

## UMF Equipment – Scanning Transmission Electron Microscopy

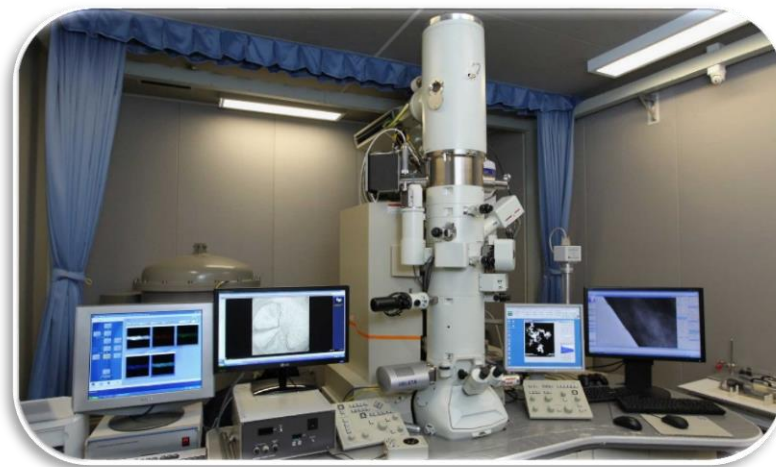
BF&DF image, HREM image, HAADF image, SAED, EELS, EDS

The JEM-2100F is a multipurpose 200 Kev FE (field emission) analytical electron microscope. The FE electron gun (FEG) produces highly stable and bright electron probe. This feature is essential for ultrahigh resolution in scanning transmission microscopy and in an analysis of a nano-scaled sample. Various analytical instruments such as EDS (Energy Dispersive X-ray Spectrometer), electron holography, EELS (electron energy loss spectrometer), and CCD camera are integrated.

Major Functions:

- Dark Field Image
- Bright Field Image
- Electron Holography
- Selected Area Electron Diffraction
- High Resolution Electron Microscopy
- High-Angle Annular Dark-Field Image
- Electron Energy Loss Spectroscopy (EELS)
- Energy Dispersive X-ray Spectroscopy (EDS)
- Energy Dispersive X-ray Spectroscopy Mapping

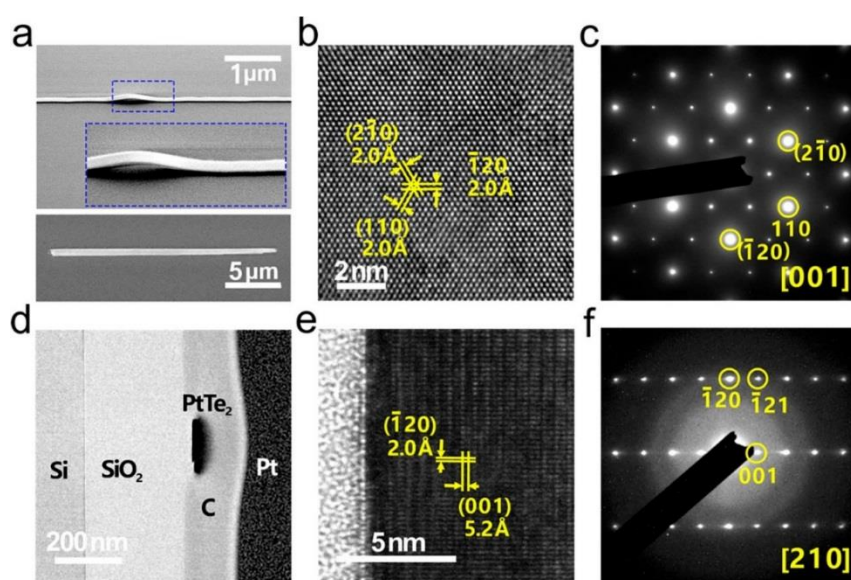
Please refer to <https://www.jeol.co.jp/en/products/detail/JEM-2100F.html> for further details of the system. For any enquiry, please contact Dr. Wei Lu (Tel: 34002077; Email: [wei.lu@polyu.edu.hk](mailto:wei.lu@polyu.edu.hk)).



Scanning Transmission Electron Microscope System (JEOL model STEM-2100F)

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Characterization of the PtTe<sub>2</sub> nanoribbons. (a) SEM images of two representative nanoribbons. (b) In-plane HRTEM image and (c) corresponding SAED pattern of the PtTe<sub>2</sub>. (d) TEM image of a cross-sectional view of the nanoribbon illustrated in (a), milled by the focus ion beam microscope. (e) Cross-sectional HRTEM image and (f) SAED pattern of the PtTe<sub>2</sub> nanoribbon in the corresponding area.