

# Charge Collection and Space Charge Distribution in Neutron-Irradiated Epitaxial Silicon Detectors

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Type inverted epitaxial n-type silicon diodes with a thickness of 100  $\mu\text{m}$  and 150  $\mu\text{m}$  and fluences between  $1\text{E}14$   $\text{cm}^{-2}$  and  $4\text{E}15$   $\text{cm}^{-2}$  were investigated using the transient current technique (TCT) at temperatures between  $-40$   $^{\circ}\text{C}$  and  $+20$   $^{\circ}\text{C}$ .

A simulation of charge collection could be used to determine the field dependent trapping time and the space charge distribution in the detector bulk. Assuming a linear field dependence of the trapping times and a linear space charge distribution the data could be described.

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