

GaN films synthesized by inductive coupled PECVD

김동욱, 홍기남, 김홍탁, 박진호*

영남대학교

(chpark@ynu.ac.kr*)

In this study, GaN films were synthesized by inductively coupled plasma enhanced chemical vapor deposition method.

Ga(mDTC)₃ as a precursor of GaN material was prepared by dissolving Ga(NO₃)₃·8H₂O and sodium N,N-dimethyldithiocarbamate dehydrate (TCD) with 1:3 mole ratio of Ga Salt to the ligand in Methanol. This Ga(mDTC)₃ powder was mixed with chloroform solution (CH₃Cl) using a ultrasonic machine and GaN film was deposited by a spin coating method.

These samples were treated with inductively coupled plasma. The inductively coupled plasma was generated by RF power and the gases were the mixture of NH₃ and N₂ gas.

The film thickness and surface morphology of GaN were characterized by a scanning electron microscope. The crystallinity of GaN films was analyzed by X-ray diffraction and the composition of the films were measured by energy dispersive X-ray spectroscopic method. This work was supported by the Korea Research Foundation(KRF) grant funded by the Korea government(MEST) (No. 2009-0077228)