

IMS 8f: A New Generation of Magnetic-Sector Dynamic SIMS

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Bio:

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Anne-Sophie Robbes received her Ph.D. in Materials Science through research conducted at Synchrotron SOLEIL and CEA Saclay, France. She joined CAMECA in 2012 and has held several technical and product management positions supporting analytical solutions for the semiconductor industry. Since 2022, she has been Semiconductor SIMS Product Manager, with responsibility for CAMECA's Dynamic SIMS product portfolio dedicated to semiconductor applications. In this role, she works closely with customers, applications specialists, sales teams and R&D to define product strategy and guide future developments. Her areas of focus include advanced semiconductor devices, dopant profiling, contamination control and metrology challenges associated with increasingly complex three-dimensional structures.

Abstract :

For decades, Dynamic SIMS has set the benchmark for trace-element analysis and depth profiling in semiconductor and advanced materials characterization. As analytical challenges continue to grow with increasingly complex device structures, laboratories must balance performance, reproducibility and operational efficiency.

This presentation introduces the IMS 8f, a new generation magnetic-sector Dynamic SIMS platform developed to address these needs. At the heart of the system is a world first for magnetic-sector Dynamic SIMS: automated alignment of both the primary and secondary columns. By transforming manual alignment procedures into a structured workflow based on objective optimization criteria, the IMS 8f reduces routine operator intervention, accelerates access to results and promotes more consistent day-to-day operation.

Beyond automation, the platform incorporates a modernized primary column, improved ion source and faster electronics. These developments strengthen analytical capabilities for light elements, ultra-trace contamination analysis, shallow and deep dopant profiling, and the characterization of increasingly complex multilayer structures.

Application examples will demonstrate how the IMS 8f extends Dynamic SIMS performance while making advanced SIMS analysis more accessible, efficient and reproducible.