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**Study of oxidation of titanium by x-ray photoelectron spectroscopy**[1] HONG DONG, A.R. CHOURASIA, R.L. MILLER, Dept. of Physics, TAMU-Commerce — The oxidation of titanium has been investigated using the technique of x-ray photoelectron spectroscopy. Thick films of titanium have been deposited on silicon substrates by e-beam method. The Oxford Applied Research EGN4 was used for this purpose. The titanium substrate was kept at different temperatures (100, 200, 300, 400, 500, and 600 $^\circ$C). These substrates were exposed to oxygen at different partial pressures. The titanium 2p and oxygen 1s regions have been investigated by XPS. The magnesium anode (energy = 1253.6 eV) has been used for this purpose. The spectral data have been recorded at 45 $^\circ$ take-off angle. The spectral data for different temperatures and oxygen partial pressures have been analyzed to ascertain the complete oxidation of the titanium substrate.

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