



Data sheet

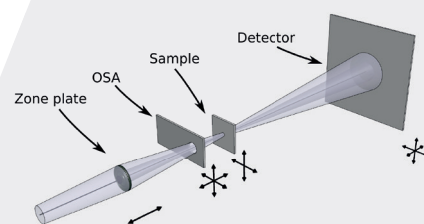
STXM

Multifunctional scanning transmission X-ray microscope for fast spectromicroscopy.

MILON

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.



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.

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
- Fast scanning to take advantage of the newest high brightness sources
- Rigid support with granite block resting on parallel kinematic alignment unit

| parameter | value |
|-----------------------------|---------------------------------|
| Energy range | 50 – 4000 eV |
| Zone plate working distance | 0 - 30 mm |
| Vacuum | 10^{-6} - 10^{-9} mbar |
| Coarse sample scan range | 15 x 15 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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