

Abstract Submitted  
for the TSS07 Meeting of  
The American Physical Society

**Impact of RCA clean on hafnium dielectrics** KELLY FREEMAN, Texas State University, San Marcos, ERIC OSEI-YIADOM, MUHAMMAD HUSSAIN, SEMATECH — In order to improve the quality of hafnium dielectrics the issue of oxygen vacancies needs to be addressed. The goal of this experiment is to create a model of oxygen incorporation using RCA cleaning. We will present preliminary results of the impact of RCA clean on oxygen levels at the interface of HfO<sub>2</sub> films on Si and also HfSiO films on Si. Analysis was completed using x-ray photo spectroscopy (XPS) and Fourier transform infrared spectroscopy (FTIR) under the guidance of engineers at SEMATECH and the Advanced Technology Development Facility (ATDF). Future goals and variations of the ongoing experiment will be discussed as well as the use of Hf in future production of MOSFETs.

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Date submitted: 12 Mar 2007

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