

EBSD – e-Flash FS 2.1

Electron Backscatter Diffraction

<https://www.bruker.com/de/products-and-solutions/elemental-analyzers/eds-wds-ebds-SEM-Micro-XRF/quantax-ebds.html>

Improved version of e-Flash EBSD detector powered by CMOS

The new **e-Flash FS 2.1** replaces the existing CCD based detectors and has the following major features:

- a higher pixel resolution than the CCD based e-Flash FS
- faster acquisition speeds, in native resolution, than both CCD detectors at similar pixel resolutions.
- comparable maximum speed with CCD based e-Flash FS at 160x120 pixel resolution

Our new CMOS detector is a 2 in 1 solution offering several benefits:

- eliminates the need for multiple detectors for different EBSD applications
- new CMOS camera is a high-volume product, meaning it has a high degree of reliability
- binning up to 6x6 is available, allowing for great signal efficiency

OPTIMUS 2 and ARGUS FSE/BSE imaging system are still available in combination with the new CMOS detector

Bruker high performance e-Flash FS – with CMOS camera

Specifications

- In-situ vertical screen positioning using detector tilt by up to ± 4.5 degrees (if SEMs allows)
- 34 mm x 25.5 mm phosphor screen (rectangular)
- Solid angle: 20 - 100 degrees (depending on detector-sample distance)
- Motorized insertion and retraction, maximum speed 10 mm/s, position accuracy better than 0.1 mm, maximum insertion distance 250 mm, software controlled and through key panel on the detector
- Permanent LED indicator reflecting the current detector position
- Safety mechanism with audio and visual collision alarm as well as auto-retraction function
- Native image resolution 720 x 540 pixels, 12bit (4096 grey levels) CMOS camera
- Supported binning modes 2 x 2, 3 x 3, 4 x 4, 5 x 5, 6 x 6
- Maximum speed in native resolution, 2x2 and 3x3 binning: 290 fps
- Maximum speed at 4x4 binning or higher: 520 fps

Product Line

Electron Microscope (EM) Analyzers

QUANTAX EBSD – high-end microstructure characterization also for non-crystallographers

- Best spatial resolution in the market – down to 1.5 nm with OPTIMUS 2 TKD detector head
- Best imaging capabilities with ARGUS™ FSE/BSE system
- Maximized productivity
 - ESPRIT software platform for data acquisition and analysis
 - Ultrafast reindexing of EBSD & TKD maps at up to 60,000 points/second
 - Advanced phase ID
 - ESPRIT MaxYield for efficient mapping on disperse samples

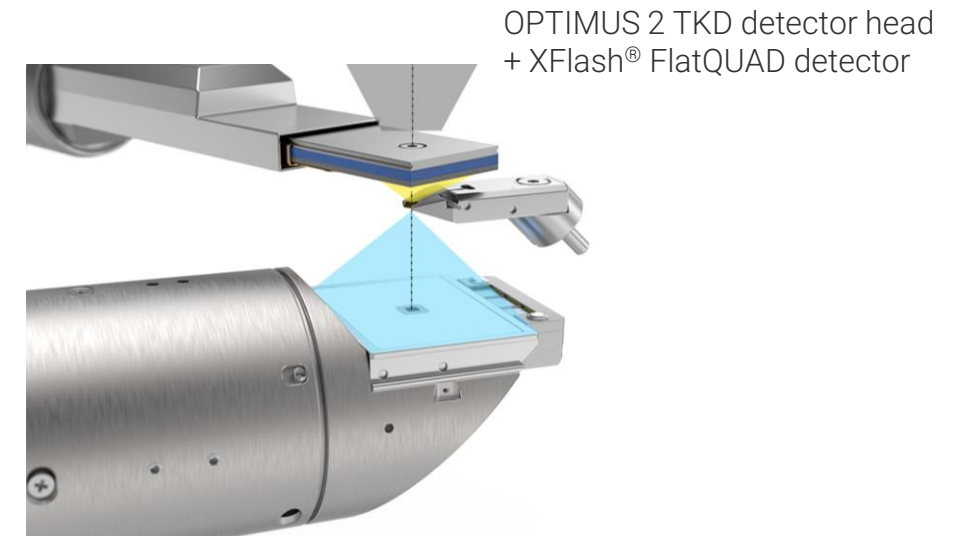


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QUANTAX EBSD – high-end microstructure characterization also for non-crystallographers

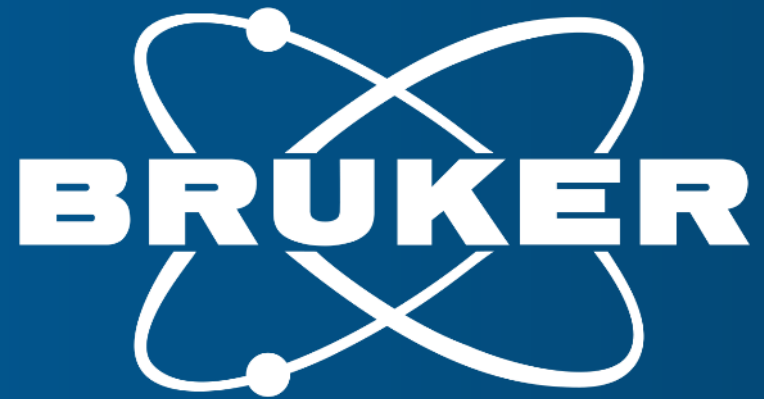
- Multiple analytical dimensions through integration of instruments and software features
 - EDS & EBSD on bulk samples
 - On-Axis EDS & TKD on electron transparent samples
 - EBSD & in-situ mechanical testing (PicoIndenter PI89)
 - TKD & in-situ mechanical testing (PI89 with Push-to-Pull device)
 - Automatic Time Resolved Measurements during in-situ experiments
 - Most advanced 3D EBSD & EDS postprocessing solution – ESPRIT QUBE



OPTIMUS 2 + PI 89



Thank you!



Innovation with Integrity