



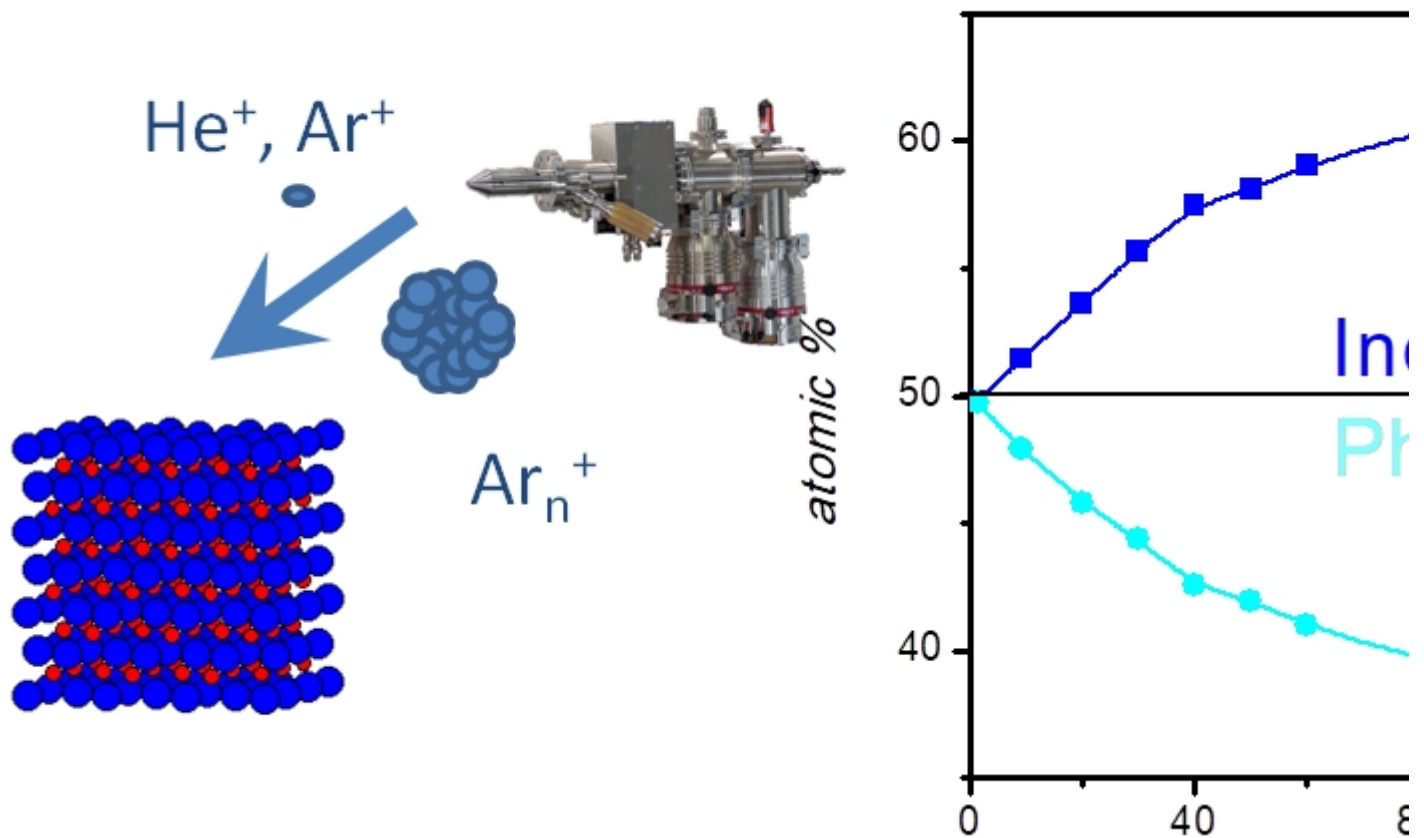
# ILV

## Institut Lavoisier de Versailles

### PHYSICAL-CHEMISTRY OF SURFACES AND INTERFACES

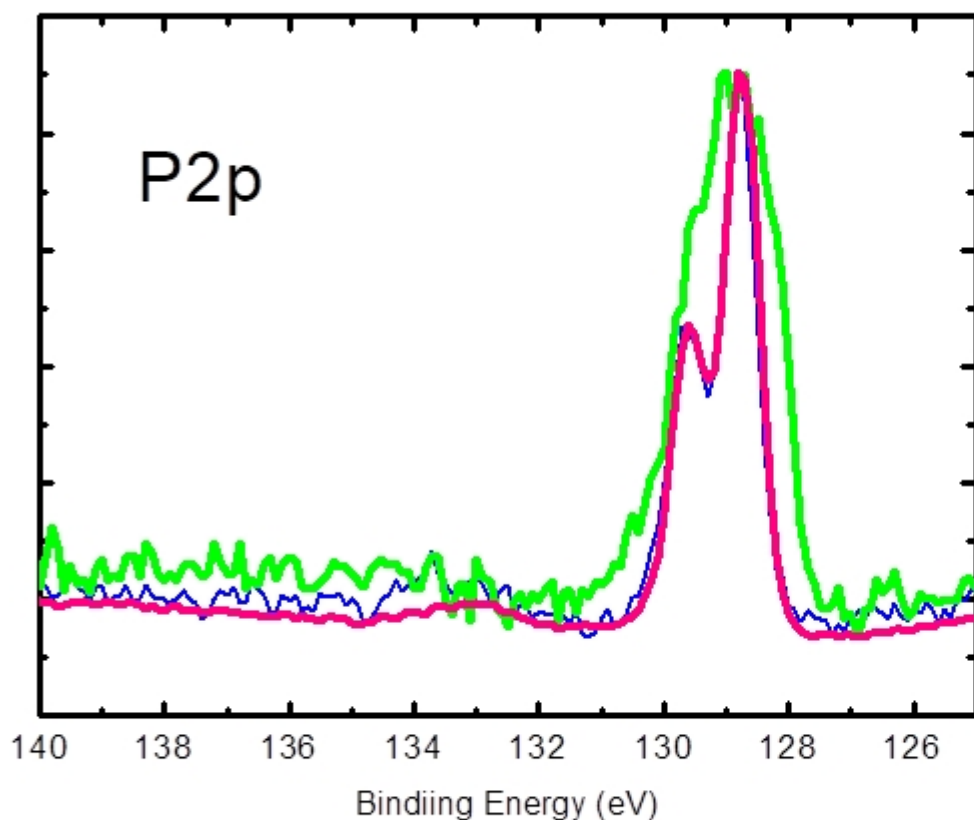
The access to surfaces and interfaces is particularly important for an increasing number of applications. The CEFS2 Center tools aim to look at different scales in different directions. The specificity of the group is also to look in detail at the influence of different types of ion bombardment on surfaces. Multiple disturbances are studied, such as

chemical, morphological, crystallographic, or opto-electronic properties.



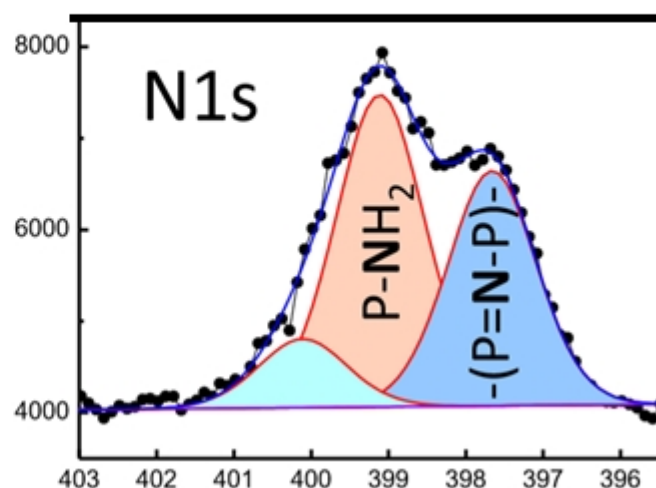
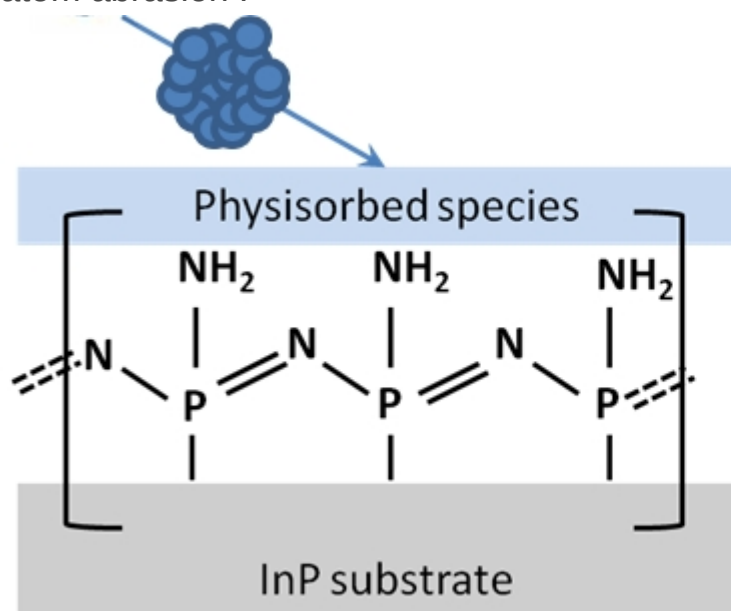
## Control by electrochemistry

The thickness of the disturbed zone is compatible with the thickness of the space charge area of a semiconductor, which allows a study of different aspects of modifications by ion bombardment using electrochemical tools. Anodic dissolution gives the ability to regenerate the surface of the semiconductor and to estimate the thickness of the modified area..



## Progressive profiling of ultrathin layers

The use of argon clusters of thousands of atoms (GCIB) allows profiling of organic and inorganic materials sensitive to bombardment. We develop methods to obtain atom by atom abrasion .



## GCIB on oxides

Materials such as oxides or polymers are heavily modified when using a traditional abrasion gun with monoatomic argon ions. The EPI team studies in close collaboration with the FOX group of the GEMAC laboratory the effects of cluster argon bombardment on perovskite oxides, such as  $\text{SrVO}_3$ ,  $\text{LaAlO}_3$  or  $\text{SrTiO}_3$

