

## High Resolution X-ray Imaging Sensor with SOI Technology

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A monolithic pixel detector with a 0.2  $\mu\text{m}$  fully-depleted Silicon-On-Insulator (SOI) technology, called SOIPIX, has been developed. These are utilizing thick handle wafer of SOI structure as a radiation sensor to detect charged particles and X-ray.

One of the detectors, called INTPIX4, is 10.3 x 15.5 mm in size having 512 x 832 (~426 k) pixels each 17  $\mu\text{m}$  square. It has integration type pixels and implements a correlated double sampling (CDS) circuit in each pixel to suppress the reset noise. As a result of the experiments, we succeeded in the acquisition of a high resolution image with X-ray by back-illuminated. The chart pattern of 20 line pairs / mm (25  $\mu\text{m}$ ) was clearly obtained in exposure time of several msec at room temperature. Furthermore, we performed the cooling test. More detailed results including gain and energy resolution will be presented.

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