

Measurement of E_{eff} for Irradiated and Annealed Diodes

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The leakage current of silicon sensors and diodes depends on temperature. To compare measurements of devices obtained at different temperatures, it is necessary to understand the dependence of the bulk current on the temperature.

Bulk current measurements are used to obtain E_{eff} values for proton irradiated n⁺-in-n diodes up to a fluence of $3 \times 10^{15} \frac{\text{neq}}{\text{cm}^2}$ during different stages of annealing for voltages up to 1000 V. A power limit is used to exclude measurements with significant self-heating. This is a test if the established methods and parameters of scaling are applicable after annealing.

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