

AZtecOne includes all the tools required to perform qualitative and quantitative analysis, image capture, image centric analysis, standard line scanning and X-ray spectral mapping. With Tru-Q® (a unique combination of quantitative algorithms optimised for our detection electronics), AutoID and standardless analyses can be achieved automatically to new levels of accuracy. Includes functionality for acquiring overlap corrected X-ray maps and linescans in real-time (TruMap).

Navigation Buttons

AZtecOne is equipped with 5 navigation buttons, which are designed to help you perform tasks quickly and easily:

- Specimen Details
- Image Acquisition
- Mapping
- LineScan
- Spectrum Acquisition

Image

- Resolution
 - 512, 1024 and 2048
- Sequential Dual image capture (for microscopes that have multiple image outputs)
- Frame averaging (Kalman)
- Variable scan speeds from 1 μ sec dwell to 400 μ sec in 1 μ sec interval with 6 quick selections of 1, 5, 10, 100, 400.

Spectrum Acquisition

- Acquire from point, rectangle, ellipse or freehand area
- Process times:
 - Sensitive (recommended for spectrum acquisition)
 - Fast (recommended for mapping)
- Acquisition Mode:
 - Auto - Terminates when 300Kcts have been collected
 - Counts – Terminates when user specified counts have been collected
 - Live Time - input variable 0.1 to 604800sec
- Pulse Pile-up Correction

- Choice of viewing spectra in Counts or CPS/eV
- Show/hide noise peak
- Linear and logarithmic y-scale options
- Normalise spectra about a single energy point or range
- Spectrum overlays:
 - Element series line markers
 - Candidate element peak shapes
 - Fitted spectrum
 - No pulse pile-up correction
- Peak Labels
 - Peak label editor
 - Create a peak label scheme manually
- Enable coating correction
- Create fixed element lists

MiniQuant

- Overlaid in spectrum viewer
- Shows bar chart or numeric values of quantitative analysis results for detected elements
- Results can be shown in Weight%, Atomic% or Oxide%
- Overlay a spectrum from any project in the Data Tree over the current spectrum

SmartMap – X-ray Mapping

- Collects spectral map datacube
- X-ray map resolutions
 - 128, 256, 512 and 1024
- Termination by number of frames or user intervention
- Order maps by max intensity, mean intensity, atomic number or alphabetically
- Binning factors: 1, 2, 4, 8, 16 and 32
- Layered Image view consisting of coloured X-ray maps overlaid on the electron image with associated colour key
- Reconstruct spectra from a point, rectangle, ellipse or freehand region for qualitative and quantitative analysis
- Discrete Colour scheme visualises variations in CPS
- Capability to extract from a SmartMap:
 - spectrum from a point or area
 - a linescan in any orientation

SmartLineScan – X-ray LineScanning

- Collects spectral line datacube
- Line definition
 - Points (up to 8192 points allowed per line)
 - Separation (Line length dependent)
- Termination by number of frames or user intervention
- Views (vertical tiles, stacked with normalised/unnormalised intensity)
- Binning factors: 1, 2, 4, 8, 16 and 32
- Calliper measurements available in each linescan view
- Reconstruct spectra from each point or binned region of the linescan

Info tool

- Gives data sensitive feedback when used on spectra, images, maps and linescans.

Reporting

- Quick and easy reporting functionality
 - Content selectable via toggle buttons
 - Exports in Microsoft® Word format (reports can be viewed in free Microsoft viewer)

Exporting

- Images, Spectra, X-ray maps, LayeredImage and LineScans can be saved, copied, printed and e-mailed directly from the AZtec interface via 'right mouse click' menu
- Images can be saved as Bitmaps (.bmp), Graphics Interchange Format (*.gif), Joint Photographic Group (*.jpg and *.jpeg), Portable Network Graphics (*.png) and Tagged Image File Format (*.tif and *.tiff)
- Spectra can be saved as bmp, gif, jpg, jpeg, png, tif or tiff files
- X-ray maps and LayeredImage and Linescans can be saved as bmp, gif, jpg, jpeg, png, tif or tiff files
- Image export settings that can be altered for export: width, height, units (pixels, inches and cm), aspect ratio, header, user annotation, colour key, colour bar, scale bar
- Spectra export settings that can be altered for export: width, height, units (pixels, inches and cm), aspect ratio, show vertical scale, show horizontal scale, vertical scale type (linear or logarithmic), show peak labels, show annotations, normalise spectrum, spectrum smoothing, monochrome spectra
- Spectra export in EMSA format
- X-ray map and Linescan data export as .TSV, .CSV and RAW (for Lispix, MSA etc...)

Calibrate

- Energy calibration



TruMap

Overlap and background corrected mapping

- Calculated from SmartMap during or after acquisition
- Available for SmartMap resolutions of 128, 256, 512 and 1024)
- Order maps by max intensity, mean intensity, atomic number or alphabetically
- Binning factors: 1, 2, 4, 8, 16 and 32
- Discrete Colour scheme visualises variations in CPS

TruLineScan

Overlap and background corrected LineScanning

- Calculated from SmartLineScan during or after acquisition
- Up to 8192 points allowed per line
- Views (vertical tiles, stacked with normalised / unnormalised intensity and data table)
- Calliper measurements available in each linescan viewer
- Binning factors: 1, 2, 4, 8, 16 and 32



www.oxford-instruments.com

Oxford Instruments' policy is one of continued improvement. The company reserves the right to alter, without notice the specification, design or conditions of supply of any product or service. Oxford Instruments NanoAnalysis is certified to ISO9001, ISO14001 and OHSAS 18001. AZtec is Registered Trademarks of Oxford Instruments plc. © Oxford Instruments plc, 2016. All rights reserved. Document no: OINA/TDS/AZtecOne Software for Hitachi TM3000 Series and FlexSEM/0416.



The Business of Science®



THE QUEEN'S AWARDS
FOR ENTERPRISE:
INNOVATION
2011

