

# MiniSIMS-ToF

## High Performance Compact SIMS System

- Time of Flight Mass Analyser
- Retrospective Analysis
- Monolayer Surface Information
- Detection of all the Elements
- Identification of Organic Species
- High Sensitivity Analysis
- Fast Chemical Imaging
- Thin film Depth Profiling
- Benchtop and Mobile
- Cost Effective and User Friendly

### MiniSIMS ToF - award winning Surface Chemical Analysis with SIMS (Secondary Ion Mass Spectrometry)

SAI's innovative design of the MiniSIMS has won numerous awards both in Europe and the US (R&D100). Requiring minimal lab space and services, the benchtop instrument is capable in all 3 SIMS modes, namely Static SIMS, Imaging SIMS and Dynamic (Profiling) SIMS, which combined with high throughput means costs per sample can be reduced by up to 90% relative to conventional UHV equipment.

### Why SIMS ?

Unlike many spatially resolved elemental techniques (acquiring information from individual atoms), SIMS is not restricted to inorganic analysis and equally capable of mapping distributions of organic species. The sampling depth of SIMS is also significantly less than most other surface techniques which, combined with superior sensitivity, allows much more detailed information from thin layers and interfaces to be obtained with relatively high speed.

### Why MiniSIMS ToF?

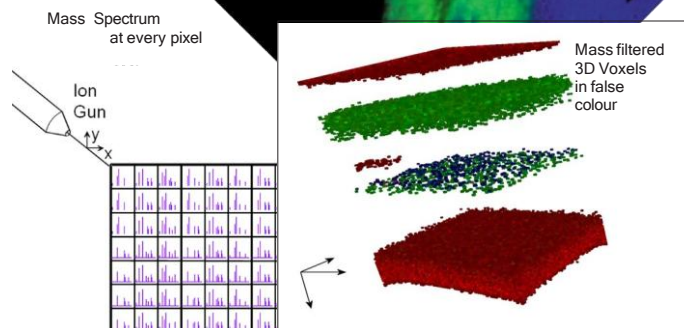
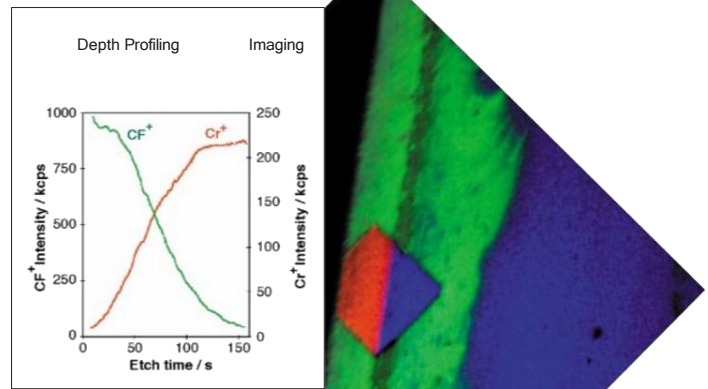
The ToF analyser provides quasi parallel detection and is much quicker to collect data than a scanning mass analyser such as a quadrupole. Images (and profiles) are acquired hyperspectrally (complete mass spectra at every pixel (voxel)) with little penalty in time versus a quadrupole measuring only single masses. ALL possible data is therefore available post acquisition for retrospective mining. 'Unknowns' analysis is the key benefit of the MiniSIMS-ToF for FA and research applications alike.



Product Note

P201

[www.saiman.co.uk](http://www.saiman.co.uk)



# MiniSIMS-ToF



## Specifications

Specification	Performance
Mass Resolution	> 650 m/Δm (Δm=FWHM) @ 27m/z
Mass Range	1 to 1200 m/z
Mass Accuracy	< 100 ppm with internal calibration
Imaging Beam , [ FOV ]	Ga <sup>+</sup> , <10μm (5keV) , [ up to 4.5mm x 4.5 mm ]
Sensitivity	>1x10 <sup>4</sup> cps/nA from <sup>100</sup> <sub>92</sub> Σ(Mo + MoO)
Vacuum, [ time to operation for standard sample stage ]	<1x10 <sup>-6</sup> mbar base [ pump down < 5 minutes, dry N <sub>2</sub> ]
Footprint [ Weight , Dimensions]	<0.5m <sup>2</sup> , [ approx. 60 kg (excluding computer), w900 x d530(+60mm cable entry) x h490mm ]
Power	<1 kVA (excluding computer), single phase
Samples (standard stage)	<12mm diameter, ( <10mm insulating )
Data System	PC, Windows, Dual Monitors
<i>Optional equipment</i>	
Motorized Large Sample Stage	4 inch (100mm) X,Y , (dry N <sub>2</sub> pump down, < 10 minutes)
Static SIMS Library	>900 entries

Product Note

P 201

www.saiman.co.uk



#### RELATED PRODUCTS

MiniSIMS- alpha P200  
MidiSIMS- ToF HR P202



#### EXAMPLE APPLICATIONS

- SURFACE COATINGS
- ELECTRONIC COMPONENTS
- SENSORS
- TRIBOLOGY
- CATALYSIS
- ADHESIVES
- THIN FILMS
- BIOMATERIALS
- CORROSION
- EDUCATION
- STORAGE DEVICES



#### LOCAL REPRESENTATION

Distributed in Europe by



T: +31 681 03 83 06  
E: sales@albasci.com  
W: www.albasci.com

MASS SPEC

SIMS

MALDI MS

AMBIENT MS

BESPOKE SERVICES