XSense

The Ultra-Sensitive Parallel Beam WD Spectrometer

Superior in performance, compact in size: the new XSense. Bruker's high-precision wavelength-dispersive X-ray spectrometer incorporates the latest detector technologies and provides a range of benefits that are hard to beat:

- Sophisticated auto-aligning optical system
- Proportional counter with unique gas flow and pressure control
- Distortion-free non-magnetic optics
- Fully motorized advanced kinematics
- Seamless software integration with EDS.

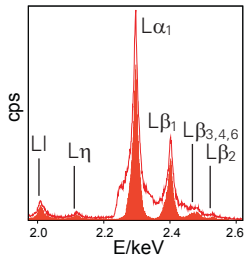
Easy setup – short time to measurement

Numerous automation features make the XSense easy to operate and relieve the user from tedious and time consuming adjustments: Perfect optical alignment with minimum user intervention, automatic choice of appropriate analyzer crystal, proportional counter gas flow and detector settings and many more.

High resolution where it really counts

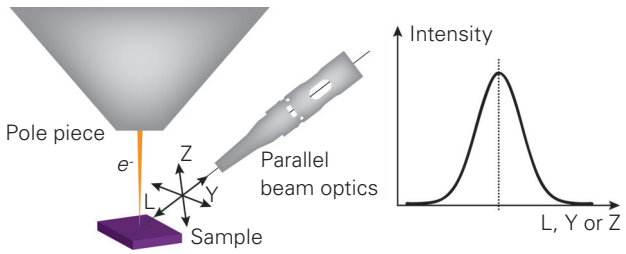
Equipped with up to six analyzer (diffracting) crystals, XSense covers the 70 eV to 3.6 keV energy range most relevant for high resolution X-ray microanalysis. The large number of crystals with partially overlapping energy ranges provides the optimum choice for every application.

XSense advanced optics



Molybdenum spectra obtained with standard (outline) and advanced optical system (solid).

XSense auto-alignment function



XSense can position the spectrometer optics along 3 axes for perfect automatic alignment.

Ultimate sensitivity through advanced kinematics and sophisticated optical system

XSense's advanced kinematics maintain perfect positioning of the diffracting crystal with respect to the incoming beam over the full Bragg angle range, resulting in unrestricted performance.

The sophisticated optical system – including secondary optics between crystal and detector – pushes resolution, peak-to-background ratios and sensitivity to their limits. A non-magnetic optics avoids beam shift and image distortion.

Auto-alignment of optics ensures optimum measurement conditions in any situation

The precise alignment of the spectrometer's optical axis with respect to the current sample spot is paramount in parallel beam spectrometry. XSense's internal fully motorized 3-axis stage enables fast and stable positioning of the parallel beam optics with sub-micrometer resolution. A smart algorithm provides correct alignment at the touch of a key.

Reliable acquisition with the controlled pressure proportional counter

Bruker's unique gas and counter management system actively controls the counter's internal gas pressure and automatically performs all high voltage and discriminator settings. While greatly simplifying device operation and minimizing gas consumption, this maintains constant counter characteristics under all environmental conditions, effectively enhancing reproducibility and system reliability.

Touch control panel for easy spectrometer setup and monitoring

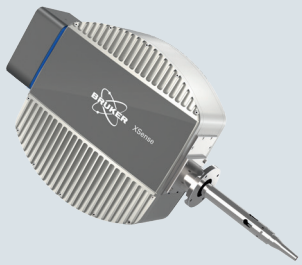
The XSense is equipped with a touch panel display for direct control of the spectrometer status. Check interlock functions and perform basic operations like gate valve closing or retraction of the optics directly on the system.

Full integration with EDS through the ESPRIT analytical software

Perform EDS and WDS measurements on the same spot using the same intuitive software interface. Change measurement modes with a mouse click and combine the results of both methods.

Specifications

- Parallel beam WD spectrometer with grazing incidence collimating optics
- Energy range of 70 eV to 3,600 eV
- Up to six diffracting crystals: 200 Å, 80 Å, 60 Å, 30 Å multilayers, TAP and PET
- Automatic alignment capabilities
- Energy resolution of 4.6 eV at Si Kα
- Integrated gas management system
- Compact design with slim optics mount
- Powerful software for spectrometer control, qualitative and quantitative analysis
- Full integration with EDS and other analytical methods on the electron microscope supported by Bruker



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