High-Efficiency High Energy Resolution Detecting System for X-Ray Absorption Spectroscopy

QING QIAN, New Jersey Institute of Technology, TREVOR TYSON, New Jersey Institute of Technology — A high-efficiency high energy resolution wave dispersing detecting system was developed. One extra short 182mm radius spherical bent analyzer with 100mm diameter is employed in Rowland circle geometry. All motions of the analyzer and detector are driven by step motors. The system is quite suitable for absorption spectroscopy in fluorescence mode. X-ray absorption spectroscopy measurements were carried out on powders and thin films. The total energy resolution is $\sim$4eV for Si(440) crystal analyzer at 6493 eV, with 2% of the full solid angle collected.

Qing Qian
New Jersey Institute of Technology

Date submitted: 01 Dec 2004