

CREATION OF DEFECTS IN Si CRYSTALS
AFTER HIGH-ENERGY IRRADIATION
BY ELECTRONS AND γ -QUANTA

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S u m m a r y

We studied the secondary processes in monocrystalline Si before and after both the irradiation by high-energy electrons (about 18 MeV) and the combined irradiation by electrons and γ -quanta by using X-ray diffraction analysis and the method of internal friction (IF) in the infrasound frequency range. It is shown that the irradiation influences the degree of structural perfection of crystals, deforms significantly the infrasound absorption spectrum, and induces the appearance of amplitude dependences and the temperature hysteresis of the effective modulus G_{eff} . Certain assumptions as for the nature of the phenomena observed are advanced.