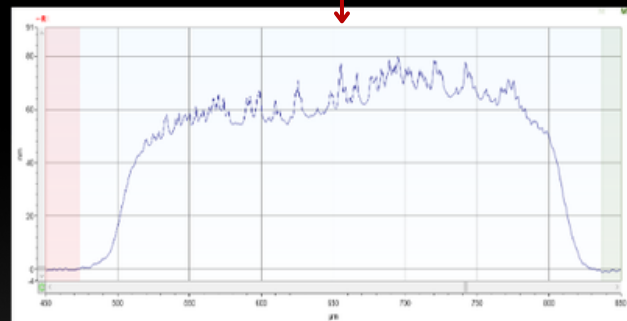
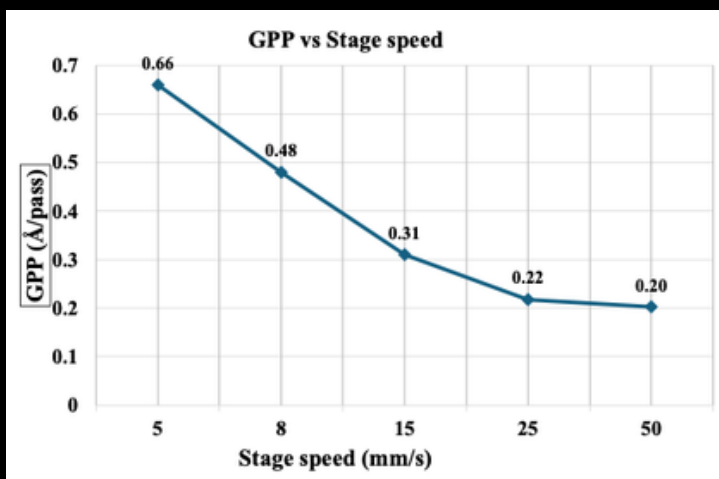


WO₃ Thin Film Deposition with DALP®

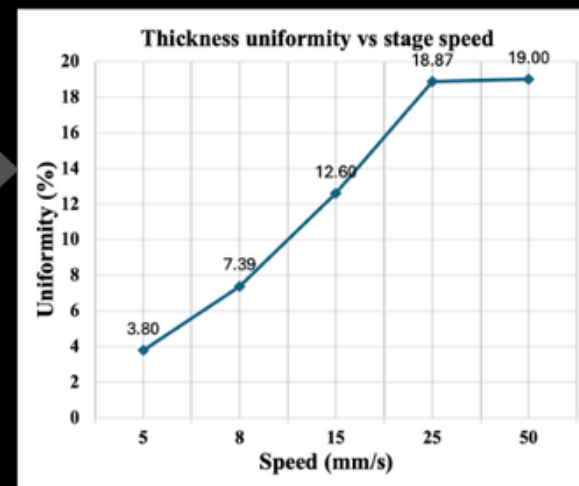
- WO₃ growth & deposition – is highly sensitive to process conditions.
- DALP® enables localized, ALD-like deposition with independent spatial and kinetic gas control.
- Enables tunable films for gas sensing, electrochromic devices, and optical applications.



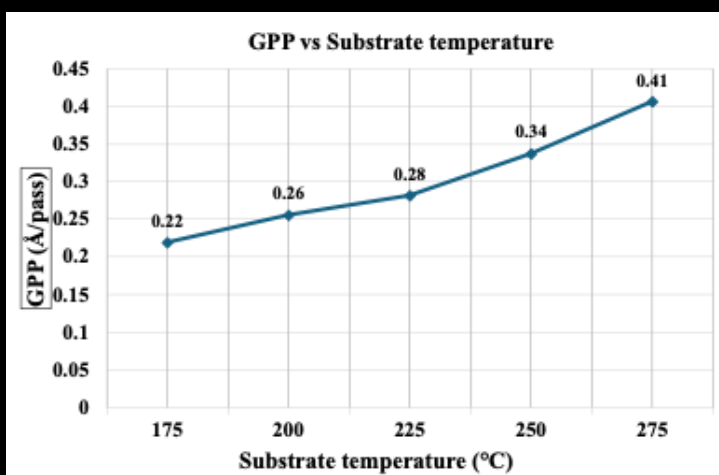
Thickness profile across the deposited line



Tuning film characteristics through residence time



DALP® enables to fine tune uniformity and surface morphology by changing the stage speed to grow application specific WO₃ thin films for gas sensing where roughness and grain size influence selectivity and response.



GPP vs substrate temperature

KEY RESULTS

- Growth per pass (GPP) at 275 °C is consistent with values reported in the ALD literature (~0.4 Å/pass).
- Stage speed influences residence time and film uniformity.
- Local surface variation ranging from ~4% to 18% was achieved by varying the residence time.