

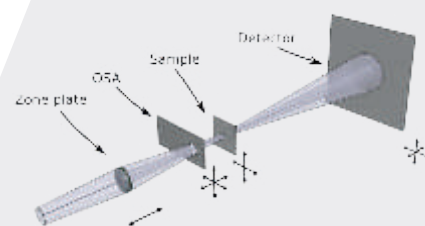
Data sheet

STXM

Multifunctional scanning transmission X-ray microscope for fast spectromicroscopy.

Introducing...

AXILON's scanning transmission X-ray microscope, offering improved scanning speed and superior stability in a flexible setup. Based on years of experience in building STXMs, AXILON has designed the microscope to enable users to make the most efficient use of their beam time. The heart of the microscope is a differential interferometer controlled sample stage that provides nanometer position stability. A modular concept for sample environments and detectors eases adaptation of the STXM setup to the diverse requirements of the users. Using environmental chambers, samples like fuel cells can be imaged in-situ. Detection of various processes, such as fluorescence or electron yield allow optimized contrast for trace elements or surface sensitive imaging of thick samples. With a fast directly illuminated CCD camera diffraction images can be recorded at each scan pixel for ptychography, where the excellent positioning stability allows reconstruction with single-digit nanometer resolution.



Key features

- Ultimate stability: Compact and rigid design with a fast real-time interferometer feedback loop
- Modular approach for user specific sample environments and detectors
- Ultra-fast scanning to take advantage of the newest high brightness sources
- Rigid support with granite block resting on parallel kinematic alignment unit

Options

- Detectors, e.g. fast ptychography CCD, fluorescence, electron yield
- Sample environments, e.g. cryo with sample transfer, rotatable sample mount, magnetic field, in-situ visible light microscope
- Ultra-high vacuum with bake-out, automatic vacuum control

Controls

- User-friendly interface for data acquisition and alignment
- Read-out and control of various hardware devices such as detectors, motion controllers
- Interface to beamline: EPICS, TANGO, custom TCP/IP sockets etc.

parameter	value
Energy range	50 – 2000 eV
Zone plate working distance	0 - 15 mm
Vacuum	10^{-6} - 10^{-9} mbar
Coarse sample scan range	10 x 10 mm ²
High resolution scan range	50 x 50 μm ²
Resolution	10 - 30 nm (Zone plate limited)
Positioning stability	<2 nm RMS

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