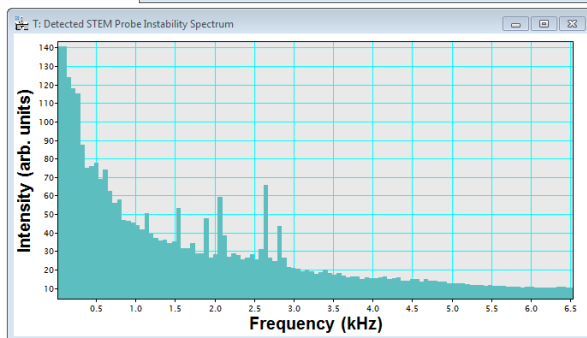
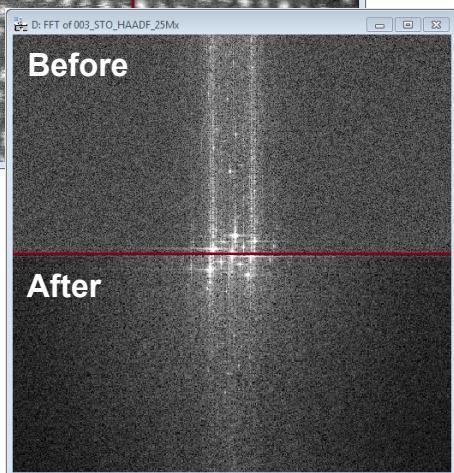
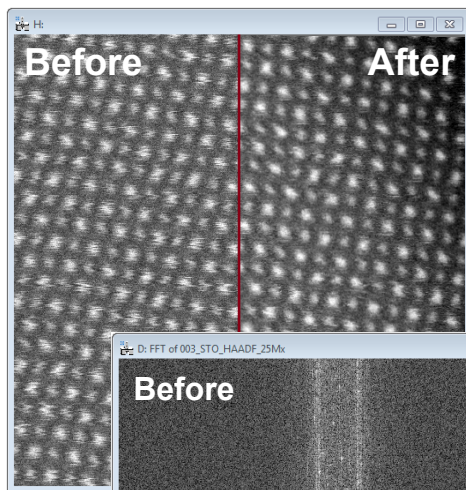


## “Jitterbug” Scan-noise Compensator

### *Identification and Correction of STEM Scan-noise and Drift*



Jitterbug efficiently identifies and corrects for STEM scanning and drift problems improving both image resolution and signal-noise ratio (SNR) [1].

Scan-noise in the STEM causes atomic columns to appear ‘sliced’ and ‘torn’ while stage/sample drift distorts crystal lattice planes and distances.

Example (upper-left) shows HAADF image of [100] SrTiO<sub>3</sub> suffering scan-noise and drift. After correction resolution was improved by 15%, SNR by 84% and correct lattice angles were restored [2].

#### **Key Features**

- ◆ Automated and robust image peak finding.
- ◆ Correction of STEM scan-noise and image/stage drift.
- ◆ Built-in image resolution (peak width) and SNR quantification tools.
- ◆ Compatible with interfaces, defects, edges, nano-particles etc.
- ◆ Frequency spectrum analysis for horizontal scan (fast scan) gives an insight for your EM-suite instability (lower-left) [1].

#### **References:**

[1] Lewys Jones and Peter D. Nellist. “Identifying and Correcting Scan Noise and Drift in the Scanning Transmission Electron Microscope”, *Microscopy & Microanalysis* **19** (2013), p. 1050-1060.

[2] Lewys Jones. “Scan-noise and Drift Correction in the STEM”, *Microscopy Today* **22** (May) (2014), p.40-41.