X-ray Photoemission Electron Microscopy (X-PEEM) Endstation

Elmitec PEEM with integrated sample stage

Specifications:
Accelerating Voltage: -20 kV on the sample
X-ray Beam Incidence Angle: 16°
Minimum Spot Size at Sample: 100 μm vertical, 350 μm horizontal (includes incidence angle effect)
Working Distance: 1-2 mm
Spatial Resolution: Up to 50 nm, dependent on sample roughness
Maximum Field of View: 500 μm
Acceptable Sample Dimensions: Must fit into a circular cavity of approximate 8 mm diameter, maximum wafer thickness ~1 mm
Acceptable Sample Conductivity: Must be capable of supporting a nanoamp range photocurrent without charging. Metallic or semiconducting sample usually work well, insulators do not.
Sample Temperature: Room Temperature
Sample Positioning: Micron resolution with indexing, not motorized

Typical Image Acquisition Time: 1 sec – 10 min
Typical Time to Align Beam to Sample: 1-8 hours (needed at most once per experiment)
Typical Time to Align PEEM Optics: 1 hour (needed for each sample)
Typical Sample Interchange Time: 1 hour