

3rd Workshop on Advanced Silicon Radiation Detectors (3D and P-type Technologies)

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Development of Monolithic Silicon Detectors based on OKI CMOS SOI technology

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In order to utilize the SOI wafer such that the CMOS electronics is processed in the silicon layer (SOI) over the SiO₂ insulator layer and the active sensor layer in the handle wafer below the insulator layer, a monolithic silicon detector without bump bondings. We have been developing pixel detectors in collaboration with industry to utilize its advanced technology on 0.15 μm and 0.20 μm rules. We report on the development status, radiation damage effect on the SOI transistors, and the latest demonstrators.

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Session Classification: Pixels

Track Classification: Radiation hardness properties of p-type substrate silicon micro-strip detectors: neutron and proton irradiations