

Excitonic Refractive Index Change in High Purity GaAs Modulator at Room Temperature for Optical Fiber Communication Network

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Abstract : In this paper, we have compared and analyzed the electron absorption properties between with and without excitonic effect bulk in high purity GaAs spatial light modulator for an optical fiber communication network. The electroabsorption properties such as absorption spectra, change in absorption spectra, change in refractive index and extinction ratio have been calculated. We have also compared the result of absorption spectra and change in absorption spectra with the experimental results and found close agreement with experimental results.

Keywords : exciton, refractive index change, extinction ratio, GaAs

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