

INTERFACIAL BONDING STABILITY

UNIVERSITY OF CINCINNATI

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IN-SITU ELLIPSOMETRY

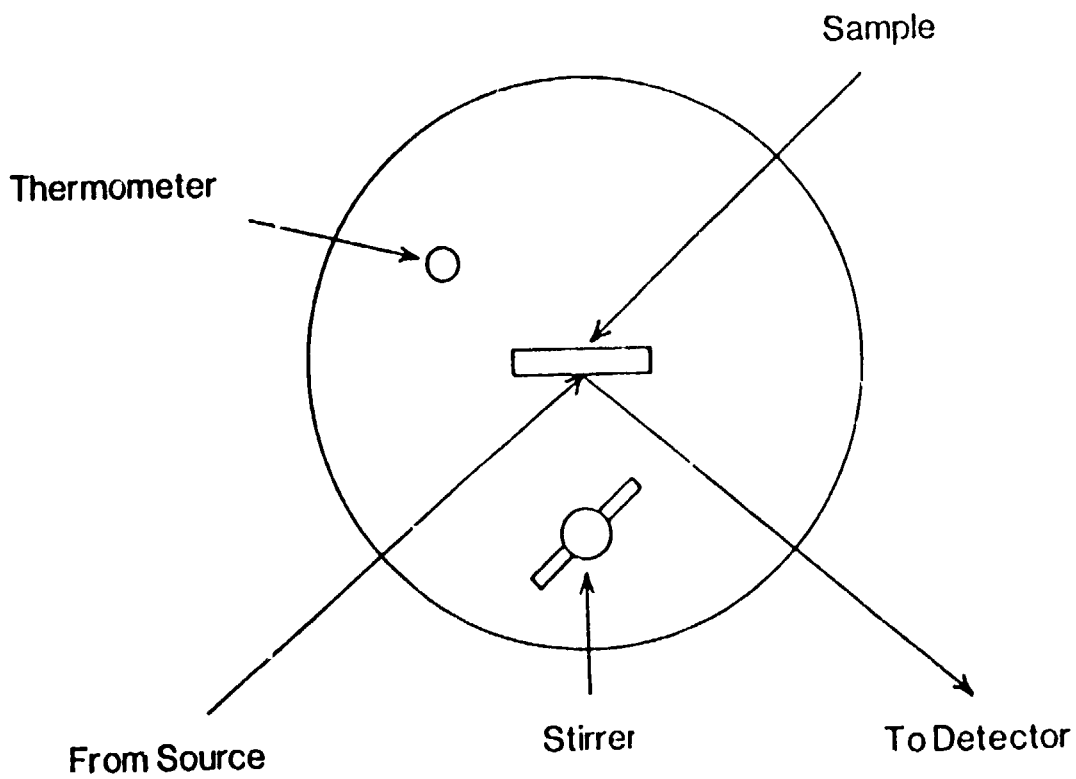


Figure 2. Sample cell for in-situ ellipsometry of metals exposed to water.

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RELIABILITY PHYSICS

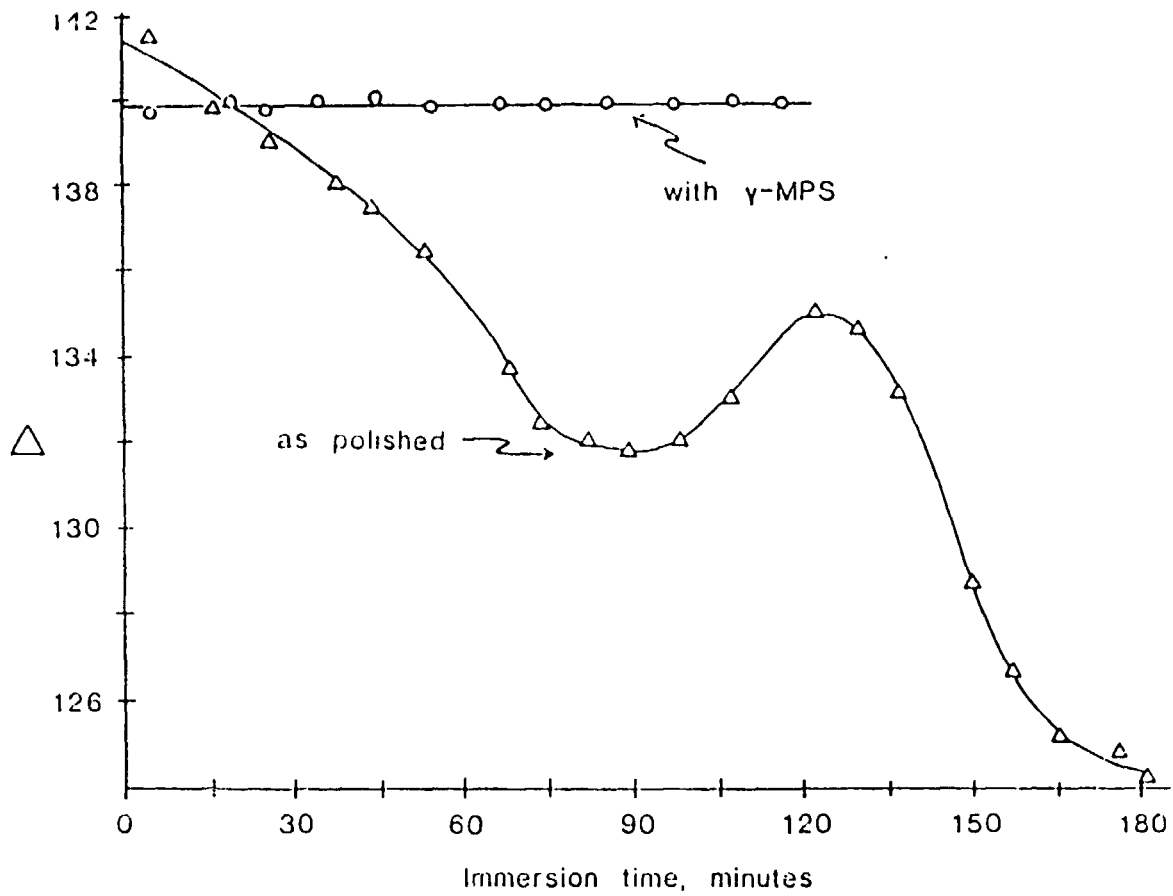


Figure 8. In-situ ellipsometry for (Δ) - polished aluminum and (o) - polished aluminum primed with γ -MPS undergoing hydration in water at 40°C.

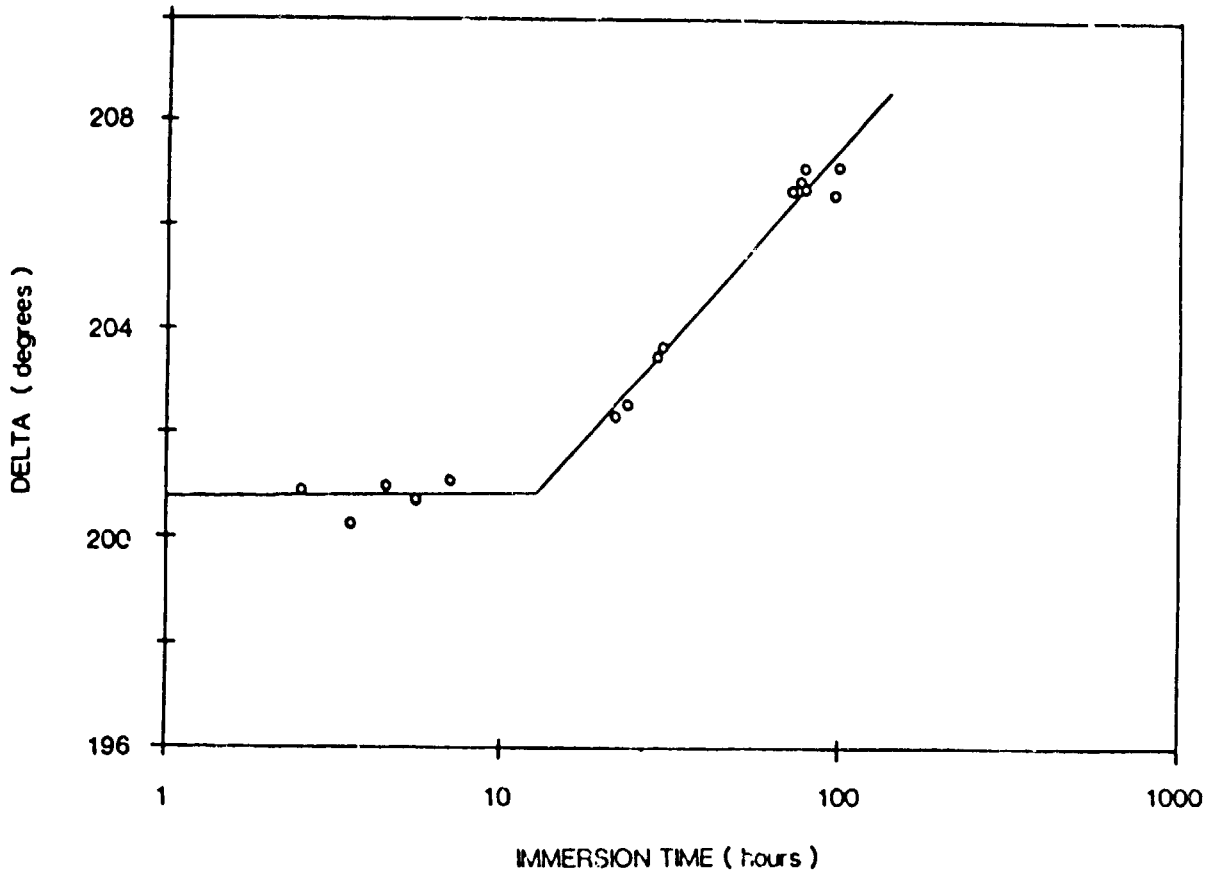


Figure 4. In-situ ellipsometry for EVA/Al in water at 40°C; no pr ...

RELIABILITY PHYSICS

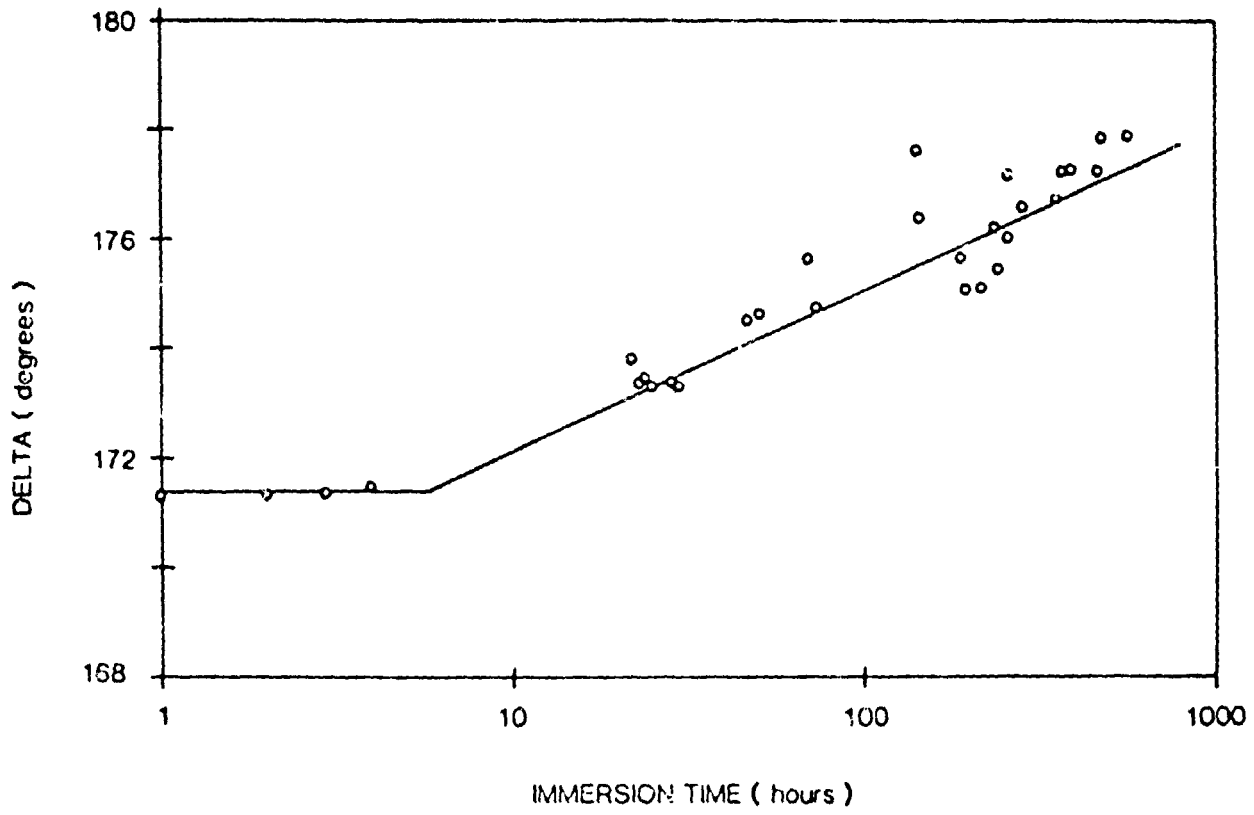


Figure 5. In-situ ellipsometry for EVA/Al in water at 40°C; A-11861 primer.

AUGER ELECTRON SPECTRA

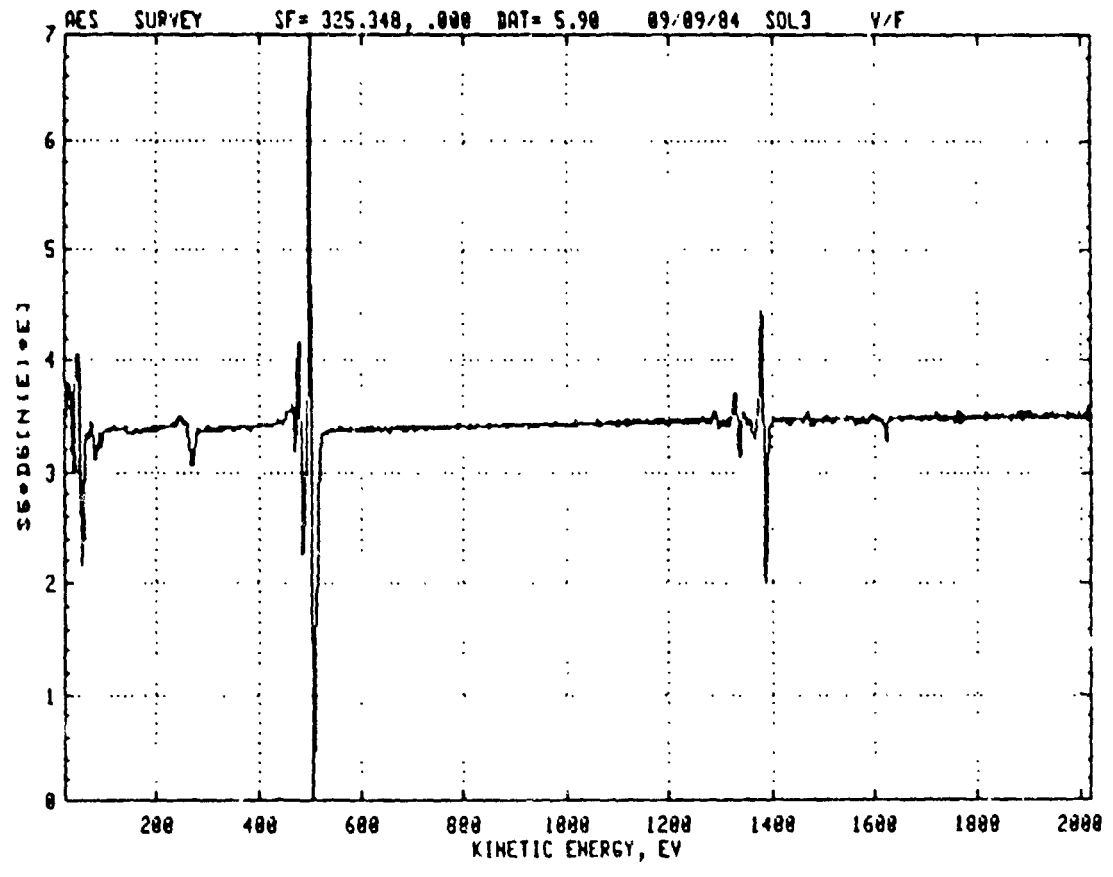


Figure 1. Auger electron survey spectrum from back surface of silicon wafer.

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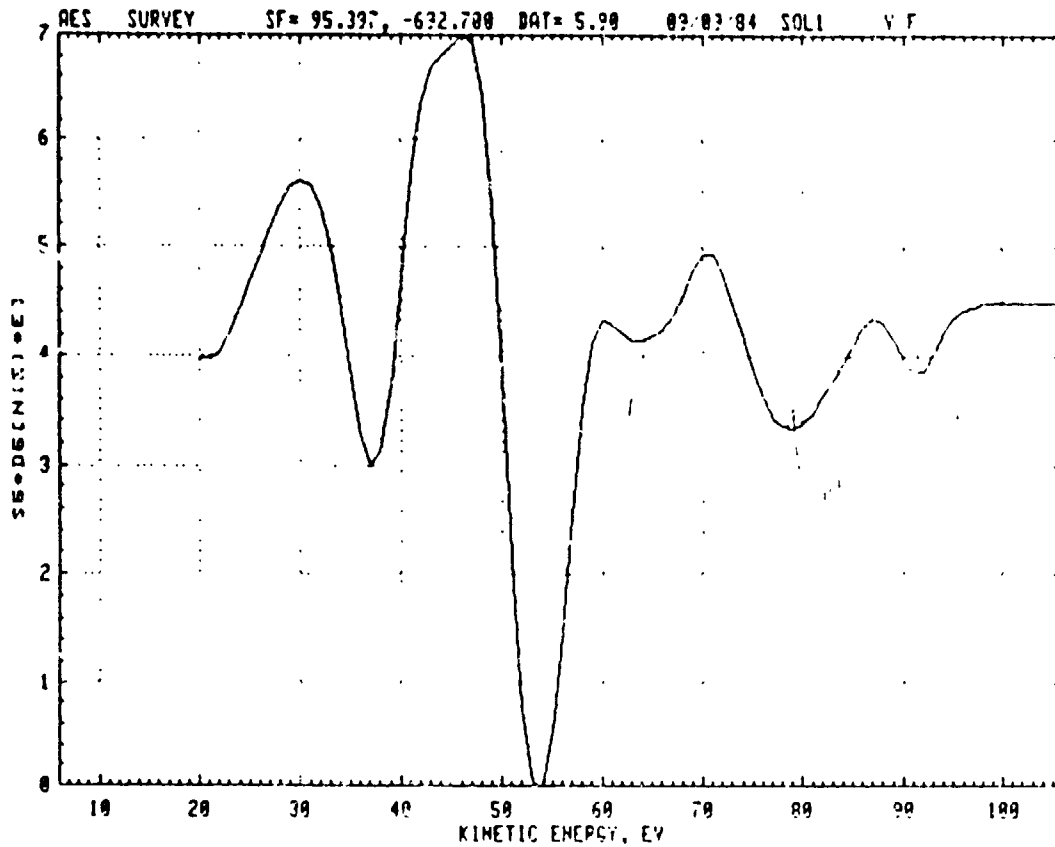


Figure 2. Aluminum and silicon Auger electron spectra from back surface of silicon wafer.

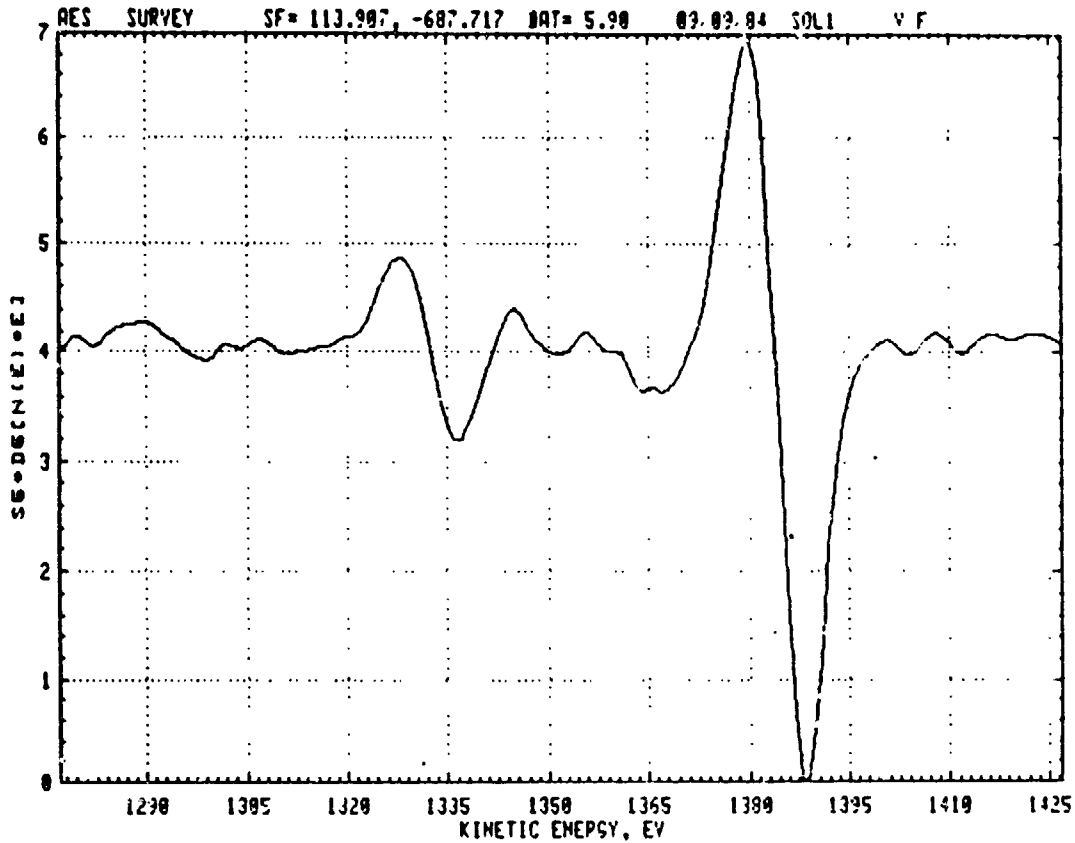


Figure 3: Aluminum Auger electron spectra from back surface of silicon wafer.

Conclusions

1. γ -MPS is an effective primer for bonding EVA to aluminum.
2. Ellipsometry is an effective in-situ technique for monitoring the stability of polymer/metal interfaces.
3. The aluminized back surface of silicon wafers contain significant amounts of silicon and may have glass-like properties.