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Chemical Reactivity at the Ti/CuO Interface[1] A. CHOURASIA, J. EDMONDSON, Texas A&M Univ.-Commerce — The chemical reactivity between titanium and copper oxide at the Ti/CuO interface has been investigated using x-ray photoelectron spectroscopy. About 15 nm thick copper film was deposited on silicon substrates by the e-beam method. Such samples were oxidized in an oxygen environment in a quartz tube furnace at 400 $^\circ$C. The formation of CuO was checked by the XPS spectral data. Thin films of titanium were then deposited on these CuO samples. The titanium 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 Ti/CuO interface. The samples were annealed afterwards in air at 400 $^\circ$C. The spectral data were recorded at different take-off angles. Comparison of the data with the pre-annealed samples shows diffusion of Cu through the titanium overlayer alongwith the formation of CuO.

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A. Chourasia
Texas A&M Univ.-Commerce

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