World Academy of Science, Engineering and Technology
International Journal of Chemical and Materials Engineering
Vol:9, No:01, 2015

Kinetic Monte Carlo Simulation of ZnSe Homoepitaxial Growth and Characterization

Authors : Hamid Khachab, Yamani Abdelkafi, Mouna Barhmi

Abstract : The epitaxial growth has great important in the fabricate of the new semi-conductors devices and upgrading many factors, such as the quality of crystallization and efficiency with their deferent types and the most effective epitaxial technique is the molecular beam epitaxial. The MBE growth modeling allows to confirm the experiments results out by atomic beam and to analyze the microscopic phenomena. In of our work, we determined the growth processes specially the ZnSe epitaxial technique by Kinetic Monte Carlo method and we also give observations that are made in real time at the growth temperature using reflection high energy electron diffraction (RHEED) and photoemission current.

Keywords : molecular beam epitaxy, II-VI, morpholy, photoemission, RHEED, simulation, kinetic Monte Carlo, ZnSe
Conference Title : ICMCE 2015 : International Conference on Materials and Chemical Engineering
Conference Location : Jeddah, Saudi Arabia
Conference Dates : January 26-27, 2015