O 55: Invited Talk Schmidt

Time: Thursday 14:45–15:30 Location: H36

Invited Talk O 55.1 Thu 14:45 H36

Real-time observation of organic layer growth: a spectro-microscopic study — •Thomas Schmidt[1], Helder Marchetto[2], Ullrich Groh[1], Florian Maier[1], Pierre Lévesque[2], Rainer Fink[3], Hans-Joachim Freund[2], and Eberhard Umbach[1] — [1]University of Würzburg, Experimental Physics II, 97074 Würzburg — [2]Fritz-Haber-Institute, Max-Planck-Society, 14195 Berlin — [3]University of Erlangen, Physical Chemistry, 91058 Erlangen

Organic thin films have an increasing importance for electronic devices like organic light emitting diodes, solar cells, field-effect transistors, etc. For the optimization of their functionality and efficiency a deep understanding of the properties of the organic components is required since these properties very much depend on the film growth and interface formation. Compared to the quite well understood atomic growth the growth of organic films tends to be much more complex due to a different bonding behaviour, existence of functional groups, anisotropic molecular structure, larger size, variable molecular orientation, etc. An ideal instrument to study these properties and the influence of the substrate is the spectro-microscope SMART, which combines a photoemission (PEEM, XPEEM) with a low energy (LEEM) electron microscope comprising an imaging energy analyzer and a unique aberration correction system for high spectroscopic and spatial resolution. With this instrument in situ and real-time experiments were performed to investigate, e.g., the temperature dependence of the growth mode, the influence of substrate morphology, the internal structure of crystallites, etc. (Funded by BMBF, contract 05KS4WWB/4)