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Development of new x-ray absorption spectroscopy measurement HOYOUNG JANG, JUN-SIK LEE, KYUNG-TAE KO, Department of Physics and eSSC, Pohang University of Science and Technology, Pohang, Korea, HANGIL LEE, JAE-YOUNG KIM, Pohang Accelerator Laboratory, Pohang University of Science and Technology, Pohang, Korea, KI BONG LEE, JAE-HOON PARK, Department of Physics and eSSC, Pohang University of Science and Technology, Pohang, Korea — The x-ray absorption spectroscopy (XAS) is a powerful tool to probe electronic structure of valence states. However, its conventional measurements such as total electron yields or fluorescence yields often restrict sample conditions due to surface sensitivity and charging effects in an insulator or self- absorption effects, respectively. As an alternative, we found to extract XAS spectra from soft x-ray reflectivity measurements for transition metal compounds. We performed the soft x-ray reflectivity measurements on reference transition metal oxides, CoO and NiO, at Co and Ni  $L_{2,3}$ -edges, respectively, and successfully extracted the XAS spectrum using Kramers-Kronig relation from the reflectivity data. In the measurements, the scattering angle was set to be in specular conditions. Considering that the reflectivity is a photon-in and photon-out experiment, this result suggests an alternative to obtain XAS spectra for systems, in which the conventional XAS measurements are not applicable.

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