

ESR investigation of paramagnetic point defects in O doped crystalline Si-FZ irradiated with 27 MeV electrons

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The presence and nature of the paramagnetic point defects produced in single crystalline samples of high resistivity (3-4 kOhm cm) n-type silicon (FZ- Wacker), doped with ^{17}O enriched isotope, after irradiation with 27MeV electrons ($2 \times 10^{16} \text{ cm}^{-2}$), has been investigated by Q-band (34 GHz) electron spin resonance (ESR) spectroscopy in the 10- 296 K temperature range. Changes in the nature and concentration of the paramagnetic centers observed before and after in-situ 637 nm optically excitation have been further observed following subsequent isochronal annealing from 150 0C up to 300 0C in steps of 50 degrees. A tentative comparison with thermally stimulated currents (TSC) data on such samples subjected to similar irradiation and thermal treatments is also presented.

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