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Study of morphological optical and bactericide properties of ZnO-CuO. ENRIQUE SANCHEZ-MORA, RUTILO SILVA-GONZALEZ, Instituto de Fisica, BUAP, PATRICIA GUTIERREZ-MORALES, Fac. Ciencias. Químicas., BUAP, ESTELA GOMEZ-BAROJAS, CIDS-IC, BUAP — In this work, we present a comparative study of the morphological and optical properties of ZnO, CuO, and CuO-ZnO thin films deposited on glass and treated thermally at 400 ^{o}C. The samples were characterized by scanning electron microscopy, IR and UV-Vis spectroscopies. Also, preliminary studies were performed about the effect of these compounds on the growth process of Escherichia coli (E. Coli). The characterization results of these samples show a porous surface morphology, and the presence of surface OH groups. The optical studies of ZnO and CuO samples give energy band gaps (Eg) of 3.45 and 1.93 eV respectively, while the ZnO-CuO absorption edge is shifted toward to the visible region showing two steps, one gives an Eg of 2.60 and the other gives 1.91 eV. The results about bactericidal activity show that the ZnO-CuO thin film is more efficient than the ZnO film. The CuO film does not produce any change on the E-coli bacteria growth.

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