



Contribution ID: 18

Type: **not specified**

Investigation of high resistivity p-type FZ silicon diodes after ^{60}Co - gamma irradiation

Tuesday 29 November 2022 11:40 (20 minutes)

Two types of high resistivity p-type FZ diodes with p-stop and p-spray isolation between the pad and the guard ring were irradiated with ^{60}Co gamma-rays. The dose values were 10, 20, 100, and 200 Mrad. In this work microscopic (TSC) as well as macroscopic (I-V, C-V) studies on isothermal heat treatments at 80 °C and isochronal annealing from 80 °C up to 300 °C were performed and analyzed for diodes irradiated to 100 and 200 Mrad. The results of these measurements will be presented. In addition, the unexpected frequency dependence of the C-V measurements in correlation with surface current measurements will be reported and discussed.

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Session Classification: Defect and Material Characterization