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MONASH University

FLEET SEMINAR

Magneto-Optical Polarisation Spectroscopy with Synchrotron Radiation on Graphene

PROF. HANS-CHRISTOPH MERTINS
UNIVERSITY OF APPLIED SCIENCES MUENSTER



Abstract: Polarisation spectroscopy with synchrotron radiation is a powerful tool for both, the investigation of structural and magnetic order in bulk material and 2-dimensional systems as graphene. After giving an experimental review on polarisation detectors for synchrotron radiation the application to non-magnetic graphene as well as to magneto-optical effects as Faraday, Kerr, Voigt and the X-Ray Circular Dichroism (XMCD) are presented. Due to the resonant enhancement at core levels the observed soft x-ray effects exceed those in the visible by several orders of magnitude.

About the Speaker: Prof. Hans-Christoph Mertins has been a Professor of physics at the University of Applied Sciences Muenster since 2003. Prior to this, he was a scientist at the large scale facility BESSY / Berlin (Berliner Elektronenspeicherring Gesellschaft für Synchrotronstrahlung mbH) and working on the European Community TMR-LSF RTD Projects.

He was involved in the development of Beamlines for synchrotron radiation and his research interests are on nano-structured multilayer systems and nano-materials for magnetic sensors, development and characterisation of X-ray mirrors and polarisation-detectors. Prof. Mertins also holds a Patent for a polarization modulator for X-rays.

Date: Tuesday 22 August 2017 – 2:00PM
Venue: G29 New Horizons Centre, 20 Research Way
Monash University, Clayton

Info: education@fleet.org.au

fleet.org.au