

Abstract Submitted
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Investigation of Chemical Reactivity at the Co/CuO interface by X-ray Photoelectron Spectroscopy¹ J. EDMONDSON, Y. JUDIE, A. CHOURASIA, TAMU-Commerce — The technique of x-ray photoelectron spectroscopy has been utilized to investigate the chemical reactivity between cobalt and copper oxide at the Co/CuO interface. Thin films of copper (about 15 nm) were deposited on silicon substrates by the e-beam method. Such samples were oxidized in an oxygen environment in a quartz tube furnace at 400 ° C. The formation of CuO was checked by the XPS spectral data. Thin films of cobalt were then deposited on these CuO samples. The cobalt 2p, oxygen 1s and copper 2p regions were investigated by XPS. The magnesium anode (energy = 1253.6 eV) has been used for this purpose. The spectral data show chemical reactivity at the Co/CuO interface. The samples were annealed afterwards in air at 400 ° C. The spectral data were recorded at different take-off angles. Diffusion of copper through the cobalt overlayer with the formation of CuO is observed in the annealed samples.

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