CAMECA
SCIENCE & METROLOGY SOLUTIONS
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IMS 8f

Automated Dynamic SIMS for Semiconductor and Advanced Materials Characterization

High-Performance Dynamic SIMS Made More Accessible

Automated alignment. Trusted **results. Faster operator productivity.**

A new platform for advanced analytical challenges.

Automated operation. Analytical versatility. Proven magnetic sector SIMS performance. From light elements and complex interfaces to shallow structures and deep profiles.

Less tuning. More understanding.

IMS 8f automates primary and secondary column alignment through a streamlined workflow, shortening time to results and delivering more consistent operating conditions. The result is better day-to-day reproducibility and more productive use of operator time, allowing greater focus on analytical insight rather than instrument setup.

Automation Benefits

- Automated primary & secondary column alignment
- Ready for analysis in less than 15 minutes
- Up to 3× faster setup compared with manual expert tuning
- Consistent day-to-day operation
- More productive operator time

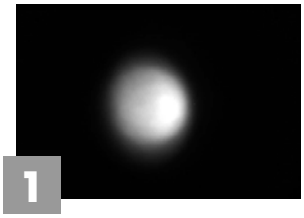
Reproducible setup. Consistent performance.

AUTOMATED OPERATION

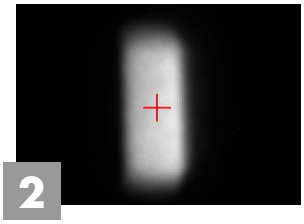
ANALYTICAL VERSATILITY

MODERN PLATFORM ARCHITECTURE

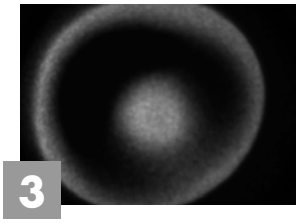
Secondary Column Alignment



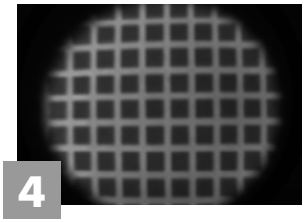
1 Beam Centering (Projection)



2 Slit focusing (Coupling)

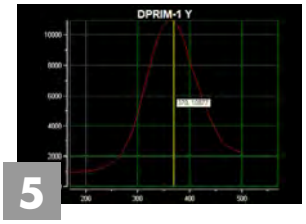


3 Transmission optimization (Transfer)



4 Image focusing (Immersion lens)

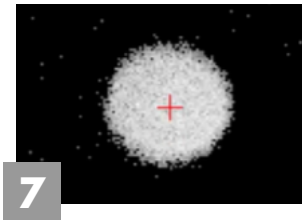
Primary Column Alignment



5 Curent maximization



6 Analysis current setting



7 Beam focusing

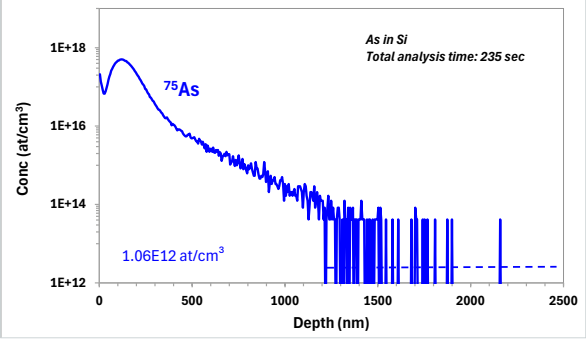


8 **ANALYSIS AUTO START**

From complex interfaces to deep distributions

Advanced semiconductor technologies and emerging materials require analytical solutions capable of addressing increasingly diverse characterization challenges. Building on the proven performance of magnetic-sector dynamic SIMS, IMS 8f introduces a new platform architecture designed to extend analytical flexibility across a broad range of applications. Enhanced capabilities for light-element analysis, deep implant characterization, denser depth sampling and expanded operating conditions provide greater versatility for investigating contamination, buried interfaces, multilayer structures, dopant distributions and novel material systems. From semiconductor process development to advanced materials characterization, IMS 8f is designed to support evolving analytical requirements.

Deep Dopant Profiling



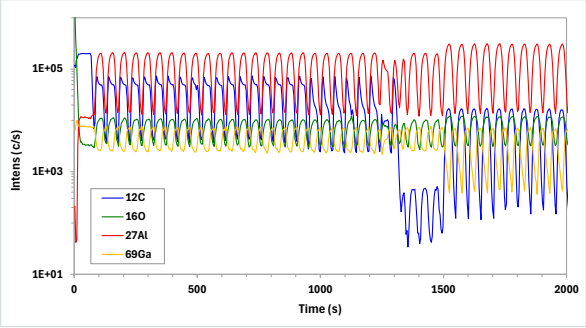
Designed for extended depth characterization.

Modern semiconductor devices increasingly rely on precisely controlled dopant distributions across complex structures. From deep implanted junctions and buried layers to thick epitaxial stacks, IMS 8f provides the flexibility required to characterize dopant profiles and material variations throughout the depth range.

WHY IT MATTERS

Characterize dopant distributions and buried features across extended depth ranges to support process optimization and device development.

Complex Multilayer Structures



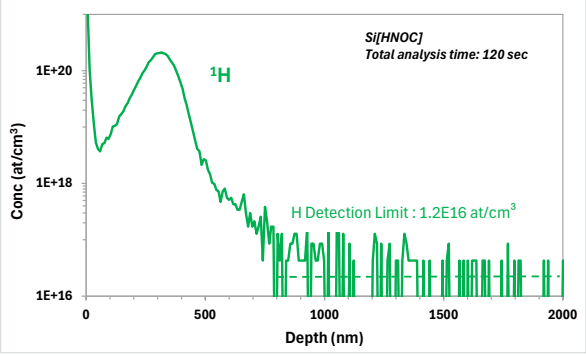
Designed for advanced multilayer characterization

Modern semiconductor and optoelectronic devices increasingly rely on sophisticated layer architectures where interface control and compositional uniformity are critical. From VCSEL epitaxial stacks and buried interfaces to complex functional materials, IMS 8f provides the flexibility required to investigate composition changes and structural features throughout the depth profile.

WHY IT MATTERS

Support the development and qualification of complex structures through detailed insight into layer sequences, interface transitions and material consistency.

Light Element Characterization



Designed for demanding light-element characterization

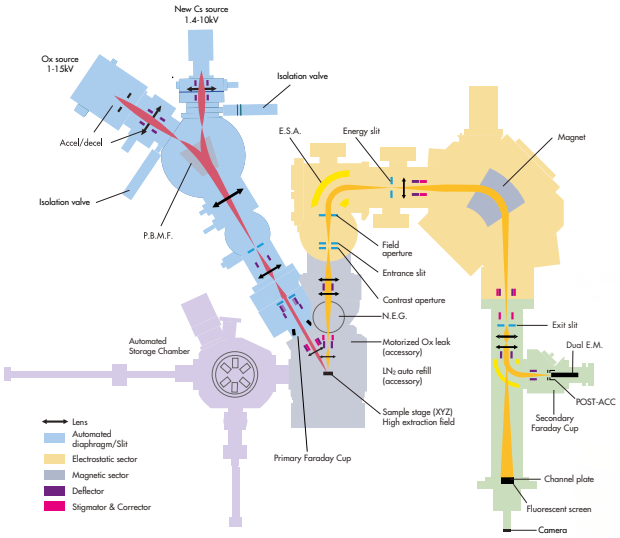
Hydrogen and other light elements play a critical role in semiconductor performance, materials optimization and failure investigation. IMS 8f extends dynamic SIMS capabilities across a broad range of semiconductor and advanced materials applications, from silicon and epitaxial structures to functional oxides, wide-bandgap materials and emerging material systems. The platform is designed to provide the sensitivity and selectivity required for demanding light-element characterization challenges.

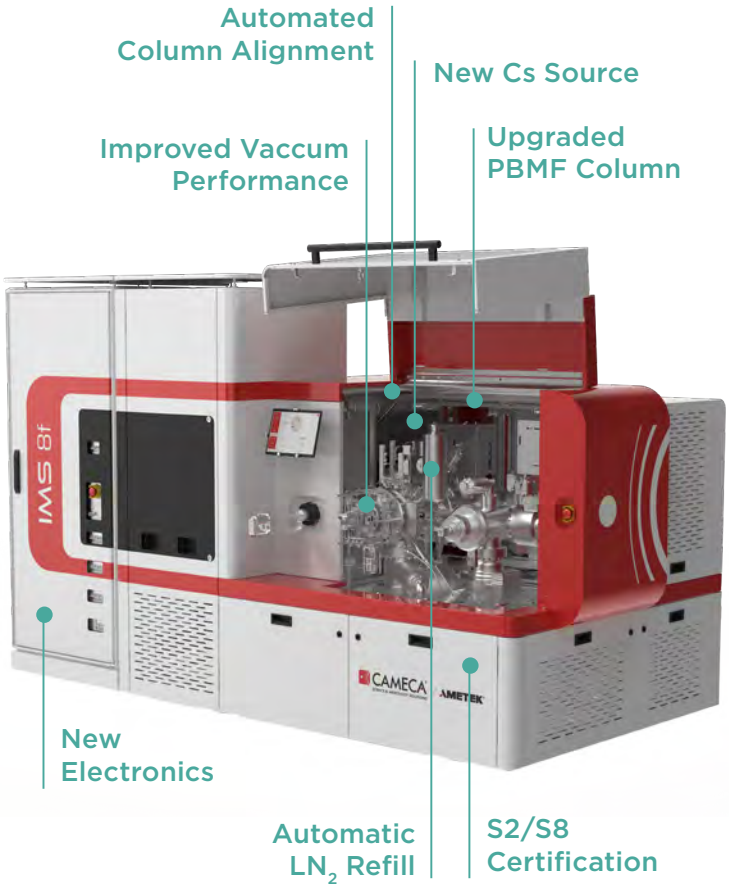
WHY IT MATTERS

Investigate low-concentration species, buried features and material variations with confidence across a wide range of materials systems.

A New Dynamic SIMS Platform for Evolving Analytical Challenges

IMS 8f combines automated operation, enhanced analytical flexibility and a modernized platform architecture in a new generation of Dynamic SIMS designed for semiconductor and advanced materials characterization.





Combining proven magnetic-sector SIMS performance with a new level of automation and operational flexibility.

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