Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Wide-angle incidence x-ray waveguides prepared by micro-/nano-technology using crystal surface diffraction SUNG-YU CHEN, National Tsing Hua Universuty, YU-CHI SHEN, MAU-SEN CHIU, CHIA-HUNG CHU, National Tsing Hua University, YURIY P. STETSKO, BO-YUAN SHEW, Nat'l Synchrotron Radiation Research Center, SHIH-LIN CHANG, National Tsing Hua University — Grazing incidence x-ray waveguides have been most studied because of its simple geometry and its applicability for all photon energies. However, wide-angle incidence waveguides are also essential for modern x-ray optics, as far as coupling/guiding x-ray beams into given directions are concerned. To investigate this possibility we have prepared waveguides on silicon wafers by x-ray lithographic technique. The waveguides are 100μm high and 1cm long with different widths and the distance between the adjacent waveguides is 2.5 mm. Both the top and bottom surface of a waveguide are plated with gold. With this type of waveguides we have actually observed the effects of guiding x-rays in both lateral and vertical directions using (113) surface diffraction in Au/Si waveguide systems.

Shih-Lin Chang
National Tsing Hua University

Date submitted: 18 Nov 2007 Electronic form version 1.4