
Transmission Electron Microscopy (TEM)



innovations
for high
performance

microelectronics

Technical Parameters

TEM System:

FEI Tecnai Osiris

Super-X windowless silicon drift detector

Primary Beam: Electrons 200 keV

Signal Detected:

- Transmitted electrons
- Scattered electrons
- X-rays

Elements Detected: B-U (EDX)

Lateral Resolution: TEM: 0.26 nm

STEM: 0.18 nm

EDX: <5 nm

Detection Limits: EDX: 0.1 - 1 at%

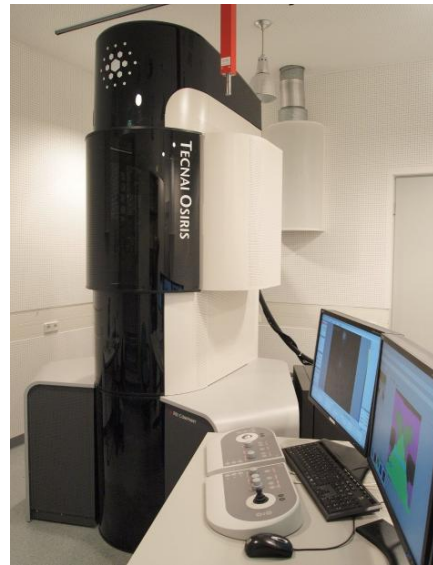
EELS: 0.1 - 1 at%

EELS Energy Resolution: 1.1 eV

Goniometer: α : -35° - 35°

β : -30° - 30°

STEM: BF, DF, HAADF Detectors



Application areas

- Cross-section and plan-view (S)TEM analysis
- Failure analysis of integrated circuits
- Determination of crystallographic phases
- Crystal defect characterization
- Ultra small area elemental analysis by EDX and EELS

Contact person

Dr. Ioan Costina

Phone: +49 335 5625 370

Fax: +49 335 5625 327

Email: costina@ihp-microelectronics.com