Investigation of the thickness of titanium dioxide by x-ray photoelectron spectroscopy\textsuperscript{1} A. CHOURASIA, Texas A&M University-Commerce

— About 100 A of elemental titanium were deposited on silicon substrates using the e-beam technique. The films were exposed to a partial pressure of oxygen at $5 \times 10^{-7}$ Torr. The substrate temperature was maintained at 600$^\circ$C and the time of exposure was varied between 30 min and 3 hours. The oxidation of titanium as a function of the exposure time has been studied using the x-ray photoelectron spectroscopy technique. The magnesium x-radiation (energy = 1253.6 eV) has been used for this purpose. The titanium 2p and oxygen 1s regions have been investigated. The spectral data have been recorded at 45$^\circ$ take-off angle. The spectral data have been analyzed to estimate the thickness of the titanium dioxide formed on the substrate as a function of the exposure time.

\textsuperscript{1}Supported by Organized Research, TAMU-Commerce and Cottrell College Science Award.