

## Characterization of InP Semiconductor Quantum Dot Laser Diode after Am-Be Neutron Irradiation

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**Abstract :** This paper is about the Am-Be neutron source irradiation of the InP Quantum Dot Laser diode. A QD LD was irradiated for 24 hours and 48 hours. The laser underwent IV characterization experiments before and after the first and second irradiations. A computer simulation using GAMOS helped in analyzing the given results from IV curves. The results showed an improvement in the QD LD series resistance, current density, and overall ideality factor at all measured temperatures. This is explained by the activation of the QD LD Indium composition to Strontium, ionization of the compound QD LD materials, and the energy deposited to the QD LD.

**Keywords :** quantum dot laser diode irradiation, effect of radiation on QD LD, Am-Be irradiation effect on SC QD LD

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