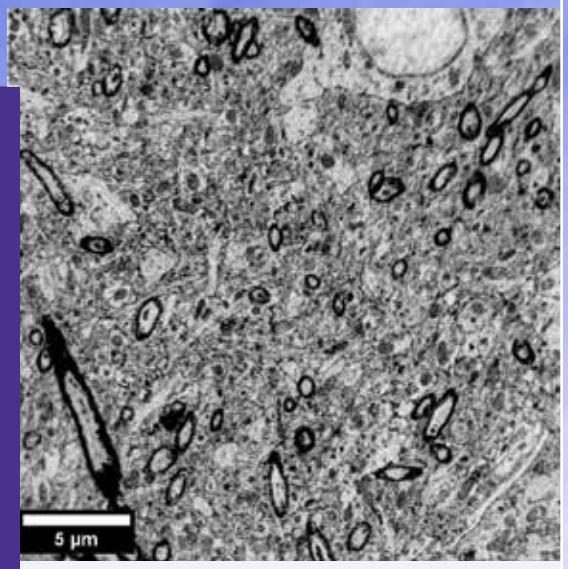
LV-16 CAMERA

Stunning Clarity for LEEM/PEEM

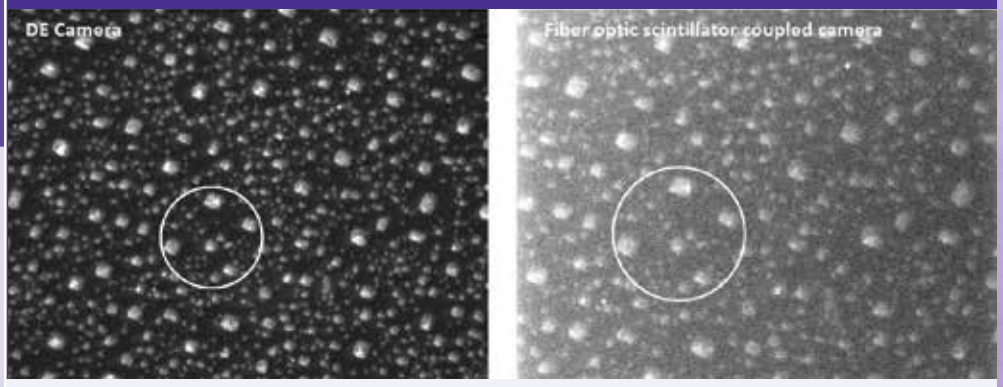
Delivering Bigger | Better | Faster | Cameras For Electron Microscopy



PEEM image of mouse brain. Sample was provided by Gregg Wildenberg *(University of Chicago).*

DIRECT DETECTION FOR LOW-ENERGY ELECTRON MICROSCOPY

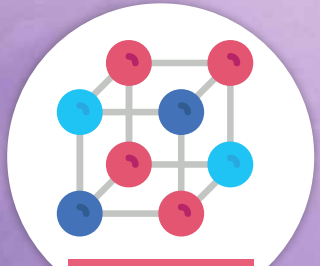
- Direct detection of low-energy primary electrons—a revolutionary advancementfor LEEM/PEEM.
- 4k × 4k (16.8 million) pixels.
- Movie-mode imaging of dynamic specimens with drift-correction.
- DE Mission Control software saves open data fomats and is controllable by API.
- The largest impact hardware upgrade you can make per dollar.



15keV comparison between the LV-16 (left) and a non-direct detection camera (right). The images show a silicon surface, collected in PEEM mode. The integration time was 300 seconds. The circle marks the same area in both images. The LV-16 was operated with 2x binning so that both images are 2k x 2k pixels.
Courtesy of Rudolf Tromp, (IBM, Yorktown Heights, NY, USA).

DETECTOR APPLICATIONS:

Biology



Materials

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LV-16 CAMERA SYSTEM

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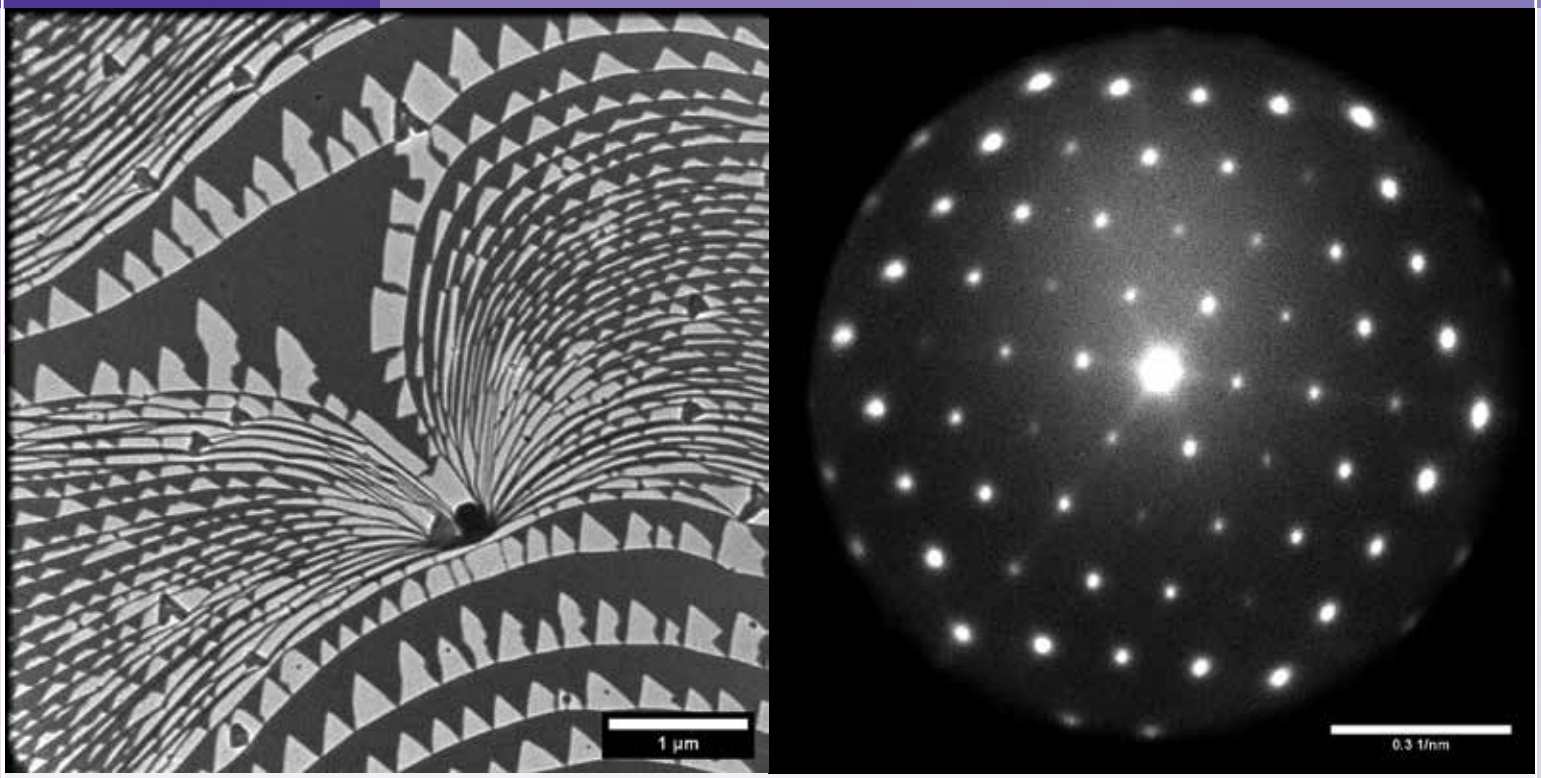
Electron Energy	Optimized for 10 - 40 keV
Pixel Array Specification	4096 × 4096 (16.8 million pixels) | 6.5 µm pixel pitch
Single Electron SNR	~250:1 (15 kV)
Sensor Design	On-chip correlated double sampling (CDS) | backthinned | radiation hardened
Acquisition Frame Rate	92fps max, unbinned full-frame | 281 fps max, binned-2× full-frame subarray readout up to 4,237 fps (2048 × 128) | user-selectable hardware frame rate
Mounting Position	Optionally fully retractable | CF (ConFlat) flange | custom mounting options
Sensor Protection	Integrated sensor protection shutter | TEM blanking/shuttering | failsafe software
Computer System	High-performance computer | Windows 10 | NVidia GPU(s) | up to 58 TB storage
Image Format	Non-proprietary to ensure broad compatibility | TIFF, MRC, AVI, MP4, etc.
Acquisition Software	DE Mission Control software for advanced image/movie acquisition and analysis



Left: image of Si(111), with (7x7) (bright) and (1x1) (dark) co-existing at about 860 Celsius, imaged in LEEM mode at 10.7 eV. The dark spot is a carbide defect on the surface and the lines emanating from it are atomic steps.
Right: A LEED diffraction pattern of Si(111) acquired at 5.5 keV bounded by the edge of the Ewald sphere. Diffraction spots are due to the (7x7) reconstruction. *Courtesy of Rudolf Tromp, IBM.*