

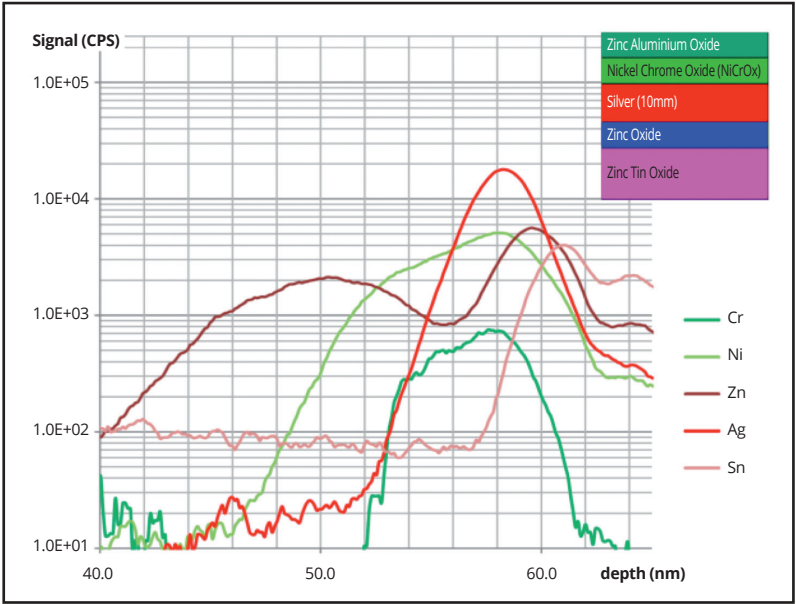


EQS – SIMS for FIB

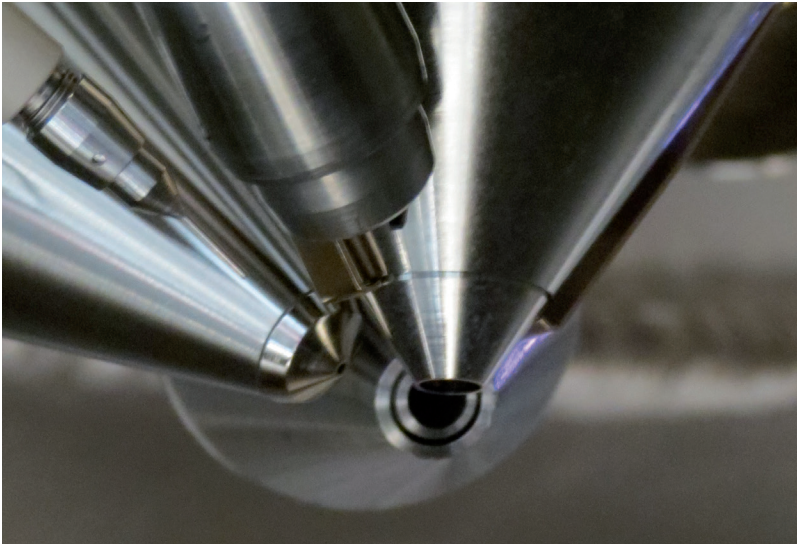


Hiden EQS on Zeiss Crossbeam 340.

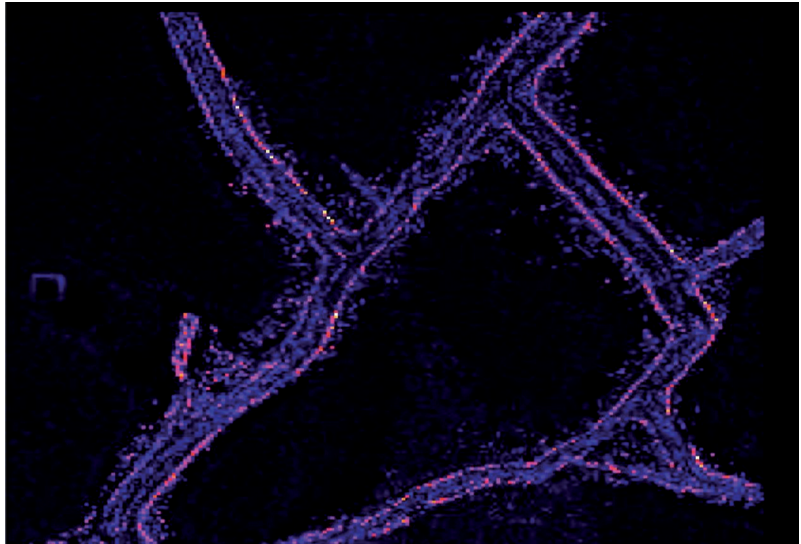
FIB-SIMS depth profile of low emissivity float glass



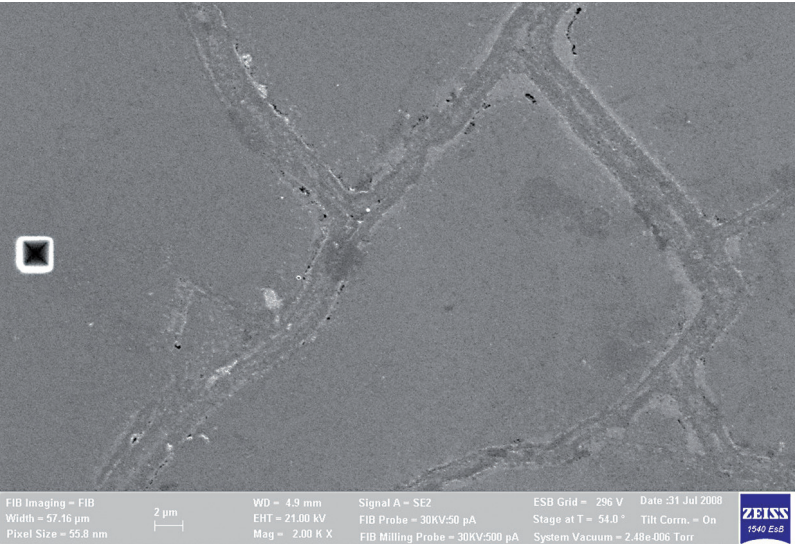
- High sensitivity
- Positive and negative ion detection
- Fitting options for most FIB tools
- Optional differential pumping
- All UHV and bakeable
- Retractable
- Integral RGA



- Imaging
- Mass spectra
- Depth profiling
- 3D mapping



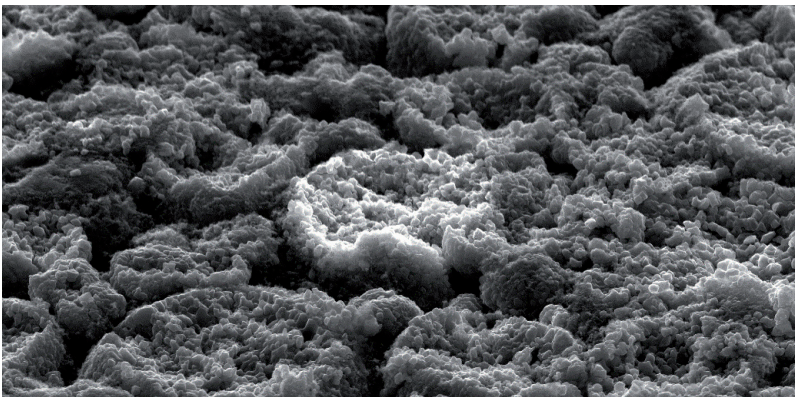
²⁷Al⁺ image showing concentration at grain boundary LaSrCuFe oxide



Sample: Richard Chater, Imperial College London, UK
Instrument: Zeiss Neon, Hiden EQS

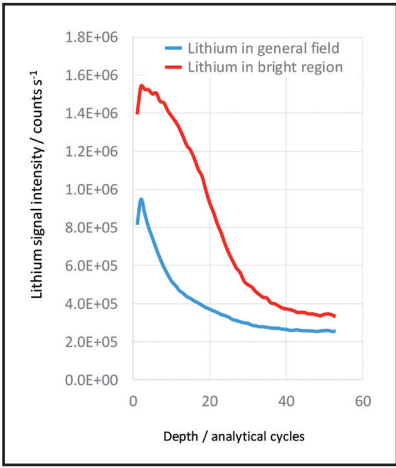
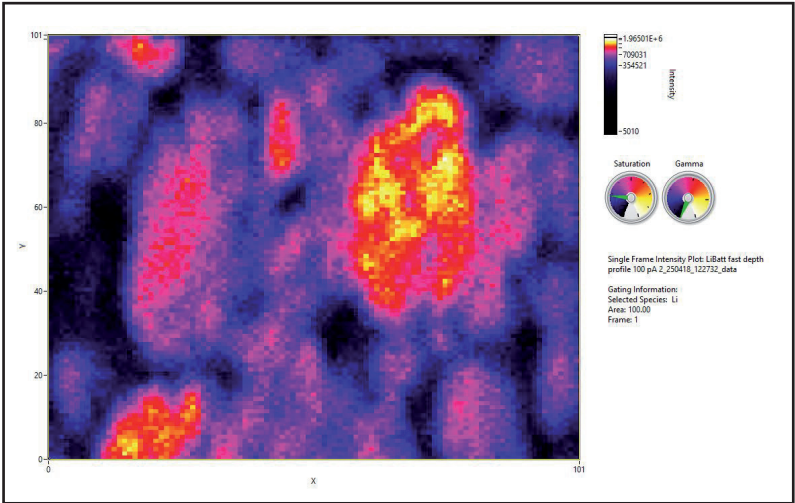
Lithium Battery Analysis

The EQS spectrometer provides SIMS detection for focused ion beam (FIB) microscopes, with excellent sensitivity for light elements (sub ppm sensitivity for lithium). Additionally, isotopically pure materials can be used for diffusion studies.



Lithium battery analysis

The micrograph shows a 50µm field of view of a cathode surface. SEM imaging of an aged battery cathode shows bright regions. SIMS imaging of this region shows the bright areas to be lithium rich.



SIMS of cathode
⁷Li mass resolved SIMS image of the cathode surface showing a distinct lithium rich area (research of Hochschule Aalen).