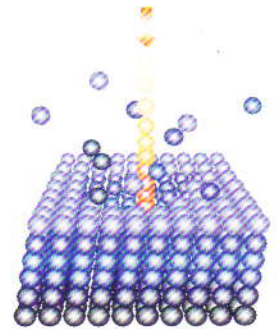


NANOSIMS 50:

SIMS analysis with ultimate lateral resolution

The **NanoSIMS 50** is a new ion microprobe, developed for trace element and isotopic analysis of ultra-fine features providing:

- the ability to extend the SIMS analysis to extremely small areas or volumes while maintaining extremely high sensitivity;
- the capability to measure up to 5 masses (ions) in parallel, ensuring perfect isotopic ratio from the same volume or perfect image superimposition.

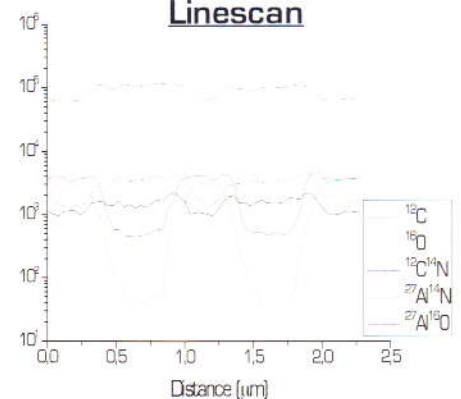


Cameca NanoSIMS 50

- Lateral resolution (X,Y): 50 nm (electronegative elements)
250 nm (electropositive elements)
- Detection limits: ppm to 100 %
- Elemental range: H to U
- Major use: imaging
depth profiling (small area)

Surface Acoustic Wave Sensor
Analyzed area: $(10 \times 10) \mu\text{m}^2$

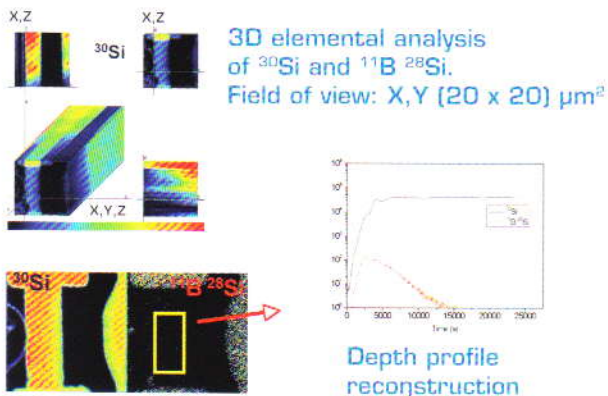
Linescan



Unique advantages of the technique

- Elemental and isotopic maps at 50 nm resolution
- Detection limits
- High transmission at high mass resolution
- Simultaneous detection of 5 ionic species

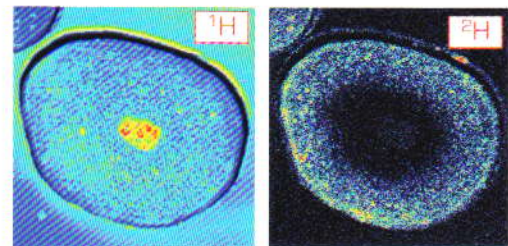
Semi-conductors



Detection of trace elements and quantification of dopant by:

- Depth profiling
- Cross-section imaging

Biological Samples

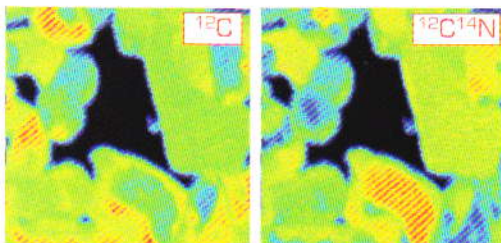


Incorporation of an isotopically [D] labeled active molecule in human hair.
Field of view: (80 x 80) μm^2

Trace elements and isotopes imaging in different fields:

- Cosmetics
- Medical research
- Pharmacology
- Environment

Inorganic Materials

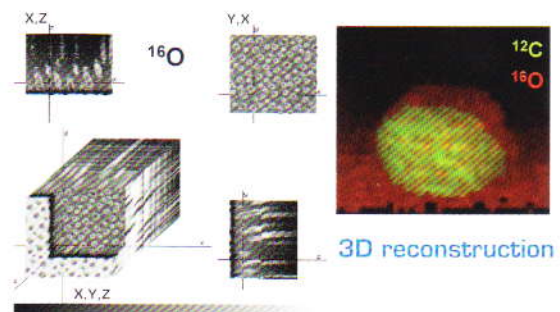


Ti(C,N)-based cermet
Analyzed area: (3 x 3) μm^2

Analysis of trace elements and isotopes in:

- Ceramics
- Alloys
- Glasses
- Composites
- Nanotubes

Polymers



Polymer blend Polystyrene-PMMA.
3D elemental distribution of ^{16}O (PMMA)
Analyzed area: (20 x 20) μm^2

Detection of trace elements, additives, etc., in:

- Tyres
- Coatings
- Composites