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Radiation hardness of GaAs: Cr semiconductor detectors after irradiation with fast neutrons at the IBR-2 reactor.

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Investigation of the semiconductor detectors properties under neutron irradiation is very important for their practical application. High-resistivity gallium arsenide detectors (GaAs:Cr) were irradiated at the reactor IBR-2 with various fast neutron fluences in range from $4 \times 10^{11} \text{ cm}^{-2}$ to $5 \times 10^{17} \text{ cm}^{-2}$. The charge collection efficiency and the current-voltage characteristics of irradiated detectors were measured, and their degradation after neutron irradiation was compared with the results obtained by irradiation with 20 MeV electrons

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