

## *NUSNNI - Physics Seminar*

Seminar Title: Magnetism under the microscope: "Insight" into layered magnetic structures

Speaker : Professor Wolfgang Kuch

Freie Universität Berlin, Germany

Venue: Physics Conference Room, S13-M01-15, Faculty of Science

Date: 24 October 2005, Monday

Time: 3:00pm - 4:00pm

### **Abstract:**

The investigation of magnetic properties on the microscopic scale is of increasing relevance for the progressing miniaturisation in magnetic data storage. In particular, magnetic structures consisting of several ultra-thin layers of ferromagnetic, antiferromagnetic, and non-magnetic materials exhibit many new and interesting phenomena. The fundamental investigation of such layered magnetic structures calls for a method capable of delivering microscopic magnetic information for each of the magnetic layers separately. I will present photoelectron emission microscopy (PEEM) as a technique that, in combination with circularly polarized synchrotron radiation, allows the layer-resolved visualization of magnetic domain patterns at surfaces and in buried layers. Some recent examples of studies of the magnetic interlayer coupling between two ferromagnetic layers across non-magnetic or antiferromagnetic spacer layers emphasize the capability of PEEM for the investigation of layered magnetic structures.

### **Biography:**

Name: Wolfgang Kuch  
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since 2004 full professor at Freie Universität Berlin  
2002-2004 lecturer at Halle University, Germany.  
Feb-Aug 1996 visiting scientist at IBM Almaden Research Center, San Jose, California, U.S.A.  
1993-2004 Staff scientist at Max-Planck-Institute for Microstructure Physics at Halle, Germany.  
1989-1993 PhD student at German Aerospace Center, Stuttgart, PhD degree 1993 from Stuttgart University, Germany.  
1984-1989 Study of physics, Frankfurt University, Germany, diploma (= masters) degree 1989.