

## Characterization of BL01B1

**S.Emura(1239)<sup>1\*</sup>, Y.Nishihata(1166)<sup>2</sup>, Yoshihiro Kubozono(3121)<sup>3</sup>,  
Masao Takahashi(1285)<sup>1</sup>, Yoshiyuki Nakata(3169)<sup>1</sup>, Tsunehiro  
Tanaka(3225)<sup>4</sup>, Takashi Yamamoto(3226)<sup>4</sup>, Makoto Harada(1286)<sup>5</sup>,  
Hidekazu Kimura()<sup>6</sup>, Osamu Kamishima()<sup>3</sup>, Tomoya Uruga(182)<sup>7</sup>**

1) ISIR, Osaka University, Osaka 567-0047,

2) JAERI(Kansai-kenn) Sayou-gun Mikazuki-cho, Hyogo 679-5198,

3) Faculty of Science, Okayama University, Tsushimanaka 3-1-1, Okayama 700,

4) Department of Molecular Engineering, Kyoto University, Kyoto 606-5801,

5) Faculty of Science, Osaka University, Toyonaka, Osaka 560, 6) Fundamental Research  
Laboratories, NEC Corporation, Tsukuba, Ibaraki 305-8501,

7) SPring-8, Mikazuki-cho, Sayo-gun, Hyogo 679-5198

The beamline BL01B1 is for an x-ray spectroscopy, especially for XAFS measurements, widely ranging from 4.5keV to 90keV. The light source is synchrotron radiation from a bending magnet. The aims of construction of this beamline are to offer to i) high energy x-ray spectroscopy, ii) precise XAFS including theoretical works, iii) Raman scattering in x-ray and modulation XAFS, iv) x-ray spectroscopy in dilute system. Last Autumn, this beamline was in a trial running and several terms of appraisements such as photon flux, energy resolution and reduction degree of higher harmonics were carried out. The important parameters are shown in Table 1. All in the Table 1 are the values at the sample position.

Table 1. The specification of the beamline.

Energy range	4.5 - 90 keV
Energy resolution	$<2 \times 10^{-4}$
Photon flux	$10^{10} \sim 10^{12}$ Phs/s
Higher harmonics	$< 10^{-5}$
Beam size	0.2 ~ 0.3 mm <sup>2</sup>

The characterization in high energy region over 40 keV was made by Nishihata, and their results will be reported in another pages. In low and middle energy range (4.5 keV ~ 40 keV) the mirror performance is checked, and the several spectra were measured to characterize totally the beamline. Figures show typical spectra. The metal Mo data of (a) is the first spectrum of this beamline. Figure (b) shows Cs K-edge spectrum of CsO<sub>2</sub>. This spectrum is representative in a good S/N ratio over  $k \sim 22 \text{ \AA}^{-1}$ . Last figure (c) shows Eu L<sub>III</sub>-edge spectrum. In initial stage of

the beamline, several problems were found. Almost all troubles come from monochrometer. One of the severe problems is stability of the x-ray intensity at the sample position. ( Now, it was overcome owing to make hard efforts by beamline staffs.)

