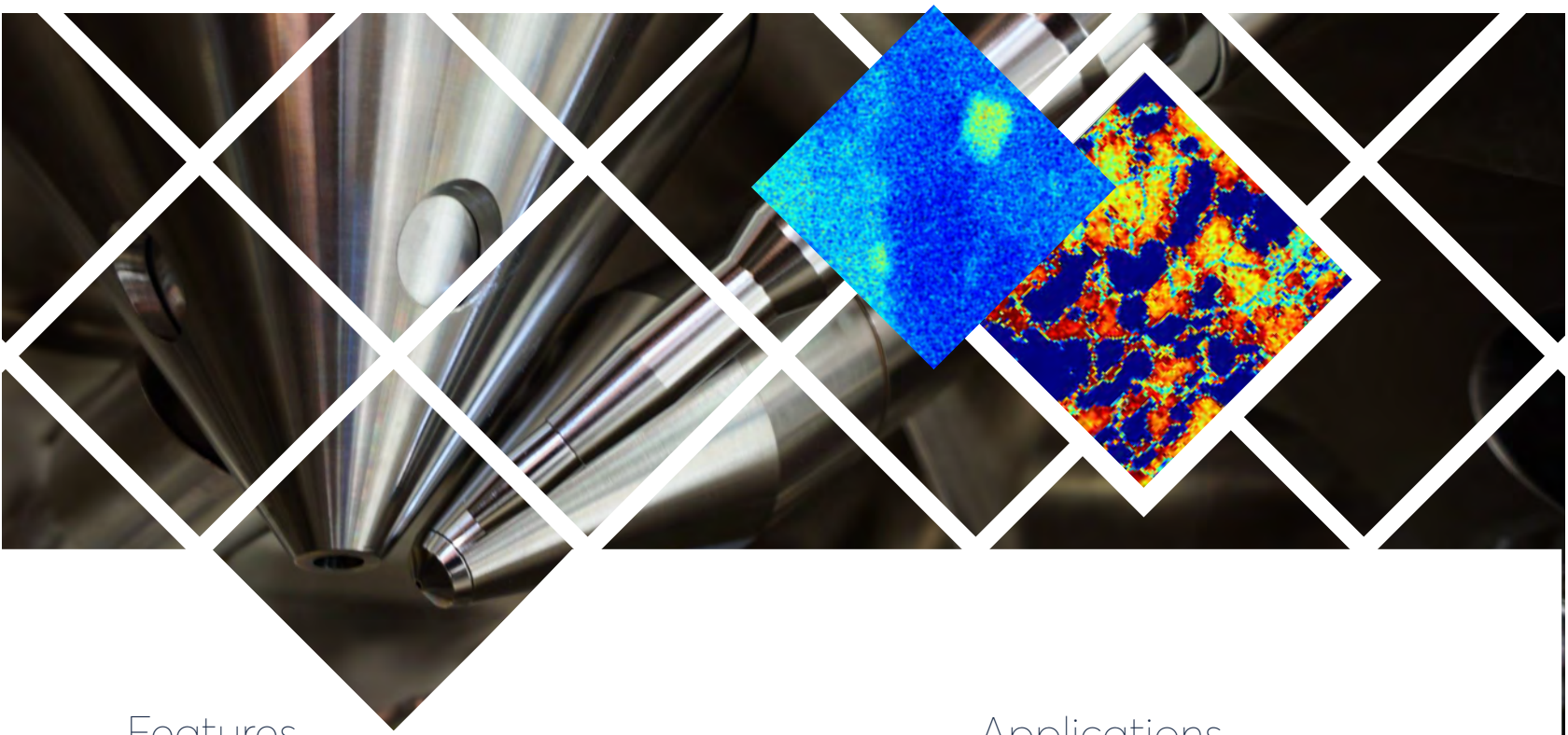
fib TOF

Sensitive 3D chemical imaging

Bring FIB-SIMS capabilities to commercial FIB-SEM microscopes



Features

- 3D chemical imaging of all elements
- Spatial lateral resolution <50 nm and depth profiling resolution <10 nm
- Isotopic imaging to study transport, diffusion, or reaction mechanisms
- Unambiguous elemental identification with high mass resolving power
- Compatible with major commercial FIB-SEM microscopes

Applications

- Low-mass element detection
- Thin film depth profiling
- Nanoparticle detection
- Clean energy, Li- batteries

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3D Chemical Imaging

fibTOF data set showing the intensity distribution of aluminum in the top layers of a vertical cavity surface emitting laser (VCSEL). The field of view is 10 x 10 microns and an expanded vertical scale of 2 um

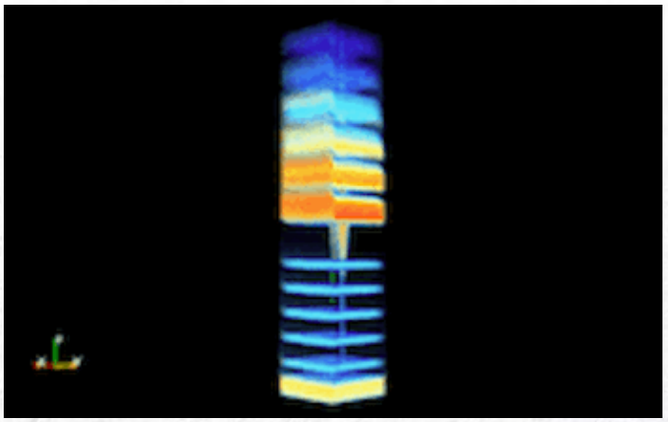
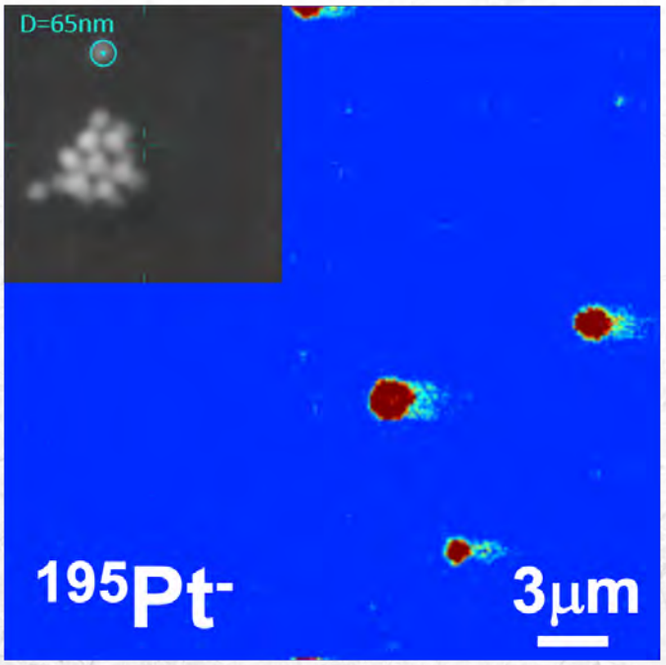


Image provided by Empa, the Swiss Federal Laboratories for Materials Science and Technology, Thun, Switzerland

Nanoparticle Detection

fibTOF data set showing the aggregates of Pt nanoparticles. The sensitivity of the fibTOF enables the detection of small features



Specifications

Mass Resolving Power M/ΔM FWHM	Mass Range (Th)	Limit of Detection	Lateral Spatial Resolution *	Depth Resolution
>700	1 - 500	ppm	50 nm	10 nm

*Depends on the focused ion beam performance

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