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Microwave assisted Synthesis and Characterization of Cu^{2+} doped ZnO Nano particles

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Abstract : We have investigated the influences of Cu^{2+} doping on zinc oxide nano particles. Pure and Cu^{2+} doped Zinc oxide has been recognized as one of the most important transparent high preferential directed particles in view of its numerous applications in many fields. Microwave assisted synthesis has certain advantages in the preparation of nano materials such as reducing the time, requires fewer material and also offers better control over the reaction process. Crystallite size and phase identification was carried out by x-ray diffraction. The crystalline size and lattice strain was calculated using Williamson-Hall method. The lattice parameter was found by Nelson-Riley fit. Morphology of the crystallites was studied using SEM and TEM analysis. The optical properties were characterized by UV-Vis absorption spectroscopy.

Key Words: Cu^{2+} doping on zinc oxide, SEM, TEM, UV-Vis, Crystallite size.

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