

We studied epitaxial layers of Gallium Manganese Arsenide by various x-ray scattering methods. Since the positions of the Mn dopant in the a host GaAs lattice are crucial for magnetic properties of this material, we focused mainly on a development of the laboratory diffraction method capable to identify Mn in particular crystallographic positions. From the measured diffracted intensity distributed along Crystal Truncation Rods, it is possible deduce the density of Mn interstitials in two non-equivalent crystallographic positions. It is possible to decrease the interstitial Mn density by annealing. We demonstrated our method on severally annealed epitaxial layer. The depth profile of interstitial density was determined after each annealing. The annealing process was simulated by the solving of the Drift-Diffusion equations. From the comparison with the experimentally determined interstitial densities, we estimated the diffusivity of Mn interstitials in the GaAs lattice.