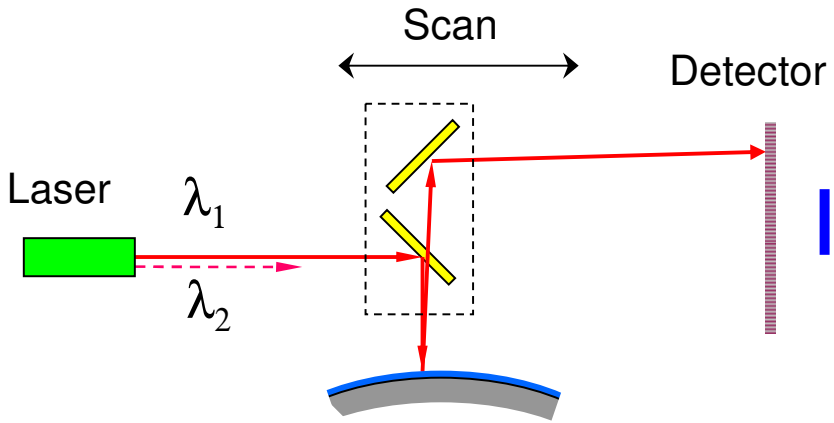
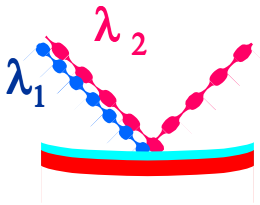
Stress measurements at ITE

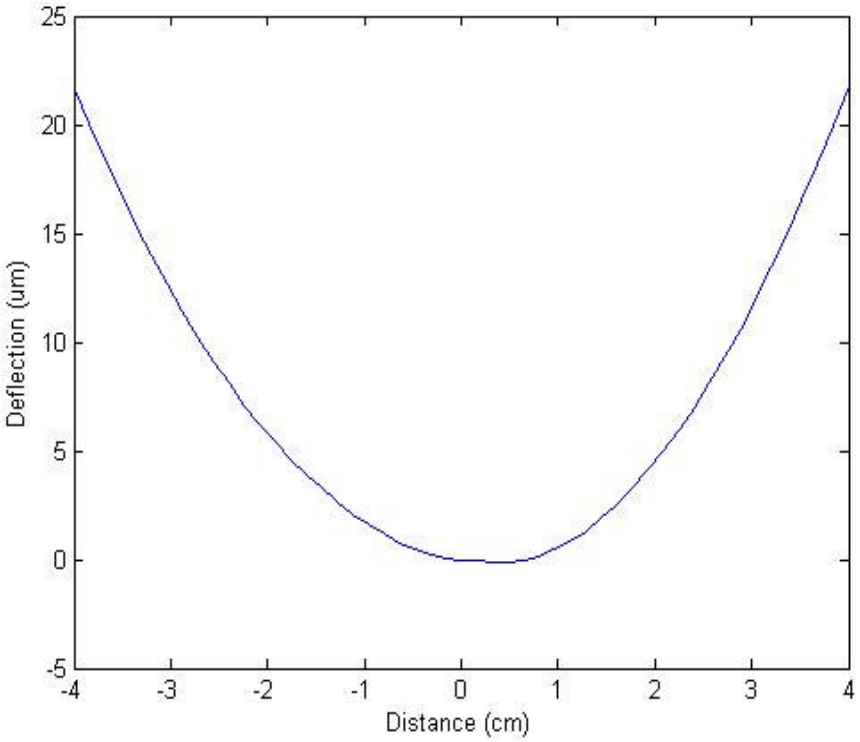
Wafer Curvature Measurement Method

Measurement of stress imposed by the change of radius of curvature of the wafer

Tool: TENCOR FLX 2320







Specifications

- λ: 670 nm, 750 nm
- scan length up to 8”
- uncertainty of σ: <2.5%
- minimum R: 2.0 m

Radius of curvature

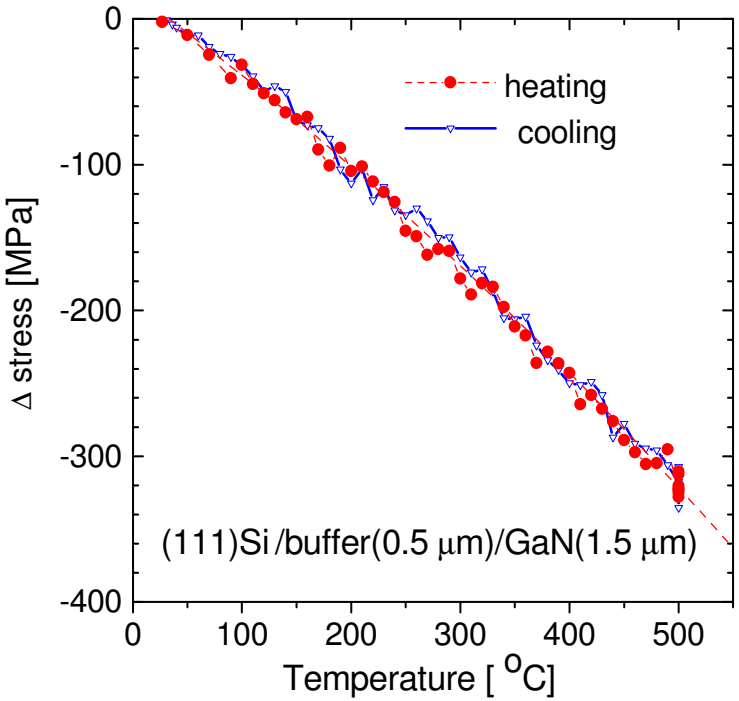
Stoney formula

$$\sigma_f = \frac{E_s}{1-\upsilon_s}\frac{h^2\left(R_1^{-1}-R_0^{-1}\right)}{6t}$$

Stress measurements at ITE

System capabilities

- **Thermal stress measurement (RT-500°C)**



Evolution of stress during a heating-cooling cycle

- **3D maps of wafer surface and stress (RT, 15° angular resolution)**