Characteristics of a Mechanically-Bent-Shaped Mirror

Noboru Kamachi and Joe Endo

Toyama Co., Ltd., 4-6236 Hibarigaoka, Zama-shi, Kanagawa 228-0003, Japan
Phone:+81-46-253-1411; Fax:+81-46-253-1412
E-mail: joe-endo@toyama-jp.com

Abstract

The experimental apparatus to test the characteristics of a mechanically-bent-shaped mirror for x-ray optics was prepared. The applied mirror bender is one developed by Toyama, and many similar types of mechanisms have been used at SPring-8 as well as at KEK/PF in Japan. We performed a series of actual measurements by using a LTP (Long Trace Profiler) at SPring-8. The items to be tested are: 1) difference from the ideal curvature, 2) reproducibility of bent radius in each trial, 3) time-dependent stability, 4) gravity effect, 5) temperature effect, 6) influence by the side cooling system and so on. These tests are still under way and their results will be discussed later. However, the conclusion so far is that the reproducibility and the stability seem to be good enough for normal use as x-ray reflecting mirrors, although the bent-shaped curvature is sensitive to the disturbance elements.

Keywords: mirror bender, x-ray optics, LTP

Presentation: Poster