DigiView EBSD Analysis System

Product Bulletin – EBSD

The DigiView Camera offers excellent performance over a wide range of EBSD applications, providing the highest indexing success rates and best orientation precision values on the market at speeds up to 200 indexed points per second. This high-resolution camera enables users to obtain outstanding results from both routine and advanced materials and analysis. It provides a flexible solution that guarantees users the best possible data quality and smart insight into their characterization needs.

Results without compromise

With Smart Features that automatically configure and optimize acquisition settings, the DigiView provides results without compromise across the entire performance range and helps users take full advantage of the camera to maximize system performance.

- High-resolution digital camera
- Provides orientation mapping data at rates up to 200 indexed patterns per second with
- 99% indexing success rates
- Orientation precision values less than 0.1°
- 1.4-megapixel resolution for display of fine pattern detail
- Designed for both orientation mapping and phase identification
- Automated camera setup driven by application needs
- HR-EBSD compatible

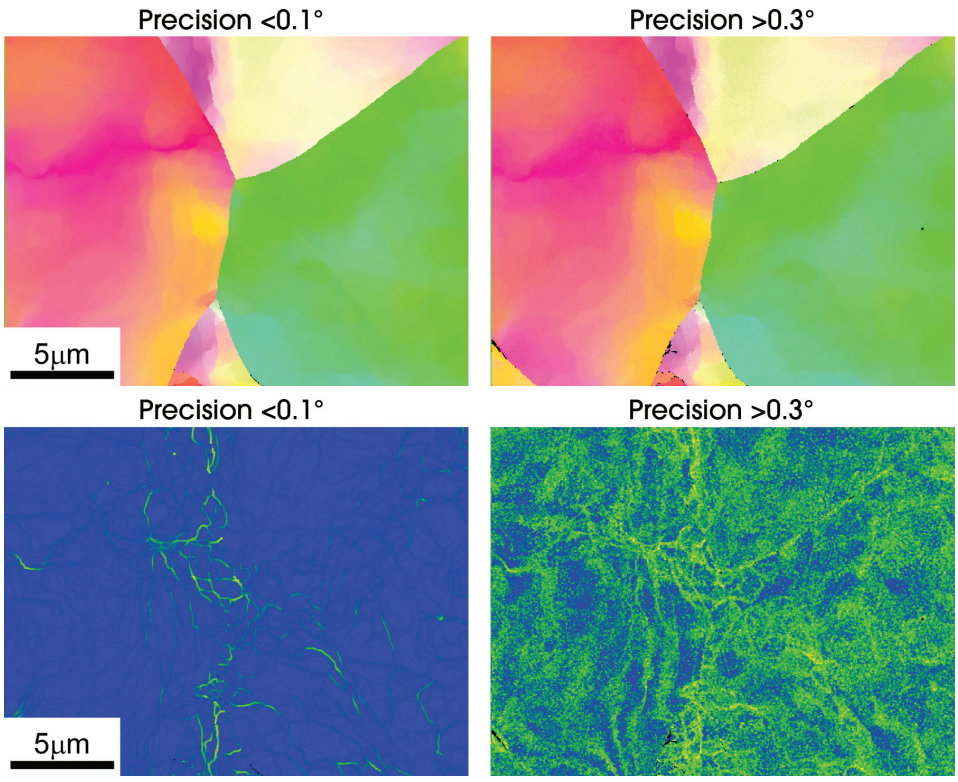

Figure 1. Orientation maps (top) and kernel average misorientation (KAM) maps from a deformed steel sample. The orientation maps suggest there is little difference in the measurements. However, the KAM maps with orientation precision values less than 0.1° show that the deformation structure is sharply defined by local increases in KAM values. In contrast, precision values greater than 0.3°; this detail is lost due to higher noise in the measurements.

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Specifications

- Data collection rates up to 200 indexed patterns per second
- 1.4 megapixel resolution: 1392 (H) x 1040 (W)
- 12-bit digital output
- Dual speed readout: 40 and 20 MHz
- High signal-to-noise ratio
- Gigabit Ethernet protocol
- Gain: up to +35 dB fully adjustable
- Metal bellows vacuum protection

Features and Benefits

High-resolution acquisition for flexibility in EBSD applications

- 1.4 megapixel (1392 x 1040) CCD sensor for high-resolution patterns

Data collection rates up to 200 indexed patterns per second

- EBSD maps can be collected and indexed quickly and efficiently

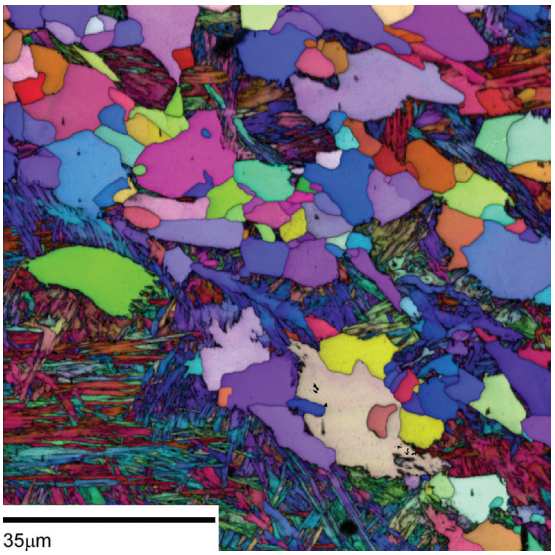

Figure 2. Orientation map from dual-phase low carbon steel. DigiView provides high indexing rates from both phases for results without compromise.

Excellent camera sensitivity

- Performance over the full range of operating conditions, including:
  – Beam currents as low as 100 pA
  – Accelerating Voltages as low as 5 kV

High indexing success rates

- EDAX's patented Confidence Index determines not only an indexing rate but also an indexing success rate, which provides confidence in your orientation data
- Learn more from every sample by indexing a high percentage of data and avoiding assumptions caused by incomplete measurements

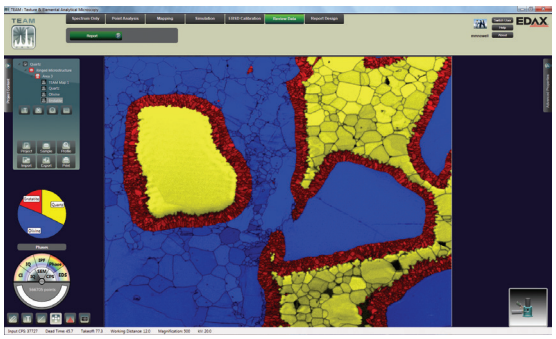

Figure 3. EBSD Image Quality and Phase map of olivine (blue), quartz (yellow), and enstatite (red).

Optional Forward Scatter Detector for reviewing sample microstructure before performing EBSD scans

- Provides orientation, composition, and topographical contrast imaging for a preview of EBSD prepared samples

Conclusion

The DigiView offers high-resolution image acquisition and flexible operation across mapping and phase identification applications for comprehensive EBSD analysis.

PB-DIGIVIEW-EBSD-ANALYSIS-SYSTEM-FL2-NJ-NOV20