

## **TOPOGRAPHIC TESTING OF CRYSTALS FOR THE ADVANCED PHOTON SOURCE USERS**

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Some topography results obtained in the past in the X-ray Laboratory of the Advanced Photon Source will be presented. A short description of a topographic set-up built and used in the lab will be given. A double-crystal diffractometer called Topo Test Unit is located at the 18 kW rotating anode x-ray source. So far, only 8 keV x-rays were utilized in the experiments. During the last 12 years, multiple topographic tests (mainly in Bragg diffraction geometry) of silicon, germanium, and diamond crystals were performed. Crystals tested were predominantly optical elements (e.g., monochromators or analysers) to be used by the APS users. In the current presentation, special attention will be paid to our recent investigations and the used by us method of tilt and strain separation. Examples of maps (distributions) of local (i.e., for pixel-size regions of the sample) rocking curves full widths at half maximum (FWHM), local strains, and mosaic misorientations (tilts) will be demonstrated for a silicon monochromator and some diamond crystals produced by the HTHP method.

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