Abstract Submitted
for the TSF09 Meeting of
The American Physical Society

Spectroscopic Ellipsometry: Multilayer and porous structures[1]
STEVE JACKSON, Angelo State University - Department of Physics, RAVI DROOPAD, Texas State University, TONI SAUNCY, Angelo State University - Department of Physics — Due to its non-destructive nature, spectroscopic ellipsometry has become commonplace in the semiconductor industry as a widely used thin film characterization technique. This model dependent technique exploits polarization states of light to study the structures and compositions of thin films ranging in thickness from just a few angstroms to several microns. In this study, three multi-layered MBE-grown thin film stacks were characterized over a spectral range of 2.0-5.0eV along with the irregular structures of a series of stain-etched porous silicon thin film layers. By using a novel modeling technique, the pore size and distribution was determined and correlated with surface resistivity and Raman measurements of the same structures.

[1]This work was supported by NSF EEC REU #0648761.

Toni Sauncy
Angelo State University

Date submitted: 01 Oct 2009

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