

Simulation of optimum parameters for GaN MSM UV photodetector

*Mohanad A. Alhelfi, Naser M. Ahmed, M. R. Hashim,
Ali Amer Al-Rawi, Z. Hassan*

Abstract:

In this study the optimum parameters of GaN M-S-M photodetector are discussed. The evaluation of the photodetector depends on many parameters, the most of the important parameters the quality of the GaN film and others depend on the geometry of the interdigitated electrode. In this simulation work using MATLAB software with consideration of the reflection and absorption on the metal contacts, a detailed study involving various electrode spacings (S) and widths (W) reveals conclusive results in device design. The optimum interelectrode design for interdigitated MSM-PD has been specified and evaluated by effect on quantum efficiency and responsivity.