O-19 **Wednesday, 15.06., 16^{40} - 17^{00}**

New developments in Near Ambient Pressure XPS – EnviroESCA, Small Spot and Imaging NAP-XPS Solutions

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Over the last 15 years, Near Ambient Pressure (NAP-) XPS has demonstrated its promising potential in a wide variety of applications. Starting from the Catalysis and Ice paradigm, the focus has shifted towards solid-liquid interfaces, liquid jets and in-situ electrochemistry. Initially, the experiments had to be carried out using advanced synchrotron sources to reach reasonable count rates. This is still state-of-the-art for most sensitive analyses under NAP conditions. The windowless beam entrance stages, that have been developed by SPECS over the last years utilize all capabilities of modern synchrotron beamlines for NAP-XPS. Furthermore, SPECS PHOIBOS 150 NAP offers optimized transmission for electrons, even at pressures up to and above 100mbar, so researchers can now use it with conventional X-ray and UV sources in their own laboratories, as well. Because of the widened application fields, standard XPS is now also attainable when combined with easily adjustable monochromated X-ray sources that offer stable operation, small excitations spots, and high photon flux densities, even in Near Ambient Pressure conditions. The latest designs and results are presented showing small spot performance for spot sizes < 30 µm, while also showcasing the latest implementations of imaging NAP-XPS that uses a new concept allowing for lateral resolved measurements without a compromise in count rate and usability. Highlighting on how sample environments (in situ cells for gases and liquids, electrochemical cells, gas inlets) and integration are both absolutely essential to obtain relevant results from well-defined samples, the presentation will demonstrate the use of NAP-XPS systems for high throughput-XPS measurements, as well as a variety of applications. This all is integrated into a revolutionary system concept, the EnviroESCA.

O-20 **Friday, 17.06., 12^{20} - 12^{40}**

The status of the PEEM/XAS beamline at Solaris

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The first bending magnet beamline built in the National Synchrotron Radiation Centre Solaris is optimized for the soft X-ray photon energy range 200-2000 eV. The calculated energy resolution (ΔE/E) is in the order of 2.5×10^{-4} or better. The chosen optical design based on the plane grating monochromator working in the collimated light has been studied by the Optical Group from Elettra. The dimensions of the focalized beam at the end station place, which will host a Photoemission Electron Microscope (PEEM), are 100µm (H) x 50µm (V). In the future additional refocusing device can be installed to increase the photon flux density on the sample for more demanding experiments. The first results of the front end components commissioning and actual time schedule will be presented.

Within the framework between Jagiellonian University and Jerzy Haber Institute of Catalysis and Surface Chemistry PAS, the Photoemission Electron Microscope will be main end station of the 04BM beamline. The PEEM was successfully tested at the Pollux beamline in the Swiss Light Source. Exchangeable with microscope we foresee to use separate chamber for X-ray absorption spectroscopy measurements. It will be dedicated to experiments in the field of biology, chemistry, catalysis, material science and physics. The current possibilities of both experimental stations will be presented. In the future, the spectroscopy chamber could be adapted to the other techniques like X-ray magnetic circular dichroism or scanning transmission X-ray microscope chamber.

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