

## **A New Area Detector for High-speed X-ray Diffraction Analysis and X-ray Imaging**

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A state-of-art semiconductor technology based area X-ray detector, namely D/teX-25, has recently been developed. The detector enables ultra high-speed X-ray diffraction analysis as fast as 160 degree  $2\theta$  in one minutes when installed to X-ray diffractometer. This is more than 30 times faster than a conventional speed of 5 degree  $2\theta$  per minutes with a scintillation or a proportional counter. Thus it is particularly useful for dynamic and/or *in-situ* studies. In addition to high-speed, the detector makes space-resolved X-ray diffraction study possible. X-ray diffraction with areal resolution is useful for the study of sample uniformity and the possible presence of large or aggregated particles in a specimen, which cannot be aware with a conventional point detector. When the detector is combined a Y-Z stage, a two dimensional X-ray image of large area can be obtained. A few images taken at a preliminary experiment will be shown.