phasefocus™

Application focus

Semiconductor surface metrology and thin film characterisation

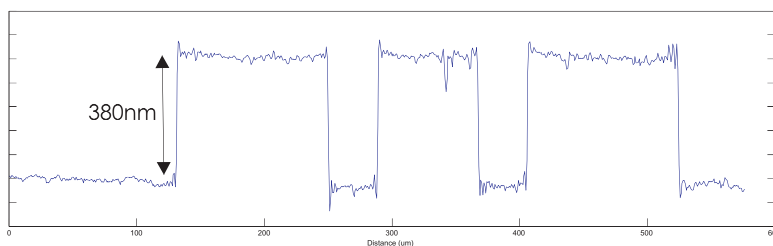
Phase focus has developed a non-contact 3D surface metrology tool that enables surface height and roughness measurements with a vertical resolution <0.2nm and lateral resolution <1μm.

Etch and polish process characterisation, as well as surface texture and flatness measurement are possible, using the full topographic surface maps generated from diffraction patterns by our patented algorithm (the Phase Focus Virtual Lens®).

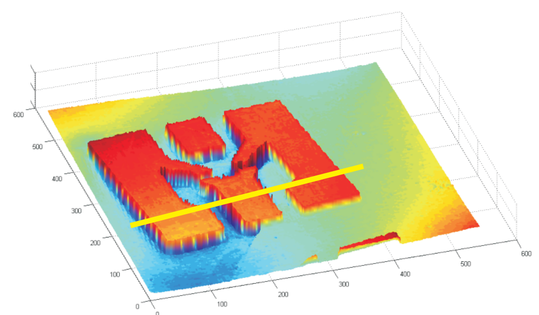
This technique may also be applicable to transparent thin film characterisation, providing two-dimensional maps of film thickness and uniformity.

An inherently simple opto-mechanical interface means that the Virtual Lens is ideal for integration into existing metrology equipment.

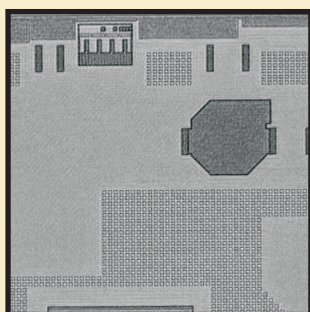
Post-acquisition processing enables focussing on deep surface features with no further mechanical movement of the measurement system.



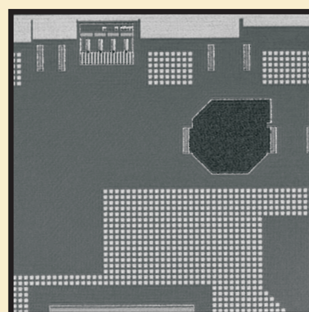
Calculated height profile along line marked in yellow



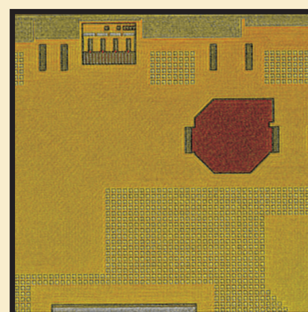
3D representation



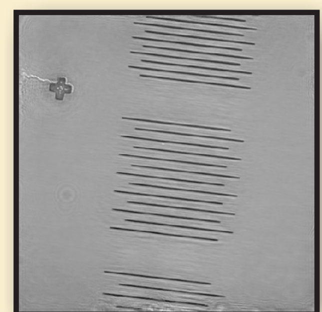
Amplitude



Phase



Combined amplitude and phase



30nm deep features etched in glass

Phase Focus Limited | Kroto Innovation Centre | Broad Lane | Sheffield | S3 7HQ | Tel. 0114 213 1890 | www.phasefocus.com