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ZnO synthesis using wet chemical growth with various nanostructures

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In this work, zinc oxide nanostructures (NSs) are formed by aqueous chemical growth using equal molar quantities of zinc acetate dehydrate and Hexamethylenetetramines (HMTA) (C6H12N4, 99.5%) at low temperature on Aluminum substrate. The surface morphology of the ZnO (NSs) was characterized using Scanning Electron Microscope (SEM) which showed the change in shape. Pictures of ZnO nanobelts, nanotubes and nanoroses were achieved with the average dimensions ranging between 100 to 300 nm. EDX analysis was used to confirm ZnO purity and UV visible absorption spectrum of ZnO was determined and maximum absorption wavelength was located at 410.67 nm. The calculated band gab was found to be 3.04 eV. XRD was used to confirm the crystallinity of ZnO (NSs).

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Biography

Haythem Suliman Basheer has obtained his MSc in Nanoscience and Nanotechnology. He has been teaching at University of Bahri, Faculty of Applied and Industrial Sciences and his research interest is in nanotechnology especially in clean renewable energy (solar cell) to improve its efficiency and water treatment and purification and desalination.

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