TUTORIAL

X-ray Photoemission Spectroscopy Analysis using CasaXPS

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X-ray photoelectron spectroscopy (XPS) data are quantified by applying bell-shaped curves to the spectra [1]. As with most measurements, there are multiple levels of information that can be extracted from XPS analysis, including the most basic, elemental identification and quantitation, and more complex fitting that can yield in-depth chemical state composition. The consequences of transmission function [2] and escape depth will consider.
Proceeding an X-ray Photon Emission Spectroscopy big data set could be time consuming. Function of your samples and measured core levels, you will need different base line, different functions for fitting. You could also need to fit your background at the same time as your core level [3], fit with yours line shape form reference samples.

In this course, some examples of background determinization, peak fitting and statistic uncertainties [4] on big data set will be explain using CasaXPS [5]. Some examples will use PCA projection [6], and linear least square fit [7,8].

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