Contribution ID: 124 Type: Poster

The Quick-scanning EXAFS Beamline at Taiwan Photon Source

Friday, 27 November 2015 13:30 (45 minutes)

The quick-scanning EXAFS beamline using bending magnet at Taiwan Photon Source (TPS) features a quick-scanning monochromator (Q-Mono) for time-resolved studies in series with a conventional double crystal monochromator (DCM). This beamline covers a wide energy range from 4.5 up to 34 keV. The quick-scanning capability allows the collection of a full spectrum in millisecond range. All installed optical components can be used for both quick-scanning and conventional step-by-step modes. There will be different coatings (Si, Rh, Pt) on both collimating mirror (CM) and toroidal focusing mirror (TFM) for high-order harmonic rejection. Additionally, a micro beam will be achieved by Kirkpatrick-Baez (K-B) mirrors for the microprobe analysis. The expected peak photon flux is 5 × 10^{11} photons/s at 10 keV from SHADOW and XOP simulation with the beam size of 66 (h) × 195 (v) m^{2} in FWHM. It can be further reduced down to 20 × 20 m^{2} (FWHM) after K-B mirrors.

Keywords

QEXAFS, EXAFS, XAS, time-resolved x-ray absorption spectroscopy

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Session Classification: Poster Session 2

Track Classification: Beamlines, Instrumentation and Techniques