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Structural and Photocatalytic Analysis of Nanostructured CdO, ZnO and their Composite Useful to Remove Textile Dyes Waste from the Drainage System

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Abstract: *In recent years, the fabrication of semiconductor nanostructures has increasingly been adopted as the stimulating mechanism in nanoscience and nanotechnology. The comprehensive investigation and environmental impact of CdO, ZnO, and their nanocomposite executed in this direction with the help of a profitable co-precipitate approach at room temperature. In the prepared sample, the diffractogram is having rock salt CdO and wurtzite ZnO crystalline phase while the composite sample has combinedpeaks of both.We have investigated the modified intensity, FWHM, crystalline size, and microstrain present in the synthesized samples. The texture of the surface is evaluated by SEM micrographs for prepared nanocrystallites. In the present study, Rhodamine B dye is being selected for decomposition and investigated the catalytic efficiency of prepared samples under visible light.*

Keywords: CdO-ZnO nanocomposite, Dye degradation, Environment impact, etc.

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