

## Synthesis and Orientation of ZnO Nanorods For 1-Dimensional-Bulk Hetero-Junction Solar Cells Application

호양티하이하, 트롱윈탐원, 트린탄기에우, Phamhauthanhviet, 박진호†  
영남대학교  
(chpark@ynu.ac.kr†)

One - dimensional semiconductor nanostructures such as nanorods, nanowires, and nanotubes are receiving attention because direct connection of the point of photogeneration with the collection electrode using such structures may improve the cell performance. In this study, ZnO nanorods array were prepared in two sequential hydrothermal synthesis steps. The morphologies and crystalline nanostructures of samples were investigated by treating the seeds layer by heat and controlling growth time. The ZnO seeding layer that was treated by heat decrease reaction time to 5h down 3h. From SEM images, the ZnO nanorods with treated seed-layer temperature exhibited better than without treated temperature. The diameter and length of the nanorods could be varied by changing reaction time.