Ultimate Resolution with the LEEM for the University of Erlangen-Nürnberg

Application Note

This application note shows ultimate resolution LEEM data taken with the SPECS FE-LEEM P90 that has been produced for the group of Prof. Seyller, Universität Erlangen-Nürnberg. The data has been taken at SPECS in July 2011.

The data shows an ultimate resolution of 4.2 nm (16% - 84%).

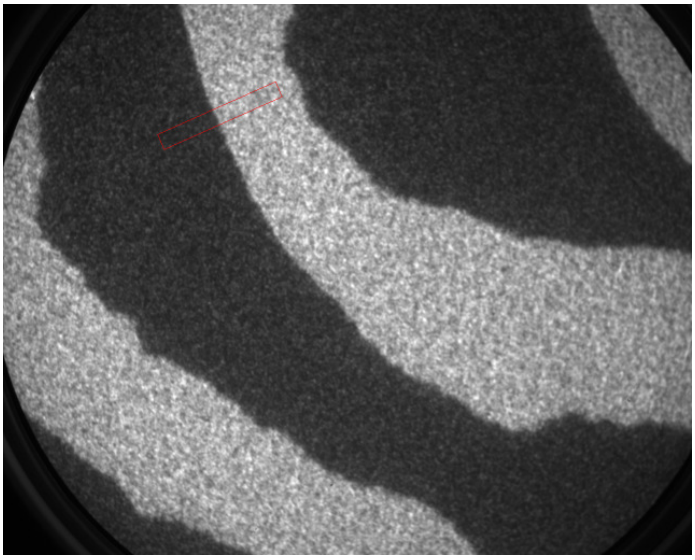

Fig. 1: Si(001) dark field image, field of view 1000 nm. The profile along the red line is plotted in the next figure.

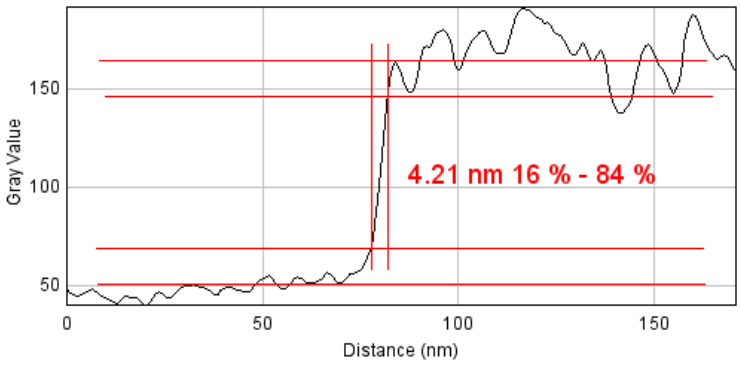

Fig. 2: profile along the line in fig. 1. The intensity has been integrated over a 30 pixel wide stripe. The resolution is 4.2 nm.

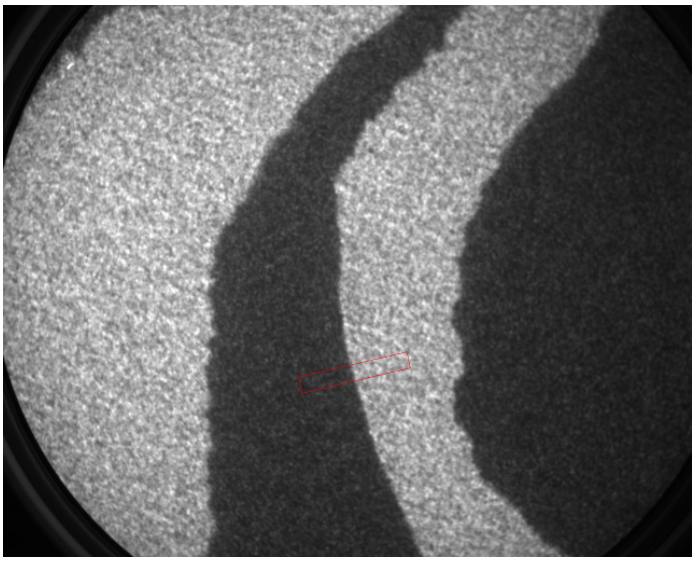

Fig. 3: Si(001) dark field image, field of view 1000 nm. The profile along the red line is plotted in the next figure.

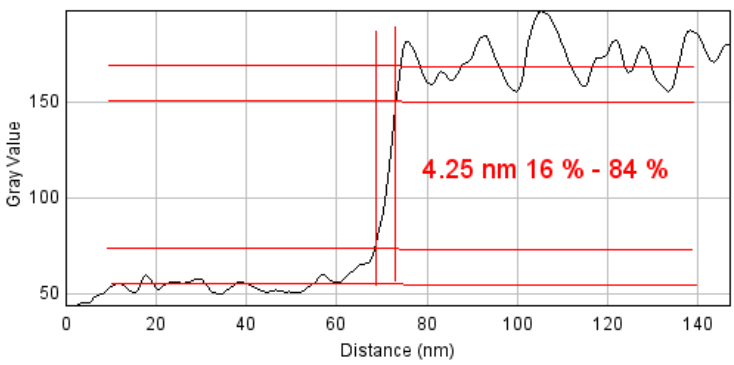

Fig. 4: profile along the line in fig. 3. The intensity has been integrated over a 30 pixel wide stripe. The resolution is 4.3 nm.

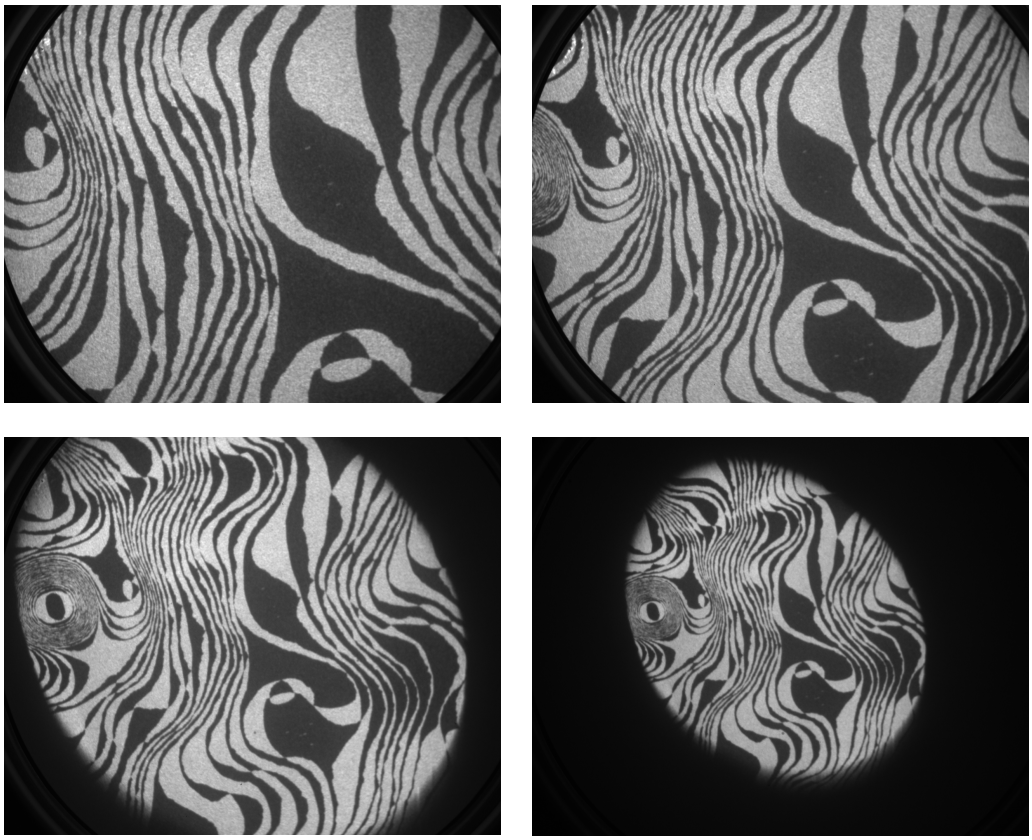

Fig. 5: Si(001) dark field images at different magnifications. Field of view 5 µm, 7 µm, 10 µm and 15 µm.

Fig. 6: Dark field image with the (0,1/2) spot (left), dark field image with the (1/2, 0) spot (middle), bright field image (right). All images taken at the same area of the Si(001) sample. Field of view 1500 nm.

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