SYNTHESIS AND CHARACTERIZATION OF ZnO NANOWIRES BY MOCVD

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ABSTRACT

Zinc Oxide (ZnO) nanowires were synthesized by Metal Oxide Chemical Vaper Deposition (MOCVD) system by controlling the particle size of the catalyst involved in growth. The nanowire formation was successfully confirmed by minimizing the time for the process by dipping the wafer into the liquid phase catalyst and reacting directly through CVD. In order to determine the optimal conditions for growth of nanowires (NWs) in the above experiment, the reaction was carried out at various times and temperatures under an argon (Ar) atmosphere. We could observe that the diameter and size of nanowire are increasing as the particle size of the catalyst increased.

Keywords: ZnO nanowires, Metal Oxide Chemical Vaper Deposition (MOCVD), Structural and optical properties.