

## Study of Behaviour of n-in-p Silicon Sensor Structures Before and After Irradiation

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Radiation-tolerant n-in-p silicon sensors were developed for use in very high radiation environments. Novel n-in-p silicon strip and pixel sensors and test structures were fabricated, tested and evaluated, in order to understand the designs implemented. The resistance between the n-implants (interstrip resistance), the electric potential of the p-stop, and the punch-through-protection (PTP) onset voltage, leakage current breakdown at n-implant at very high voltage were measured before and as a function of fluence after irradiation. The technology computer-aided design (TCAD) simulations were used to understand the radiation damage and fluence dependence of the behavior of structures.

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