Study of SiO Powder by X-ray Photoelectron Spectroscopy Analysis

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X-ray photoelectron spectroscopy (XPS) is known to examine a chemical state analysis. Generally chemical shift can evaluate the valence number of atom and a chemical bond of compound. The analysis of the reference material is important as chemical analysis. In many cases general reagent cannot be used as the reference material of the surface analysis. An irregular example is important for a database.

Silicon sub-oxide (SiO) is an interesting state of chemistry when the process of the initial oxidization of Si is investigated. There is a SiO reagent as form of powder or grain. However, a commercial reagent of SiO doesn't show an independent XPS peak. The spectrum is similar to a mixture of SiO_2 and Si. This study shows spectra of Si and SiO powder sample for some preparation and measurement by XPS. And XAES spectrum by the high-energy X-rays of Zr anode (Zr-Lα:2042.4eV) and the Bremsstrahlung X-rays of Mg anode are shown.