JEM-F200 Scanning Transmission Electron Microscope

JEM-F200 is a state-of-art high-resolution and analytical Scanning Transmission Electron Microscope. It is a 200 kV S/TEM equipped with a Cold Field Emission Gun for high brightness and a narrow energy spread that allows atomic resolution imaging, and with a Silicon Drift Detectors (SDD) which enable high sensitivity and throughput for X-ray (chemical) analysis.

DETAILED SPECIFICATIONS

- Accelerating Voltage: 200 kV
- Alignment: 80 kV and 200 kV
- Pole-Piece: High-Resolution
- Gun: Cold-FEG
- Quad lens condenser system to independently control intensity and convergence angle
- TEM Resolution: 0.1 nm
- STEM Resolution: 0.16 nm
- EDS Detectors: 1 x 100 mm2
- Camera: Gatan Rio Camera (Image: 16 MP, 9 µm pixel, optimal for 30 – 200 kV operation)
- Holders: Standard Single-Tilt, Be Analytical Double-Tilt

USES/APPLICATIONS

The F200 is capable of high sensitivity and resolution materials analysis.

Authorized Materials

Summary of material constraints
Lab members wishing to introduce new materials into this system must first obtain authorization from staff. New material requests must be initiated by submitting a request to: tem_analysis.dsmn@unive.it

PROHIBITED Materials

1. Any sample that will outgas under vacuum (check with staff if uncertain). This includes but is not limited to samples containing elemental sulphur or phosphorus
2. Samples containing any degree of moisture, including soft plastic or hydrogels
3. Geological samples
4. Biological samples
5. Magnetic materials of any type
6. No outside or specialized custom sample holders without specific authorization and consultation with staff.

Authorized Substrates & Thin Films

- Polymer films: All photo/e-beam resists, conditional on them being fully baked/cured based on manufacturer's instructions.

- CNTs, graphene
- Silicon
- III-V's
- ZnSe
- Ag
- Al
- Al2O3
- Au
- Bi2Te3
- Cr
- Cu
- EuS
- Ge
- HfO2
- ITO
- Nb
- Ni
- Pd
- Pt
- SiNx
- SiO2
- Ti
- TiO2
- TiW
- W

NOTE:

1. If any other materials are present on your samples, CONTACT STAFF

LOCATION

The Ca' Foscari University of Venice, Scientific Campus, Department of Molecular Sciences and Nanosystems, Via Torino 155, Eta Building, Ground Floor, room ViaToCap0L13, Venezia-Mestre (Italy).

Information at tem_analysis.dsmn@unive.it