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## **CdTe pixel and strip detector developments at SPring-8**

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This study describes CdTe pixel and strip detector developments for high energy X-ray diffraction experiments at SPring-8. Pixel-readout ASICs (SP8-01 and SP8-02) have been developed for the pixel detector, where each pixel has a preamplifier, a shaper, a window comparator, and a 20-bit counter. The analog circuit was characterized with a fast setting of 100 nsec and a dynamic range from 10 keV to 100 keV. The window comparator has advantage to avoid electric noise and fluorescent X-ray background by the lower threshold and higher-harmonics beam contamination by the upper threshold. MYTHEN ASIC, which developed at PSI, was applied as the strip detector's readout electronics. We have fabricated Pt/CdTe/Al-pixel/strip sensors performing a Schottky diode detector with electron-readout operation. This electrode-metal configuration realized a low leakage current and a long-term stability in near room temperature. The presentation will describe the features of SP8-02 ASIC forming the 200  $\mu\text{m}$  x 200  $\mu\text{m}$  pixel size with the 20 x 50 matrix. The Pt/CdTe/Al sensor performance will be also discussed in comparison with Pt/CdTe/Pt and In/CdTe/Pt sensors.

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