

## Electronic states in GaAsN Alloys and in GaAsN- GaAs Quantum Wells

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We propose a heuristic formulation of the dispersion relations for the electrons in GaAsN layers. This model, which includes the sophisticated interaction between the nitrogen state and the GaAs ones, furnishes us with the effective masses and their pressure dependence is then extended to compute confined conduction states in GaAsN- GaAs quantum wells.

We find that the analogous of the  $E^-$  and  $E^+$  transitions found in the epilayers are found in QWs together with levels which poorly varies with both nitrogen content and well width.

Our model suggests that thin wells are most likely to behave like isoelectronic states rather than like Quantum Wells.

Last, we compute for the first time in the literature the exciton parameters - binding energy and oscillator strength - versus the well width for selected GaAsN-GaAs single Quantum Wells.

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