SYNTHESIS OF PALLET SHAPED ZNO NANOPARTICLES VIA AN AQUEOUS ROUTE

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 Abstact: The ZnO nanopowders can be successfully prepared via an aqueous route. The process parameters (temperature and pH) have a significant influence on phase composition and crystallite size. From X-ray diffraction (XRD) spectra performed on the nanopowders obtained, the lattice parameters and the phase changes as well as the average grain sizes and the grain shape anisotropies have been determined. Scanning electron microscopy observations support the results.
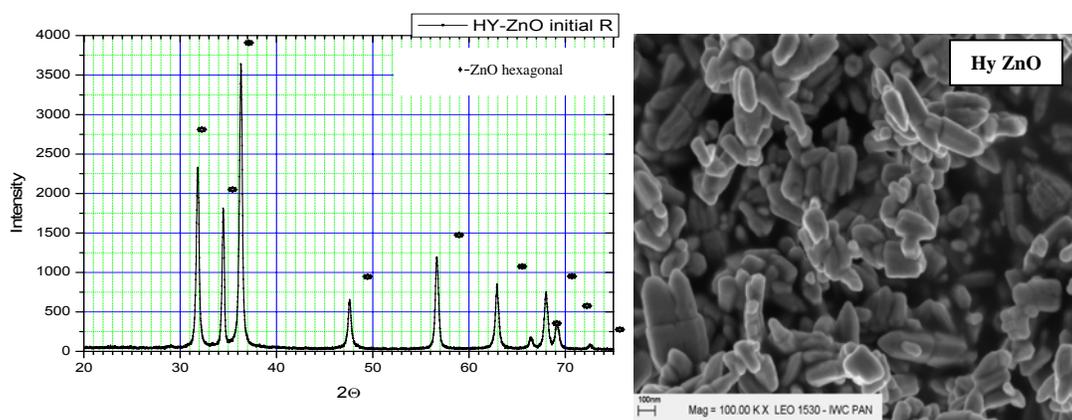
Fig.6. XRD Spectres of ZnO powders synthesized by hydrothermal route and the micrograph by SEM

Conclusions

Several important facts have been put in evidence in the present research, namely:

- In the case of hydrolyze method with the increasing of temperature only the ZnO phase is present.

- The hydrolyze is an easy process to obtained nanometric zinc oxide powders.

-The hydrothermal route offers the possibility to synthesis only ZnO powders in the nanometric range with a better control of process parameters(temperature-pH-presure).

- The morphology of powders obtained by hydrothermal process is palled shaped.

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