HREM-Filters are sophisticated filters that work even for non-ideal crystals, such as a nano-crystal or cylindrical crystal.

Another feature of HREM-Filters is up-sampling that allows you to acquisition an image at a lower magnification.

HREM-Filters Lite can be downloaded free of charge from our web site: www.hremresearch.com.

**Realtime module** (Optional) performs up-sampling noise filter in live, and reveals the sample structure even from a single frame at extremely low dose.

**Key Features**
- Uses smoothed two-dimensional background [2].
- Uses locally estimated backgrounds [3].
- Trend-subtraction
- Realtime/offline up-sampling

(middle row) Wiener filter based on a radial background [1] does not work for a crysotile image, and substantial features are left behind in the residue.

(bottom row) Wiener filter based on local two-dimensional backgrounds extracts all the structure information, and the residue is featureless.

**References:**

**Credits:** Crysotile image courtesy of Prof. Toshihiro Kogure.