

Enhanced resolution and visibility of sub-surface information

ZEISS Energy selective Backscattered (EsB) Detector

The EsB Detector is suitable for clear compositional contrast. It is an annular-shaped in-column detector that is located above the in-lens detector. The ability to detect backscattered electrons (BSE) makes sub-surface information and nano-scale composition visible. To prevent detection of secondary electrons (SE), a filtering grid is installed in front of the EsB Detector. By switching on the filtering grid voltage, the SE will be rejected and only BSE will be detected. Below landing energy of 1.5 kV, the filtering grid has the additional function of selecting the desired energy of the BSE. This means the threshold energy of inelastically scattered BSE can be selected to enhance contrast and resolution.



EsB Detector on ZEISS Crossbeam FIB-SEM.



Compositional contrast generated by various materials, taken with the EsB Detector.

Highlights

Energy selective material contrast

Energy-specific separation of backscattered electrons enables nano-scale compositional information and high spatial resolution

Reduced topography effects

More detailed material information and fewer topography effects

Upgrade your ZEISS microscope

Upgrade your ZEISS microscope with the EsB Detector option and benefit from improved image quality through enhanced contrast by separating back-scattered electrons relating to energy aspects.

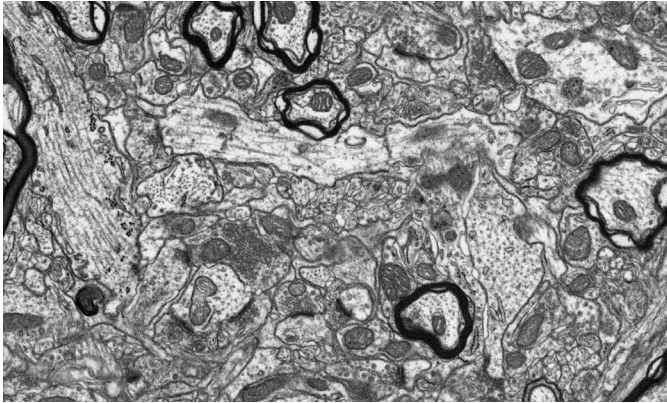
As technical requirements may apply to some systems, please contact us to learn more about the EsB Detector and how your processes will benefit from an upgrade:
microscopy@zeiss.com



Seeing beyond

ZEISS Energy selective Backscattered (EsB) Detector

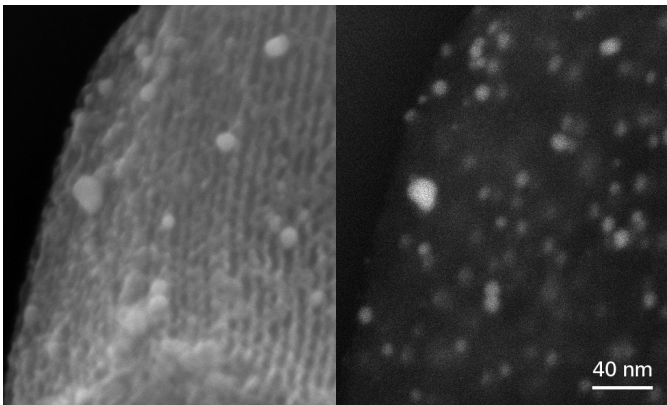
Visibility of sub-surface information



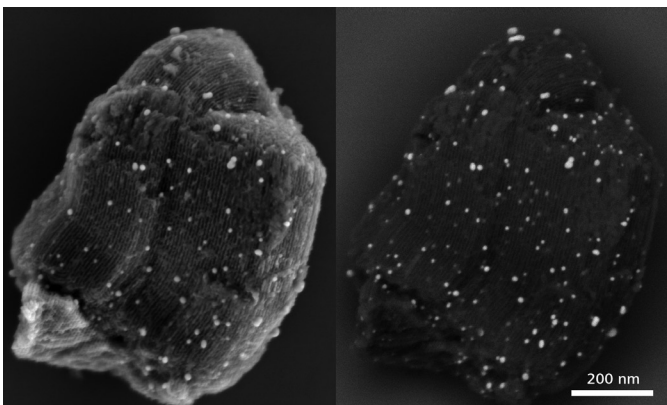
3D mapping of mouse brain, taken with the EsB Detector.

Availability

- Crossbeam series
- GeminiSEM series
- MERLIN series
- AURIGA series
- ULTRA series
- NEON series
- 15xx XB series



Zeolite with Ag nano-particles, using dual channel Inlens SE Detector (left) and EsB Detector (right).



Silver nano-particles embedded in zeolite, Inlens SE Detector (left) and EsB Detector (right).

