

The study of radiation defects in heterostructured semiconductors after irradiation at the irradiation facility of the IBR2 research reactor

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Heterostructures of high quality A₃B₅ arsenides with a quantum well based on In-Ga_{1-y}As exhibit high mobility of a two-dimensional electron gas and are actively used in microwave heterostructure electronics. In the heterostructures, the current-conducting layer is very thin —of the order of 10–20 nm, enclosed between wide-gap barriers; therefore, the radiation physics of such structures may differ from what was done in classical bulk semiconductors. A set of samples with heterostructures were irradiated in the irradiation unit of the IBR-2 research reactor. Preliminary results on x-ray diffraction and Raman spectroscopy are obtained.

Primary author: Mr YSKAKOV, Almas

Presenter: Mr YSKAKOV, Almas

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