



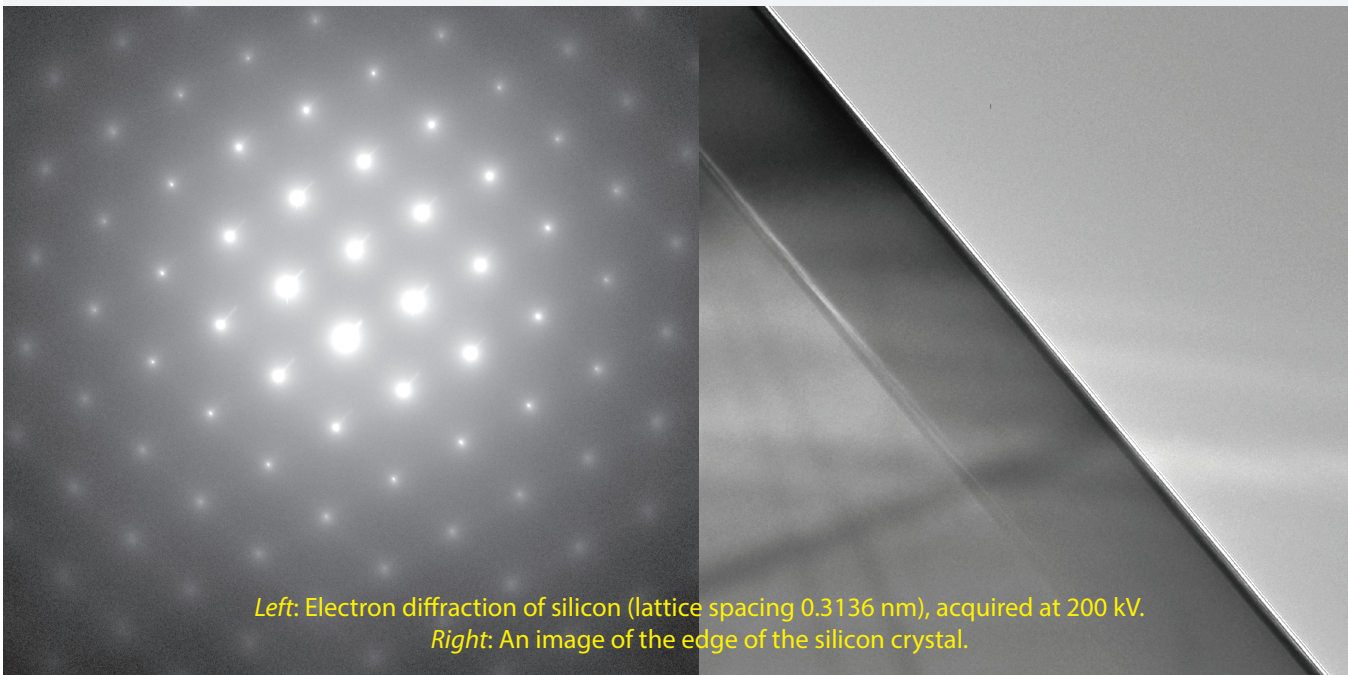
FC-400 Camera System

premium performance fiber-coupled CCD

Direct Electron delivers | bigger | better | faster | cameras for electron microscopy

Better Science, Faster – Brilliant Results in Less Time

- **Premium performance CCD** camera system delivering superior resolution, sensitivity, and dynamic range compared to other CCD cameras.
- **Large (24 μm) pixels** matched to scintillator point spread for superior resolution & large full-well capacity.
- **Full-frame CCD** has no blind areas like interline CCDs.
- Minimal dark current and read noise ensure high sensitivity for low-dose TEM.
- Scintillator optimization to customer requirements.
- Low-loss 1:1 fiber optic coupling, proprietary bonding, and high-performance scintillators provide **unprecedented resolution**.



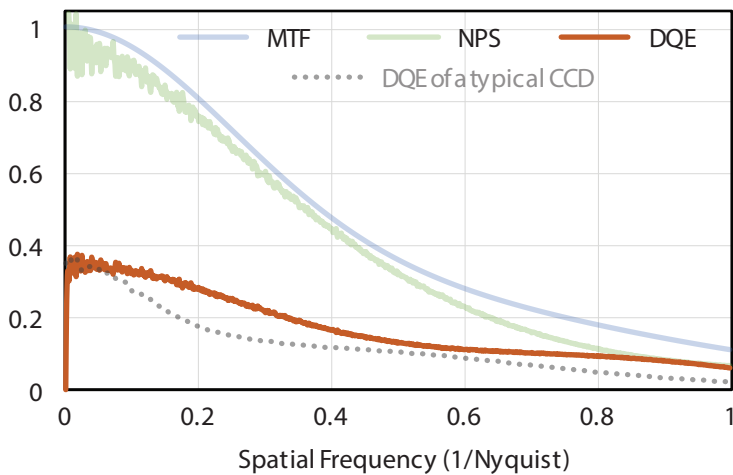
*Left: Electron diffraction of silicon (lattice spacing 0.3136 nm), acquired at 200 kV.
Right: An image of the edge of the silicon crystal.*

Direct Electron[®]
INNOVATION PROPELLING DISCOVERY

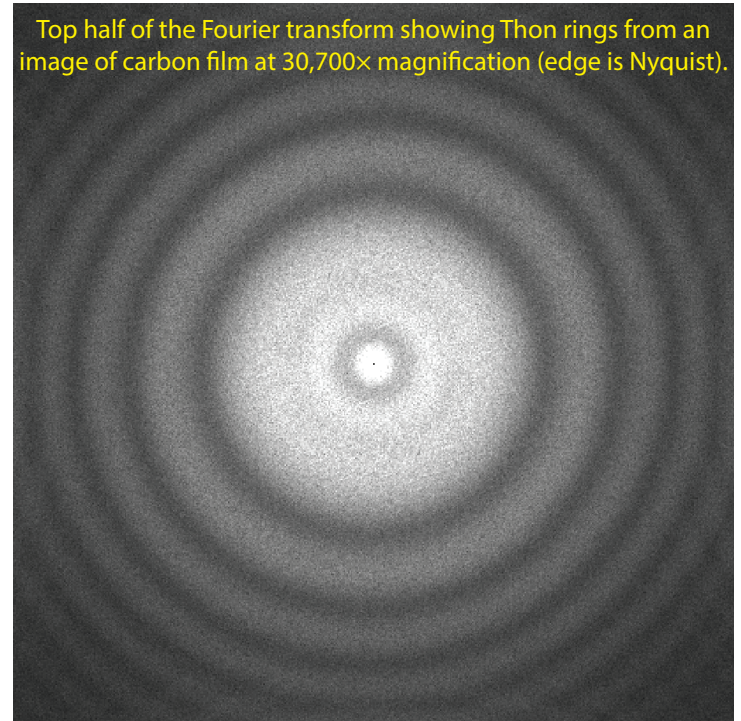
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detection electron energy
pixel array specification
scintillator
scintillator coupling
binning
readout
readout speed
mounting position
sensor cooling
data interface
computer system
image format
acquisition & processing software

scintillator optimized for user requirement 80 keV – 1.25 MeV
2048 × 2048 (4.2 million pixels) | 24 μm pixel pitch
microcrystalline | high-resolution (HR) or high-sensitivity (HS)
1:1 high-efficiency fiber optic coupling | proprietary bonding
1×, 2×, 4×, and 8× binning | independently set for X and Y
4 quadrant simultaneous read-out | true 16-bits per quadrant | 2 MHz per port
8 MHz combined pixel rate | <1 second full resolution readout | >5 fps with 4× binning
fully retractable | mounted on-axis TEM bottom port or in JEOL film drawer
Peltier cooling | programmable and regulated to ±0.1 °C
Camera Link
optional certified high-performance computer system
image data stored in non-proprietary format to ensure broad compatibility
conventional acquisition: DE-IM (full-featured, user-friendly) | μManager (free, open-source)
automated acquisition: Legion | SerialEM | EMTTools (TVIPS) | others using the DE SDK
customization: software development kit (SDK) for integration with custom software



* Note: Specifications and performance are subject to change.



there is
much more...

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