Electrooptical properties of diluted GaAsN on GaAs grown by APMOVPE

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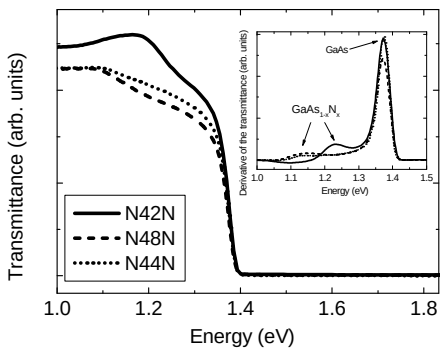
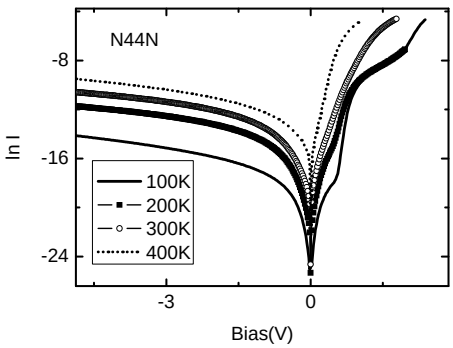
In this paper we report on the optical and electrical studies of single $GaAs_{1-x}N_x$ epitaxial layers grown on GaAs substrates by means of atmospheric pressure metal organic vapour phase epitaxy (APMOVPE). Three kinds of samples with 1,2 %, 1,6 % and 2,7 % nitrogen (N42, N48, N44) content were studied. Optical properties of the layers were investigated with the use of room temperature transmittance and reflectance measurements. Subsequently Schottky Au-$GaAs_{1-x}N_x$ contacts were processed and characterized by current-voltage (*I-V*) and capacitance-voltage (*C-V*) measurements within 80 – 480 K temperature range. From the *I-V* and *C-V* characteristics the ideality factor, series resistance and built-in potential were determined. Obtained diodes can be used for further studies on defects with the use of DLTS method.





[1] P. Kamyczek, P. Bieganski, E. Placzek-Popko, E. Zielony, L. Gelczuk, B. Sciana, D. Pucicki, D. Radziewicz, M. Tlaczala, K. Kopalko, M. Dabrowska-Szata, *Electrooptical properties of diluted GaAsN on GaAs grown by APMOVPE* - accepted for publication in Optica Applicata.