

# Role of Ga vacancies and carbon impurities in photoluminescence mechanism in GaN

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Abstract: Despite large spread of GaN-based devices in 1990s, several fundamental questions about GaN properties remain unanswered. One of them is a role or even a presence of Ga vacancies in GaN. Related question concerns so-called yellow luminescence band which is very often found in the GaN luminescence spectra, origin of which is usually assigned to either carbon impurities or Ga vacancies (or its complexes). This contribution provides new insights to answer these questions thanks to the Ga vacancy concentration measurements by variable positron annihilation spectroscopy.