The supervisory board of the Kestcells Project announces the Seminar AMU-08:

"Optical Spectroscopy of Surfaces, Thin Films and Nanostructures"

Dates: 10th of March, 2016.
Place: AAMU, CINaM - Salle Raymond Kern, Marseille, France

Program

Time	Subject	Speaker
16:00	Optical Spectroscopy of Surfaces, Thin Films and Nanostructures.	Prof. Peter Zeppenfeld
Institute of Experimental Physics, Johannes Kepler University Linz, Austria		

Summary

In my talk, I will first give a brief outline of the current research activities at our institute at the Johannes Kepler University inn Linz, dealing with surfaces, thin films and nanostructures. In the main part of the talk I will focus on optical spectroscopies and their potential as viable analytical tools in the Surface and Nano Sciences. Conceptually very simple optical methods, namely Reflectance Difference Spectroscopy (RRDS/RAS) and Differential Reflectance Spectroscopy (DRS), can provide valuable insight into the structure and growth of ultrathin films in straight Correlation with the in electronic, optical and other physical or chemical properties. Notably, these differential optical spectroscopies can achieve sub-monolayer sensitivity and are capable of Monitoring kinetic processes on surfaces in real time. This will be illustrated inn selected examples dealing with the fabrication and optical characterization of functional layers, such as reconstructed surfaces, graphene nanoribons and ultrathin molecular films. While the spatial resolution in the UVV-VIS range is naturally limited, microscopic information on the structure and electronic properties can be obtained from complementary surface science techniques such as STM and Photoemission Electron Microscopy (PEEMM). As an outlook, I will describe how optical spectroscopy and PPEEM can be combined into a single experiment, thus enabling truly parallel optical spectroscopy and photoelectron microscopy at a local scale.