

OPTICAL AND STRUCTURAL STUDIES
OF PROTON-IRRADIATED SILICON
MONOCRYSTALS

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S u m m a r y

Properties of monocrystal silicon irradiated by protons with an energy of 6.8 MeV are investigated by the optical and X-ray methods. After irradiation and annealing at 300–600 °C, the creation of a number of centers is found, whose composition includes hydrogen fixed on the broken bonds of radiation defects. The annealing of centers occurs at 600 °C and is accompanied by a break of Si–H bonds. At the same temperature, there is a flaking of the irradiated part of silicon with the thickness appropriate to the path depth of protons with an energy of 6.8 MeV in silicon (360 microns).