

Imaging Ellipsometer Examples

1. Silicon coated with a thick photoresist layer

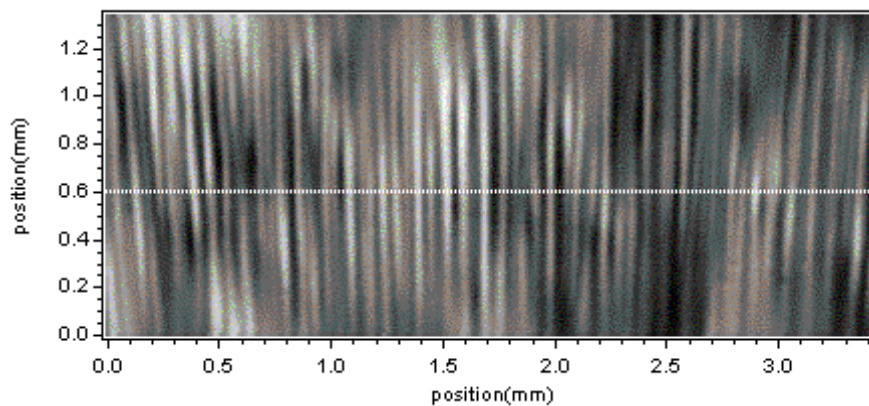


Figure 1: *y* image of a piece of silicon coated with a non-uniform thick photoresist. The layer thickness determines the *y* value, so positions with the same brightness have the same thickness. A contour plot is shown below. The surface layer is showing ripples in layer thickness. The *y*-profile along the dotted line is shown in Figure 2.

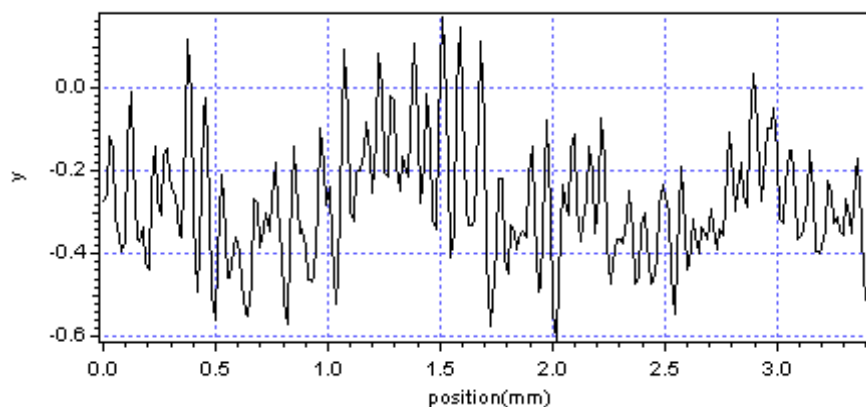


Figure 2: *y* profile along the dotted line shown in Figure 1.

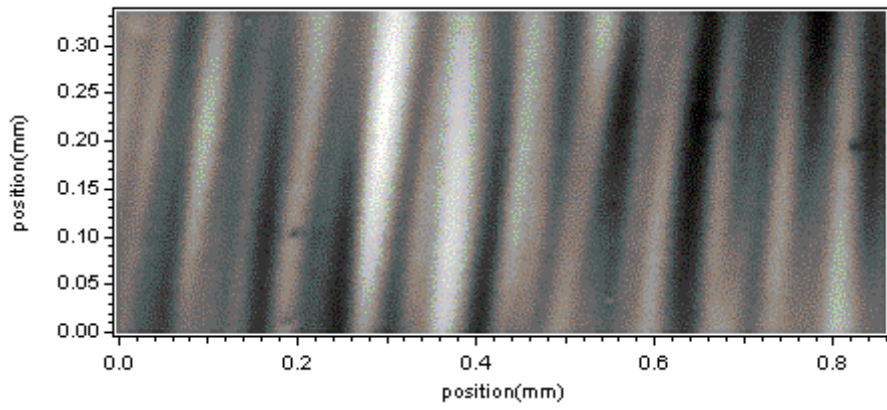


Figure 3: The same surface at higher magnification.

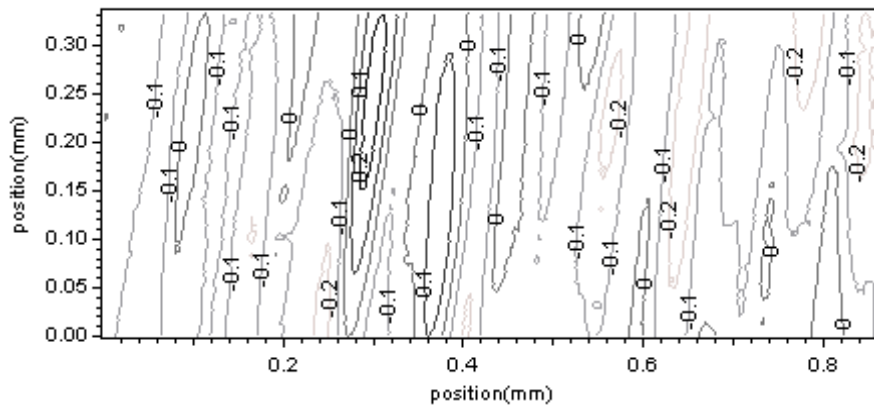


Figure 4: Contour plot of the y image Figure 3.

2.Silicon with a thick oxide layer

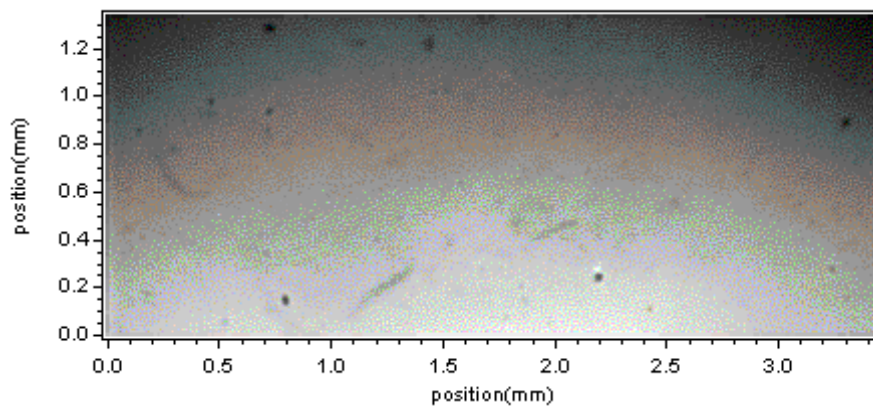


Figure 5: An unpolarised image of a silicon surface with a thick surface layer

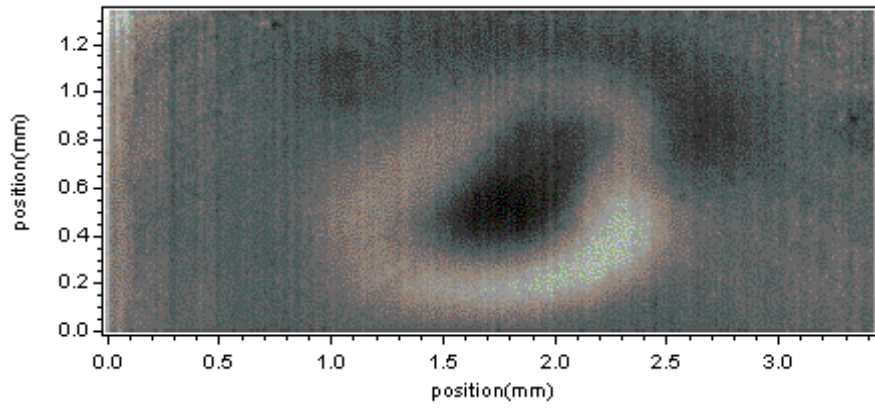


Figure 6: An ellipticity y image, which reveals surface non-uniformity. The brightness of the image is proportional to the value of y .

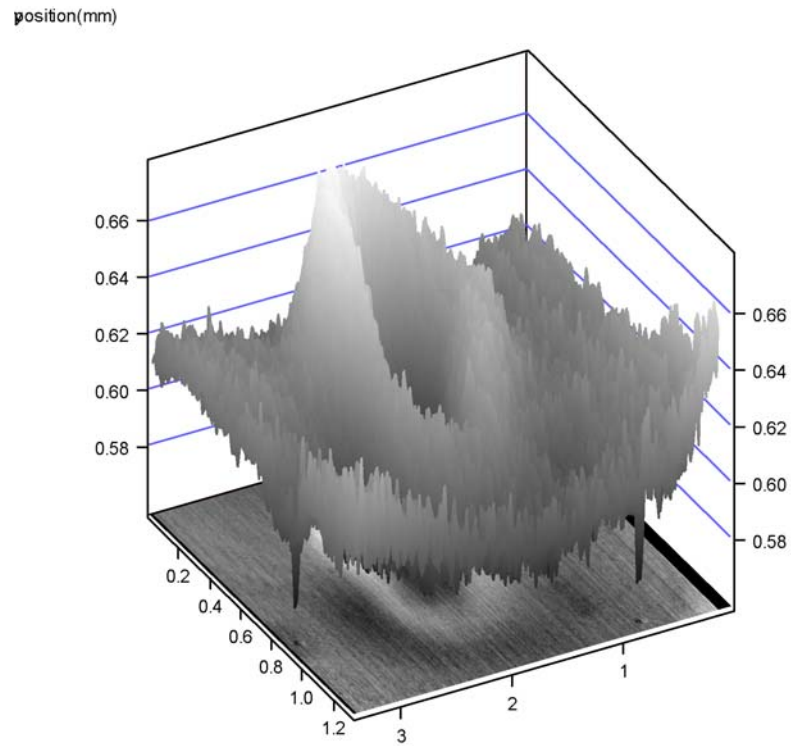


Figure 7: The data of Figure 6 displayed as a 3D surface plot