Time-of-Flight SIMS (TOF-SIMS): From static surface characterisation to three-dimensional organic and inorganic micro area analysis.

Sven Kayser[1]

[1]IONTOF GmbH, Heisenbergstr. 15, 48149 Münster, Germany.

Time-of-Flight secondary ion mass spectrometry (TOF-SIMS) is a very sensitive surface analytical technique, well established for many industrial and research applications. It provides detailed elemental and molecular information about the surface, thin layers, interfaces of the sample, and gives a full three-dimensional analysis. The use is widespread, including semiconductors, polymers, paint, coatings, glass, paper, metals, ceramics, biomaterials & pharmaceuticals.

In this contribution we will explain the basics of the technique and take a tour through the latest technical developments in the field of Time-of-Flight SIMS instrumentation.