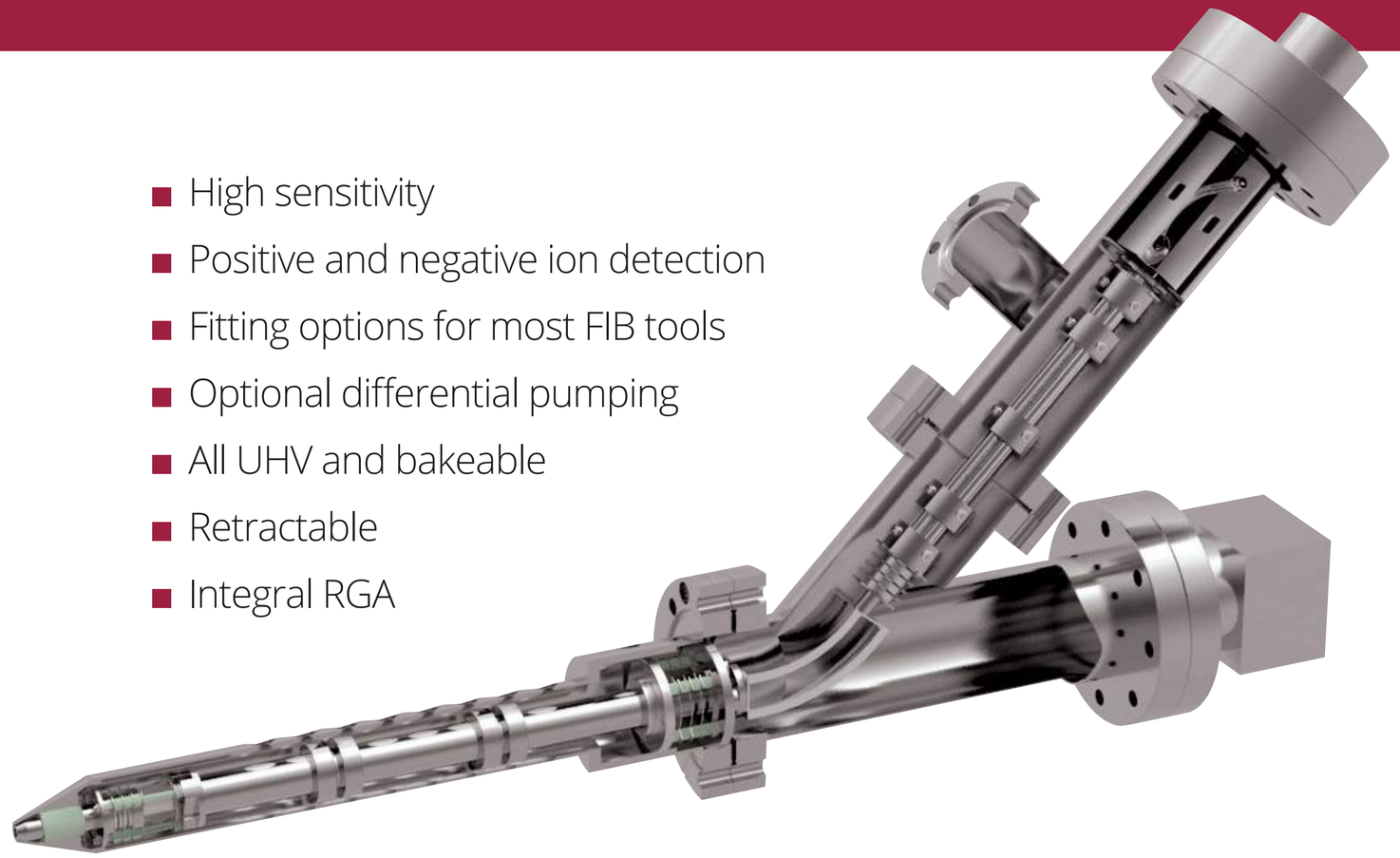
HIDEN ANALYTICAL

EQS – SIMS for FIB



Hiden EQS on Zeiss Crossbeam 340.

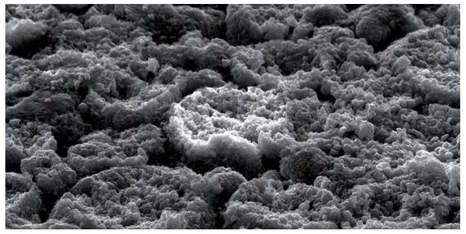
- High sensitivity
- Positive and negative ion detection
- Fitting options for most FIB tools
- Optional differential pumping
- All UHV and bakeable
- Retractable
- Integral RGA



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).

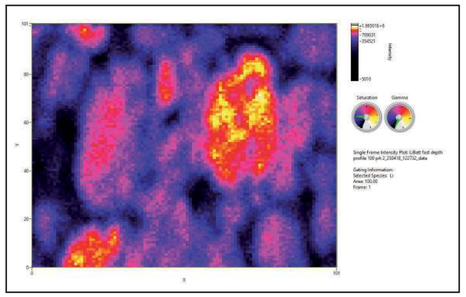
Additionally, isotopically pure materials can be used for diffusion studies.

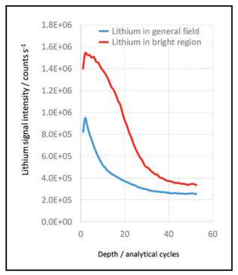


Lithium battery analysis
The micrograph shows a 50µm field of view of a cathode surface.

SEM imaging of an aged battery cathode shows bright regions.

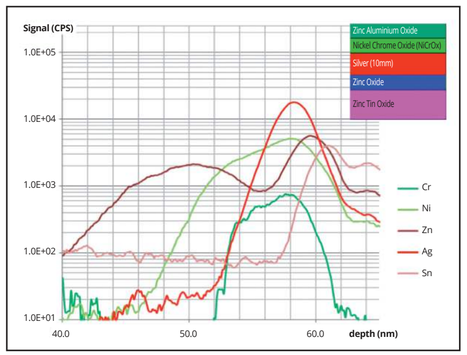
SIMS imaging of this region shows the bright areas to be lithium rich.

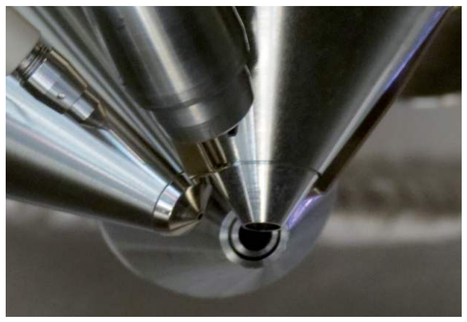




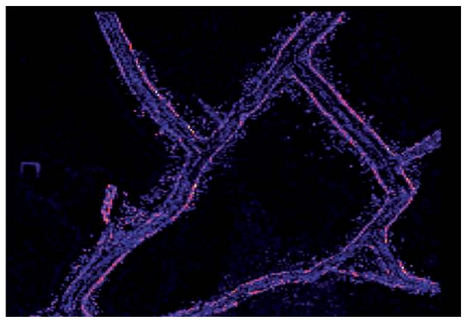
SIMS of cathode
^{7}Li mass resolved SIMS image of the cathode surface showing a distinct lithium rich area (research of Hochschule Aalen).

FIB-SIMS depth profile of low emissivity float glass

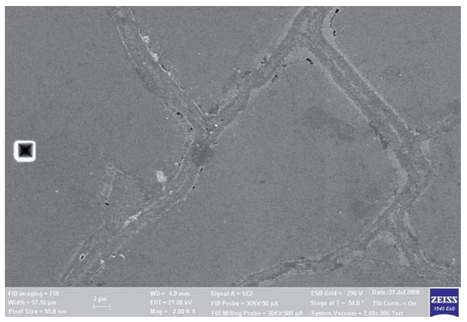




- Imaging
- Depth profiling
- Mass spectra
- 3D mapping



$^{27}Al^{+}$ image showing concentration at grain boundary LaSrCuFe oxide



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

Poster Ref: 2022/12/FIBSIMS