

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Oxidation of Hafnium studied by X-ray photoelectron spectroscopy.¹ A CHOURASIA, W. JOHNSTON, Texas A&M University-Commerce — The oxidation of hafnium has been studied by X-ray photoelectron spectroscopy. Two types of experiments were conducted. In both types, thick films of hafnium were deposited on a metal substrate using the electron beam deposition technique. In one set of experiments, the substrate temperature was in the range between 100C and 500C. The deposition chamber was filled with oxygen at a very low pressure while the film was getting deposited. In the second set of experiments, substrate was kept at room temperature during the hafnium film deposition. The film was then subjected to post-deposition annealing in an oxygen atmosphere. The hafnium XX core level and oxygen 1s core level were recorded in the high resolution mode. The thickness of the oxide films have been determined from the XPS spectra using the Quantitative Analysis by SES software. The study provides a comparison of the oxide formation as a function of substrate temperature in the two cases.

¹Research Corporation Award; Faculty Research Enhancement TAMU-Commerce

A. Chourasia
Texas A&M University-Commerce

Date submitted: 30 Dec 2005

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