

Simultaneous Multimode Measurements of XAFS Spectra in the Soft X-ray Region

G. Fukui, K. Ishino, T. Yoshikawa, T. Tsujii,
K. Mitsuhashi and H. Iwasaki

Abstract

A soft X-ray spectroscopy system has been constructed at the Synchrotron Radiation Center at Ritsumeikan University in which XAFS spectra in different modes, total electron yield, fluorescence yield and transmission, can be obtained simultaneously. It not only shortens total measurement time but also allows to make direct comparison of the spectra from the same sample area containing somewhat different information on the atomic and electronic structure of sample material. Spectra of silicon dioxide deposited on the silicon substrate and those of sodium thiosulfate are shown as examples. It has also been shown that yield of fluorescent radiation is larger than that of total electron in the latter material, indicating that absorption is mainly due to inner photoelectric effect. Discussion is given on the potentiality of the simultaneous multimode measurements.

*Department of Photonics, Faculty of Science and Engineering,
Ritsumeikan University, Kusatsu, Shiga 525-8577, Japan*