FTSR

DigitalMicrograph Plug-in

Focal and Tilt Series Reconstruction

Exit Wave Reconstruction and Cs-Compensation Software

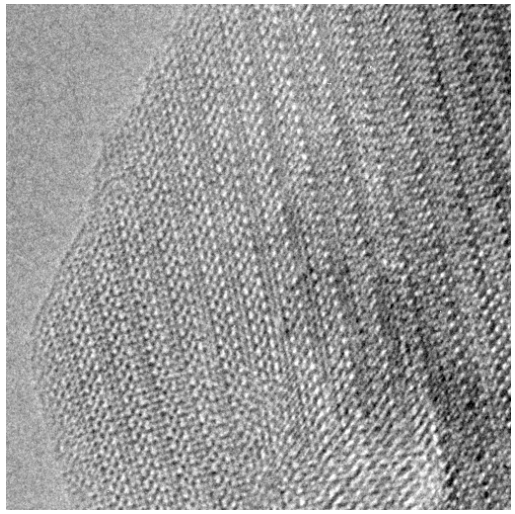
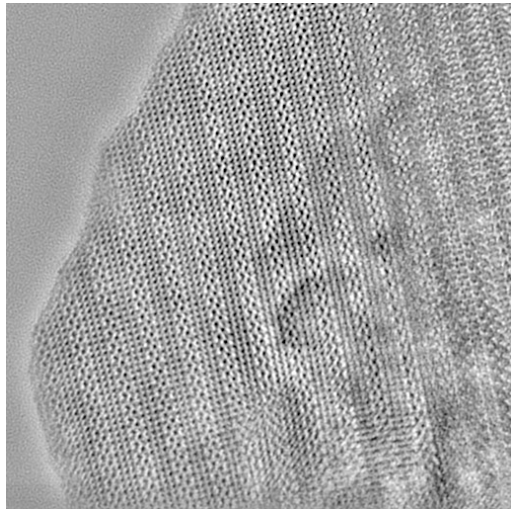


image at Scherzer focus



phase of reconstructed exit wave

FTSR works with a through focal series or tilt series of HREM images to reconstruct the wave function at the specimen exit surface.

FTSR uses a Wiener filter developed by Angus Kirkland et al. [1, 2].

Key Features

◆Determines each defocus value as well as astigmatism from a small amorphous region or contamination layer.

◆Extends resolution substantially, theoretically to twice the conventional axial limit, using a tilt series of HREM Images.

◆Compensates for spherical aberration as well as other aberrations.

Note: currently focal series processing is available for DM, and tilt series processing will be included in future.

References:

[1] R. R. Meyer, A. I. Kirkland and W. O. Saxton: A new method for the determination of the wave aberration function for high resolution TEM: 1. Measurement of the symmetric aberrations; Ultramicroscopy, 92 (2002) 89-109

[2] R. R. Meyer , A. I. Kirkland and W. O. Saxton: A new method for the determination of the wave aberration function for high-resolution TEM.: 2. Measurement of the antisymmetric aberrations; Ultramicroscopy, 99 (2004) 115-123