

X-ray Photoelectron Spectroscopy

Equipment

**JPS-9200 Photoelectron Spectrometer
(JEOL, JAPAN)**

Category:

C. Particle Characterisation in and ex-situ and/or

Institute:

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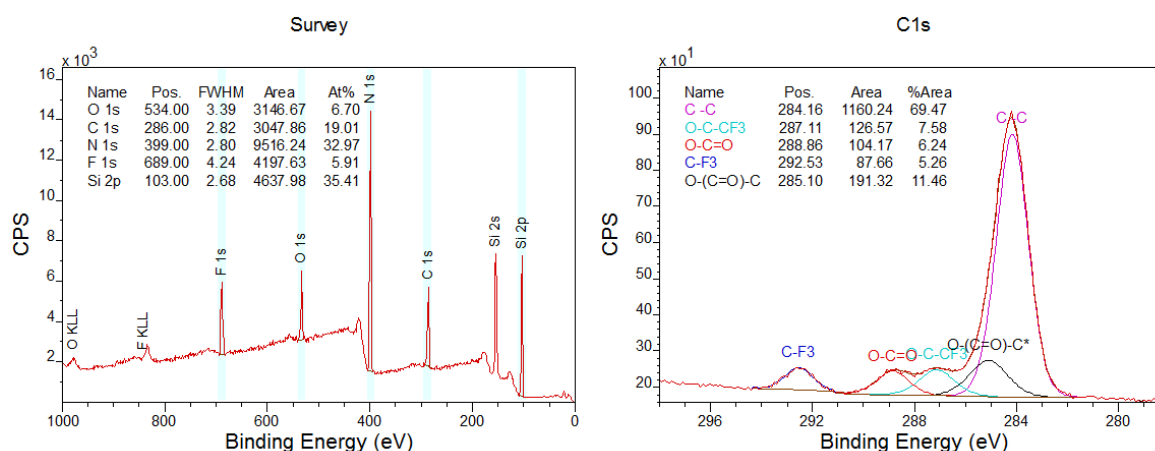
Short technology description/Overview:

X-ray Photoelectron Spectroscopy (XPS) is a quantitative surface analysis technique in which X-rays are absorbed by atoms and as a result photoelectrons are emitted. By determining the kinetic energy of the photoelectrons the elemental composition and the chemical or electronic state of the elements can be determined. In this way the XPS technique is used to investigate the chemistry at the surface of a sample. The information depth is approximately 10 nm. (measurement in Ultra high vacuum) The **JEOL JPS-9200 X-ray Photoelectron Spectrometer** system is used for micro-area surface analysis of a broad range of samples. Both monochromatic and non-monochromatic x-ray sources are available (0-1450 eV). Charge Neutralization by electrons. Angle resolved XPS. Sputter facilities for depth profiling. The Wageningen XPS has been equipped with a Baltec Cryo stage, this means that samples can be introduced and measured under liquid nitrogen temperatures. Typical sample size 8x8 mm, larger is possible.

Main Features (Equipment Capabilities):

- Both monochromatic and non-monochromatic X-rays
- Cryo stage
- Sample rotation
- Sample tilt for angle resolved measurements (only non monochromatic X-rays).
- CasaXPS for data analysis.

Typical Samples & Images:



Limitations / constrains

All elements are detectable except for H and He, sample has to be a solid at RT and stable under ultra-high vacuum conditions. Powders are **not** possible in our setup. Depending on the chemical composition samples might be sensitive to X-ray radiation