanning Transmission X-ray Microscopy (STXM), which allows us to probe each layer individually, and magnetic force microscopy (MFM). Using a luminescence detection scheme, we are able to determine the magnetic domain configuration using STXM. From MFM measurements we find a compositional dependence of the domain structure in the ferrimagnetic films.

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