

TFI Group Seminar 16 July 2018

OFLG/402 16:00 – 17:30

Guest Speaker Dr. Anthony Boucly

Laboratory of Environmental Chemistry

Laboratory of Electrochemistry

PSI

In situ Catalytic Reactions and Environmental Chemistry Modifications as seen by NAP-XPS

The NAP-XPS is a revolutionary new tool that makes possible to use the advantages of a standard XPS analysis (sensitivity to the different chemical elements as well as their states) at a near-ambient pressure (mbar range) thus enabling in situ studies closer to real conditions. Two fields fully benefit from this new machine: environmental chemistry and catalysis. I will illustrate this with one example for each field. For the environmental chemistry I will present the hydration of so-called swelling clays for environmental chemistry. Concerning catalysis I will show the oxidation of CO on nanocatalysts composed in particular of platinum an excellent catalyst but sensitive to the CO poisoning. This reaction is for us a prototypical reaction to test the behavior of Pt, Zn, PtZn nanocatalysts. I will then present new evolutions further enhancing the possibility of then NAP-XPS like in situ electrochemical measurement.