

Demonstration of X-Ray Photoelectron Spectrometry

Experiment

The principle of XPS (X-ray photo-electron spectrometry) will be demonstrated using a Perkin-Elmer PHI-5600 system. This system features a dual anode x-ray source (Al and Mg), a monochromated Al anode X-ray source and an inert gas sputtering source (PHI-04-303). The specimen for this experiment will be a 100 nm thick SiO₂-film on a Si (001) substrate. The demonstration will include recordings of spectra at different film depths as well as the discussion of a pre-recorded depth profile. The results will show the excellent ability of XPS to discriminate between elements in different chemical states. In this context, special attention will be drawn to the computer-supported analysis of the recorded spectra.