

Moving synchrotron radiation source spectroscopy: a new method for quick XANES

Boris P. Tolochko

Institute of Solid State Chemistry SBRAS, Kutateladze st. 18, Novosibirsk -128, 630128, Russia

S. G. Nikitenko

Institute of Catalysis, Novosibirsk-90, Russia

A. N. Aleshaev and S. Il Mishnev

Institute of Nuclear Physics, Novosibirsk-90, Russia

Gennady N. Kulipanov

Budker Institute of Nuclear Physics, Lavrentev st. 11, Novosibirsk 630090, Russia

We have designed and realized at VEPP-3 a new method for XANES registration. Traditionally, monochromator rotation is used for energy scanning. In this new method, the position of the monochromator is fixed, but the position of the electron beam changes with the magnetic field. As a result, the angle of the SR-beam/monochromator changes and that changes the energy of the monochromatic beam.

We received test XANES spectra of Ag by electron beam position scanning and then used this method for investigation of the fast Ag reduction from metal-organic compounds. Using the undulator as a SR source in this method can improve the time resolution of this method by several orders.