

Scanning electron microscope – focused ion beam (SEM-FIB)

MANUFACTURER : Tescan

MODEL : Lyra3

Description

- Focused Ion Beam (FIB) integrated with a Scanning electronic microscopy (SEM) for TEM sample preparation
- Gas Injection System (GIS) to deposit and etch (5-GIS de Orsayphysics) equipped with 5 precursors
- Nanomanipulateur OmniProbe 200 d'Oxford Instrument
- Characterization by energy dispersive spectroscopy (EDS) (Quantax from Bruker, X-Flash 6160 detector)

Applications

- Nanometric scale sample observation (SEM) via secondary (SE) or backscattered (BSE) electron emission
- X-ray elemental analysis (EDS)
- Nanometric scale etching (FIB)
- Multilayer coatings cross section analysis (FIB-SEM)

Technical specifications

- *Electron optics*

- Electron gun: - High-brightness Schottky source, acceleration voltage 0.2-30kV
- Probe current : 2pA - 200nA
- Resolution: SE mode, 1.2 nm at 30 kV and 3.0 nm at 3 kV. BSE mode, 2.0 nm at 30kV
- Magnification : 1X - 1,000,000X

- *Ions optics*

- Ion gun : liquid Galium
- Resolution : < 5 nm at 30 kV / < 2.5 nm at 30 kV (at the MEB-FIB coincidence point)
- Magnification : 150X - 1,000,000X
- SEM-FIB angle : 55°
- Acceleration voltage : 0.5kV - 30 kV

