

THE EFFECT OF TEMPERATURE ON THE STRUCTURAL AND OPTICAL PROPERTIES OF ZNO NANOPARTICLES SYNTHESIZED THROUGH A PRECIPITATION METHOD

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Abstract:

ZnO has received much attention over the past few years because it has a wide range of properties such as wurtzite-type semiconductor with band gap energy of 3.37 eV and it has very large excitation binding energy (60 meV) at room temperature [1] [2].

In the present work, zinc oxide nanoparticles were synthesized by a simple and rapidly method at low temperature followed by calcinations at temperature of 300°C and 400°C. The ZnO nanoparticles obtained in this way were characterized by FTIR spectra indicate the existence of the distinct characteristic absorption for Zn-O stretching modes. The X-ray diffraction patterns indicated a hexagonal wurtzite structure of ZnO with high crystallinity and nanocrystalline size. The optical band gap was calculated from UV-visible absorption measurement.

References:

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