

XPS (X-RAY PHOTOELECTRON SPECTROSCOPY)



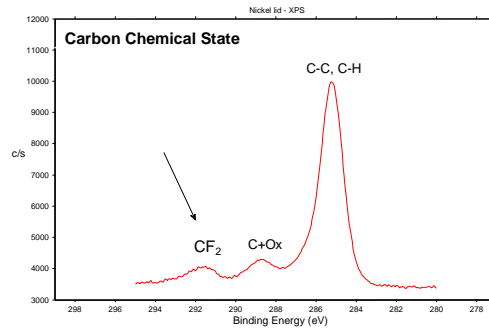
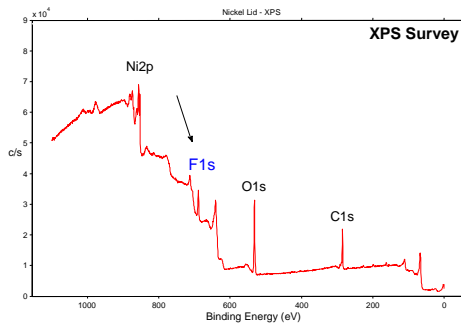
*Analytical
Services*

XPS is used to determine the elemental composition and chemical state of a surface.

This technique works by irradiating the sample with an X-ray beam, causing the emission of photoelectrons whose energy is characteristic of each element from the first atomic layers of the survey area.

Among the possible applications of XPS, there are:

- Detection and identification of surface contamination
- Analysis of adhesion and wetting problems
- Characterization of surface treatments (ex: plasma)
- Solving soldering problems
- Evaluation of oxide thicknesses
- Characterization of thin and ultra-thin films



Fluorine detection on nickel plating and identification of its chemical nature (fluorocarbon)

This surface analysis technique can be performed on both, organic and inorganic materials, whether it is a metal alloy, semiconductor, polymer, ceramic or composite material. No sample preparation is required; the sample must be vacuum compatible and its dimensions adequate.

The XPS at C2MI is particularly well suited for analysis of small size structures due to its high sensitivity, its positioning accuracy and its minimum beam size less than 7.5 μm .

This technique can also be used to image the elements and their chemical states present at the surface. Moreover, as this tool is provided with an ion gun, it is possible to produce elemental concentration depth profiles.