

Tuesday Afternoon, November 1, 2011

Exhibitor Technology Spotlight

Room: West Exhibit Hall - Session EW-TuA

Exhibitor Technology Spotlight

Moderator: Langley

3:20pm EW-TuA5 **Selecting the Best Metrology Method for Monitoring Thin Film Deposition**, *T. Ballinger*, Bruker

This presentation will include a discussion of traditional metrology techniques, in addition to recent innovations in metrology technology for monitoring thin film deposition. Measurement techniques to be discussed include contact methods such as stylus profilometry and non-contact methods such as white light interferometry and confocal microscopy, as well as scanning probe microscopy. A comparison of the various technologies will be provided, as well as the advantages and disadvantages of each metrology method for thin film measurements. This presentation is designed to provide attendees with the information necessary to determine the best metrology technique to monitor thin films below one micron (down to 1 nanometer) and thick films over 10 microns. The hardness, softness or optical properties of the films and substrates will be addressed, on how they can influence the decision in selecting a metrology method for a particular application. Also included in the presentation will be a description of thin film stress and how tensile or compressive stress in the film can adversely affect the film adhesion and cause other defects and product failures if not properly and accurately measured and controlled.

Authors Index

Bold page numbers indicate the presenter

— **B** —

Ballinger, T.: EW-TuA5, **1**