



*TOF.SIMS*

## Bi Nanoprobe

With the new 30 keV BI NANOPROBE ION-TOF has introduced the next generation bismuth cluster source to the market. The source provides four times higher data rates, four times higher current density in fast imaging mode and an ultimate lateral resolution of down to 80 nm.

# Bi Nanoprobe

## The new benchmark in high-resolution cluster beam SIMS

The new BI NANOPROBE is the latest generation cluster LMIG. It uses the patented BiMn emitter technology which provides a new level of cluster beam performance.

## High lateral resolution spectrometry

Resolving mass interferences in high resolution chemical maps is an important requirement for many analytical tasks. The BI NANOPROBE combines unique high mass resolution spectrometry with sub-micron imaging.

## Faster imaging with four times higher beam current density

The new fast imaging mode of the BI NANOPROBE is specifically designed for fast chemical mapping with high lateral resolution. In this mode images with a lateral resolution of less than 120 nm can be acquired within a few minutes.

## Ultimate imaging resolution

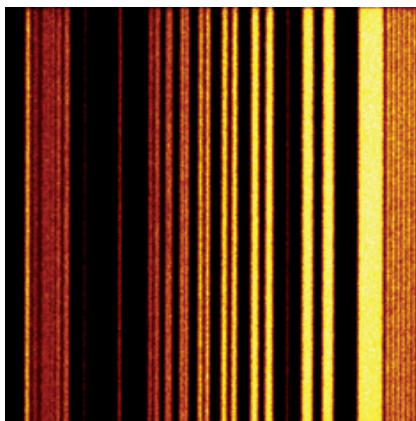
In ultimate spot imaging mode, the beam spot size can be reduced to well below 80 nm for excellent high-resolution images.

## G-SIMS Ready

The BiMn emitter of the BI NANOPROBE is ideally suited for G-SIMS analysis. For the first time G-SIMS measurements can be performed using only a single ion gun to produce high and low fragmentation spectra in a single measurement. This simplifies G-SIMS analysis substantially.

Fast Imaging

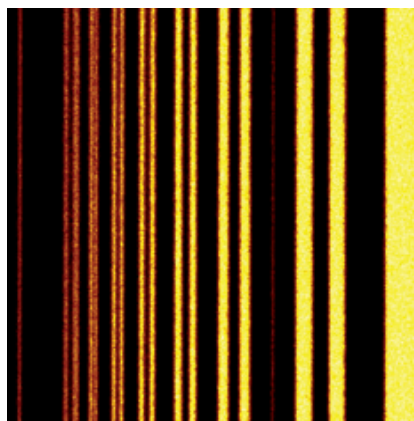
Field of view: 11.6 x 11.6  $\mu\text{m}^2$



↑ 100 nm line separation  
↑ 70 nm line separation

Ultimate Imaging

Field of view: 7.8 x 7.8  $\mu\text{m}^2$



↑ 100 nm line separation  
↑ 50 nm line separation

High resolution SI images in fast imaging mode (left) and ultimate imaging mode of the BAM test structure (BAM-L200). The acquisition time for the left image was only 3 min which illustrates the unique high data rates of the BI NANOPROBE in fast imaging mode.