

EVO® MA and LS Backscattered Detector

Introduction

The EVO® series of scanning electron microscopes makes use of the best detector technology available to provide feature rich images for all applications fields. The new EVO® Si diode backscattered detector (BSD) provides imaging solutions for all application needs. The ZEISS BSD series excel at low voltage imaging of low Z materials to complement the true secondary electron imaging provided by the ZEISS VPSE detector.

The ZEISS BSD physical design minimises the intrusion into the specimen space whilst doubling the collection solid angle relative to previous detectors, for specimens located at the class leading analytical working distance of 8.5 mm. ZEISS BSD detectors also retain the four-quadrant detector philosophy that provides both compositional and topographic imaging from a single device. Coupled to the SmartSEM™ GUI design that emphasises usability, the new BSD series provides a problem solving ability that surpasses previous BSD implementations.



The ZEISS BSD is a universal detector system able to provide imaging solutions for all specimens in all modes for the EVO® series.

Applications

Materials Analysis

- Metallurgical sections
- Geological sections
- Complex materials

Life sciences

- Mineral deposits in plant structures
- Bone structures

Semiconductor

- Bump balls
- Printed circuit board
- Bond pad

Healthcare

- Drug pellet microstructure
- Implants
- Drug delivery

Fig. 2:
Solder ball pad showing
thin surface contamination
(2kV)

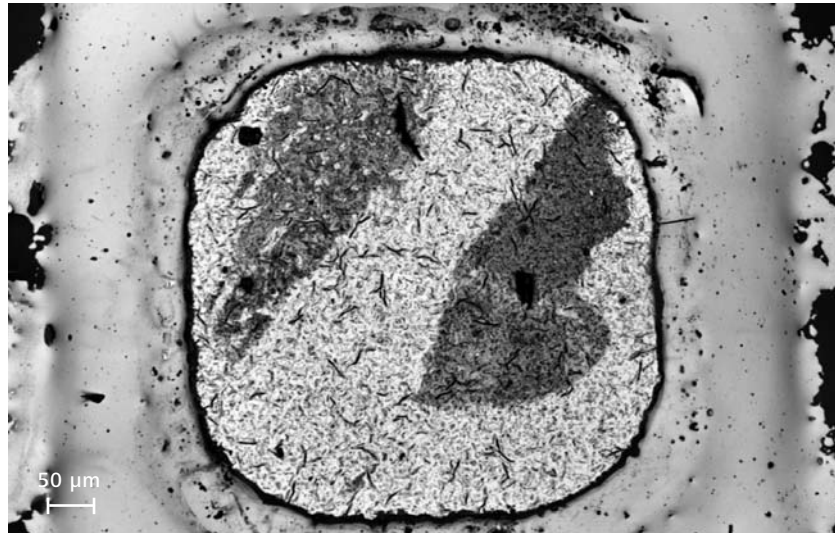


Fig. 3:
The same solder ball
pad as Figure 2.
(20kV) .
At higher accelerating
voltages the surface
contamination is not
detected.

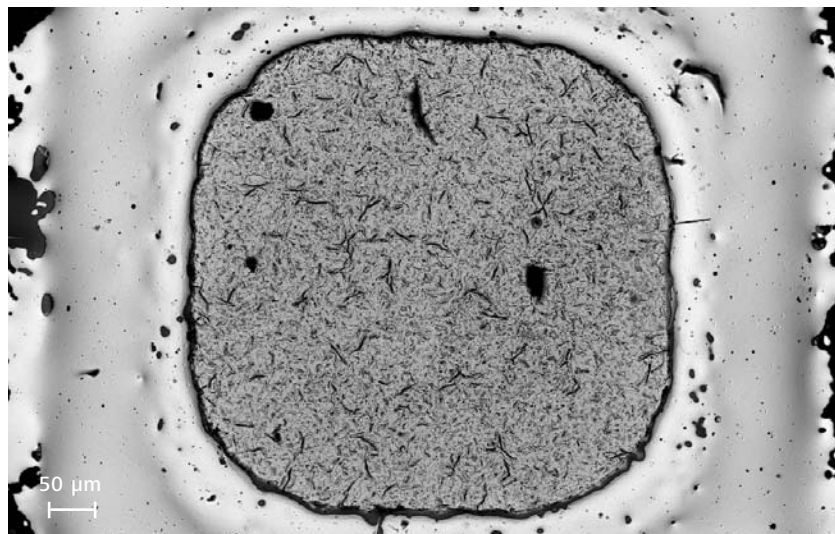
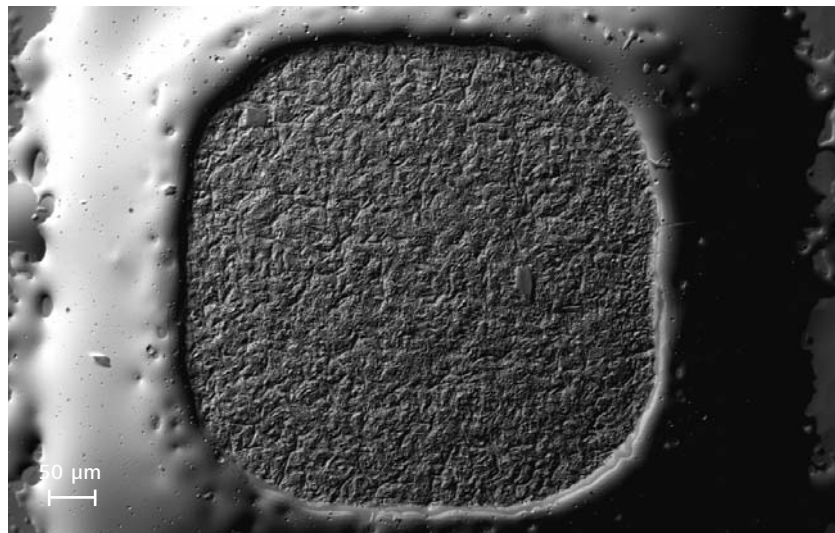


Fig. 4:
Solder ball pad
Topographic image
(20kV)



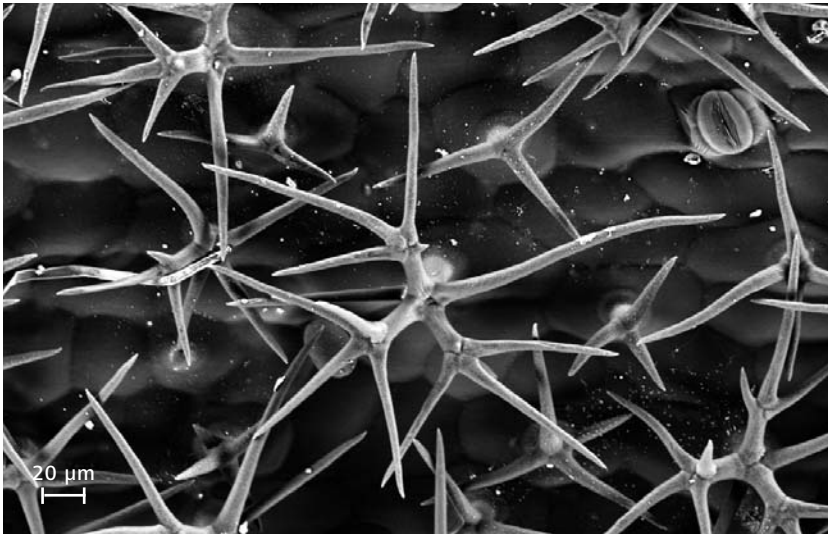


Fig. 5:
Lavender
(7kV, 30Pa, air)

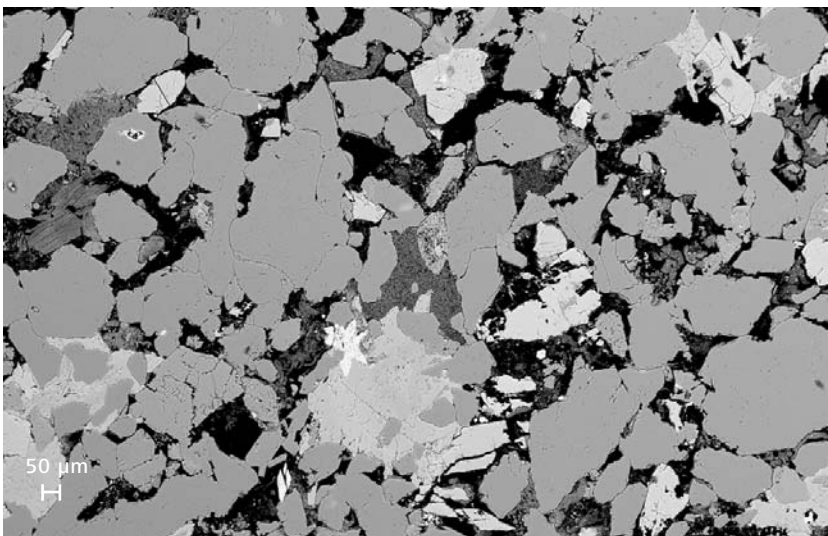


Fig. 6:
Polished Sandstone
(20kV)



Fig. 7:
Fabric
(20kV, 100Pa, air)

Essential specifications

The ZEISS BSD series is compatible with all EVO® series microscopes

- Mounting ▶ Lens mounted
▶ Retractable
- Alpha / beta brass imaging
- Compositional or Topographic
- 1 keV imaging

EVO® Series



EVO® Series					
Applications		Conductors	Non Conductors	Hydrated Specimens	Wet Dynamic Processes
Materials Analysis	MA	✓	✓	Future Assured	Future Assured
Life Sciences	LS	✓	✓	✓	✓



Global Solution Provider

The Nano Technology Systems Division of Carl Zeiss SMT provides its customers with complete solutions featuring the latest leading-edge EM technology. The company's extensive know-how, meticulously acquired over 60 years in the field of e-beam technology, has brought many pioneering innovations to the market. Our global applications and service network ensure fast, reliable and high quality support sharply focused on customer requirements. Combined with dedicated upgrade strategies, this will protect your investment for its entire lifetime. The core technology embedded in our innovative products enables us to provide solutions which add value to our customers' businesses.

Customer feedback is always welcomed and gathered by collecting valuable information at trade shows, in workshops, in user meetings and upon instrument installation. The Division's business services also include outstanding support from sales consultancy to technical service options even when the warranty has expired.

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