

XAFS Analysis of Dilute Zr, Nb and Mo Species in Metal Oxide Matrices

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Introduction

The beam time of 56 h was shared during the 10th cycle in November, 1997. Because the 10th cycle (1997) was assigned for the arrangement and check of the beam line operation, actual beam time for the experiment of this proposal was less than half of shared beam time. During the cycle, instability of the monochromator swaying prevented from the measurement of XAFS particularly at high energy side. Under the limited experimental condition, we could collect some data of Mo K-edge XAFS which indicates the high performance of the beam line.

Experimental

The XAFS measurements was carried out at BL01B1, SPring-8 in November 1998 with a two-crystal Si(311) monochromator. The sample of Mo/SiO₂ was pressed into a disk and mounted at X-ray path between the ionization chambers in which atmospheric Ar gas was flowing.

Results

Fig. 1 shows the EXAFS oscillation at Mo K-edge of the spectrum in comparison with that recorded at PF. In case of the spectrum recorded at SPring-8, S/N ratios are not very

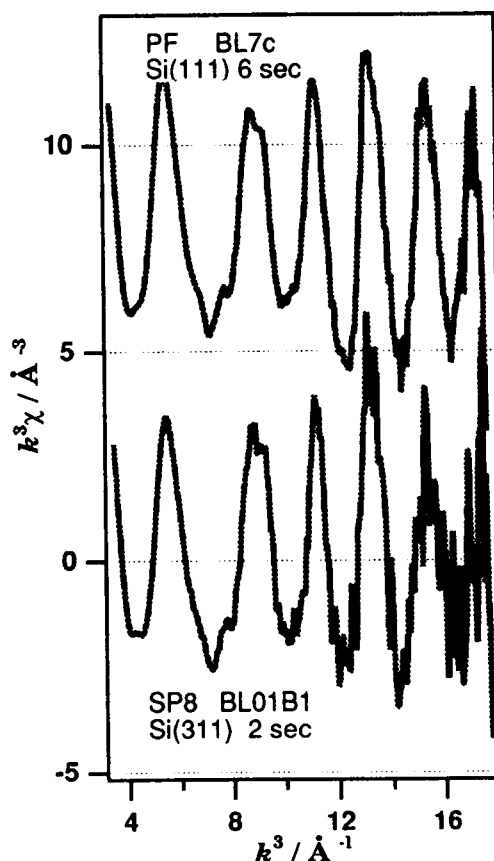


Fig. 1 Mo K-edge EXAFS spectra of Mo/SiO₂ catalyst. The experimental conditions for both cases are depicted in the figure.

different from each other in spite of short acquisition time and low reflectance of the monochromator for BL01B1 SPring-8. This shows that the beam line can exhibit the highest performance for XAFS measurement.