

XPS and Auger Spectra Overview

Sample notes and aims of the study

A mix of powders and slurries were presented for analysis. Information on any changes in the 4f and Auger signals of the platinum by Co metal incorporation was the main aim of the work.

Experimental method and basic observations

The slurry samples were shaken and sampled with a dropping pipette; after setting in the pipette the slurry was dripped into the powder holder, whereupon the solvent evaporated very quickly to leave a black covering, which had a rather white-grey appearance.

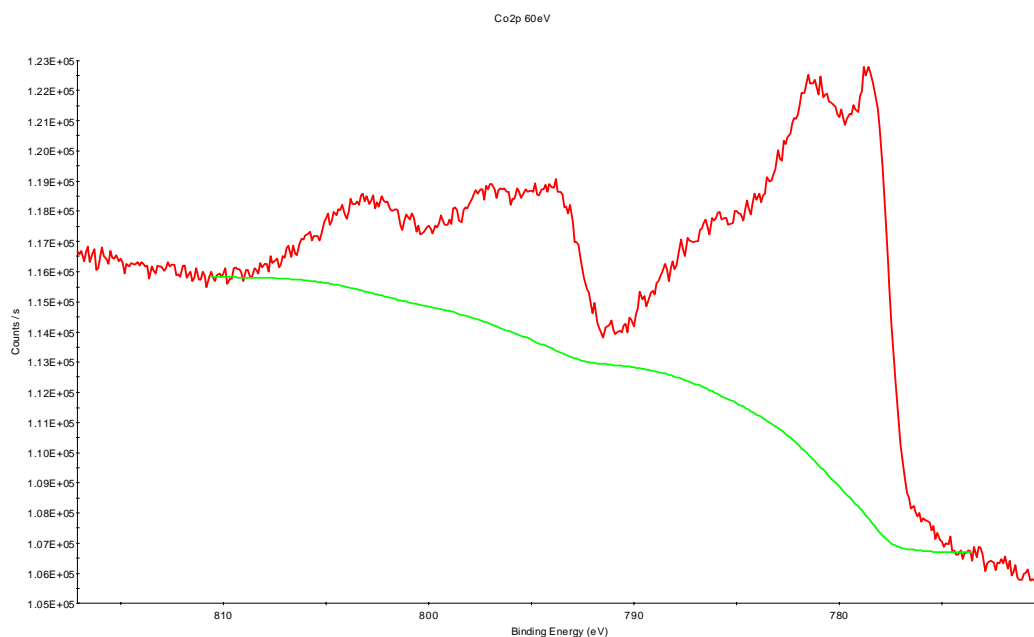
The exciting radiation used in the studies was for the monochromatised aluminium K_{α} radiation in a 650 μm spot at 200 W power.

Analytical method and remarks

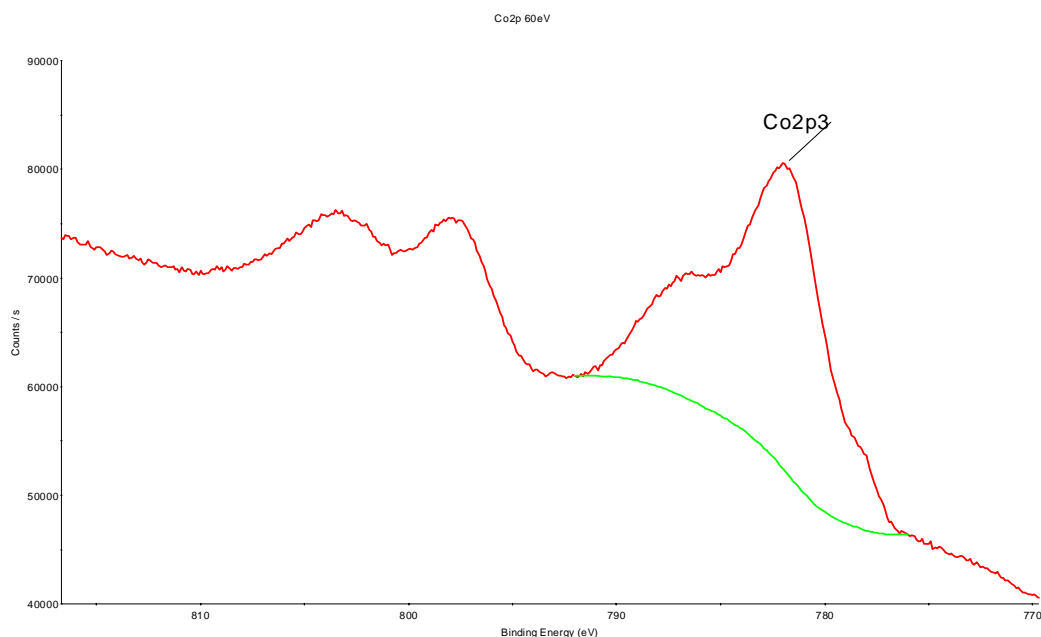
Sensitivity factors after Scofield used throughout.

The binding energy reference used was carbon at 284.6 eV; an appropriate fitted peak was used in all cases.

Pt0.3-Co0.2 (typical spectrum)



Pt0.15-Co0.8 (typical spectrum)



Overview

Sample notes and aims of the study

Several samples were presented for analysis. Differences in the metal signals, particular Auger signals, was the desired information.

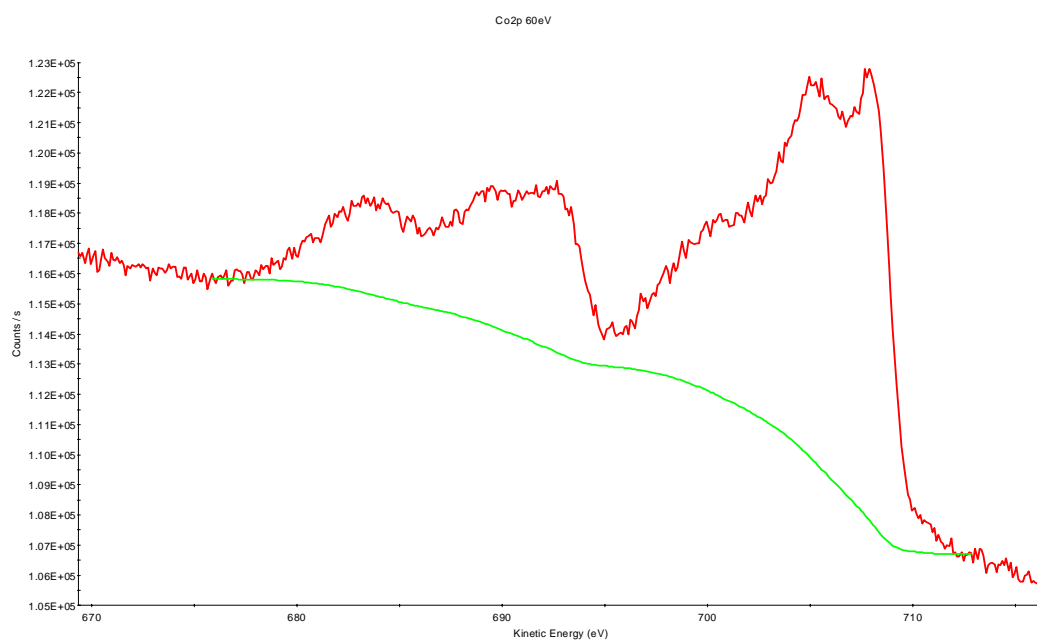
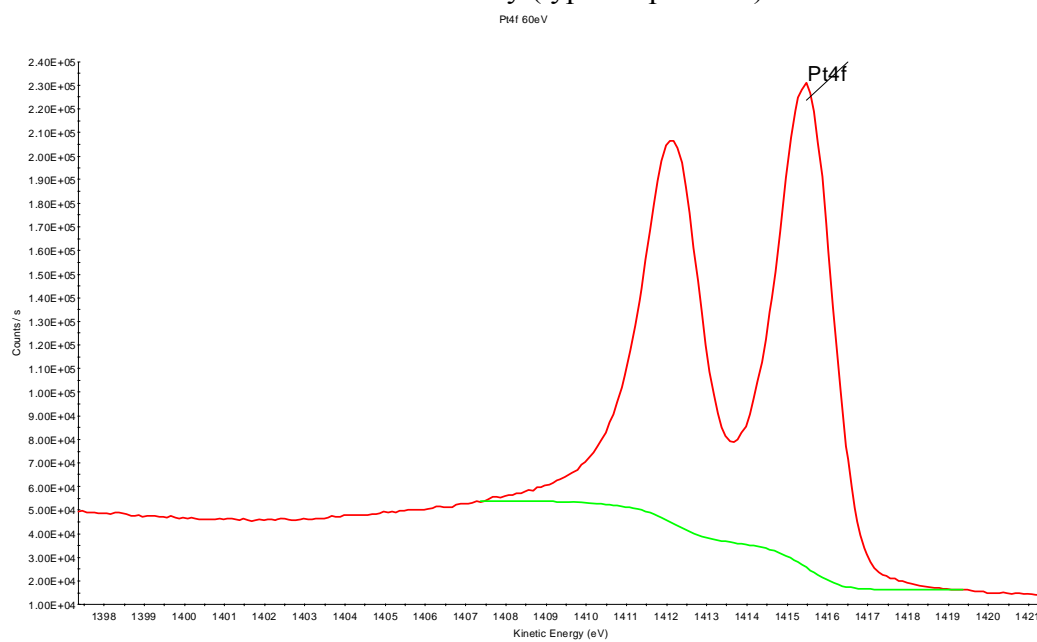
Experimental method and basic observations

The slurries were deposited in the powder sample holder before introduction into the vacuum system. The powders were compressed into pellets or pressed onto conductive carbon tape. The exciting radiation used in the studies was for the monochromatised aluminium K_{α} radiation in a 650 μm spot at 200 W power; charge compensation (when necessary) was provided by the in-lens flood-gun at the low-energy 0.1 eV setting. Argon ion etching (when necessary) was provided by the EX05 gun using 3 keV argon ions at a dose of approximately 10^{17} ions per square centimetre.

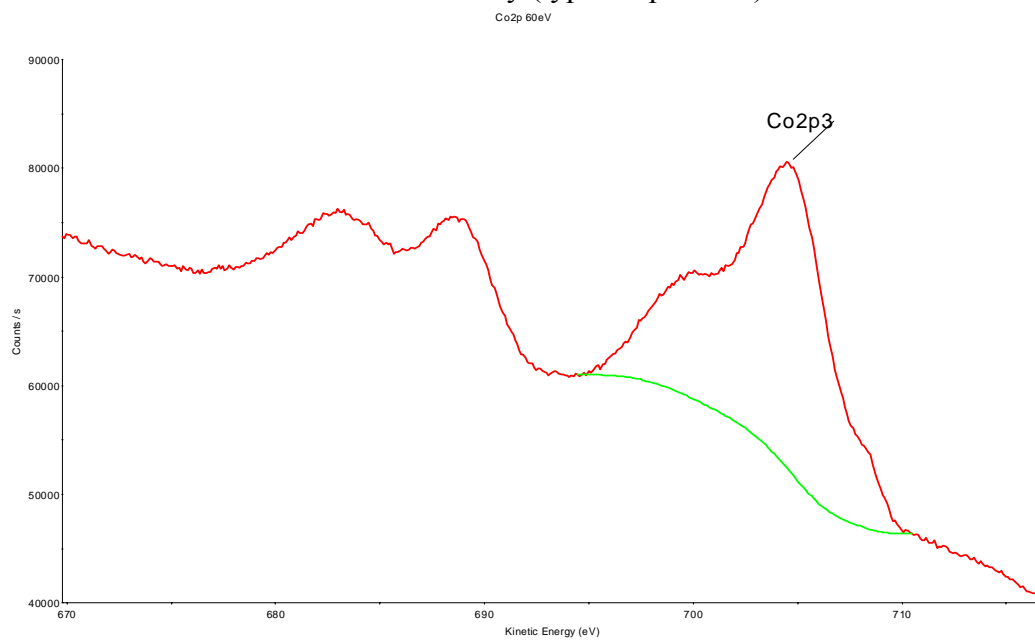
Analytical method and remarks

Sensitivity factors after Scofield used throughout.
The energy reference used was elemental carbon at 284.6 eV.

Pt0.3-Co0.2 slurry (typical spectrum)



Pt0.3-Co0.8 slurry (typical spectrum)



Pt0.3-Co0.05 slurry (typical spectrum)

