

Coverage evaluation of active material by NanoSIMS

The NanoSIMS 50L can provide the highest lateral resolution among secondary ion mass spectrometry and can simultaneously achieve high sensitivity and high mass resolution. Here, we introduce example of LTO thin layer coated on LCO powder using NanoSIMS.

What is NanoSIMS ?

I maging & Depth Profiling

- High lateral resolution
- High transmission
- High mass resolution using magnetic sector

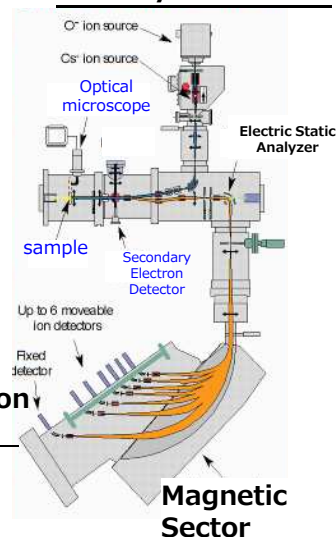


(AMETEK HP)

N anoSIMS 50L

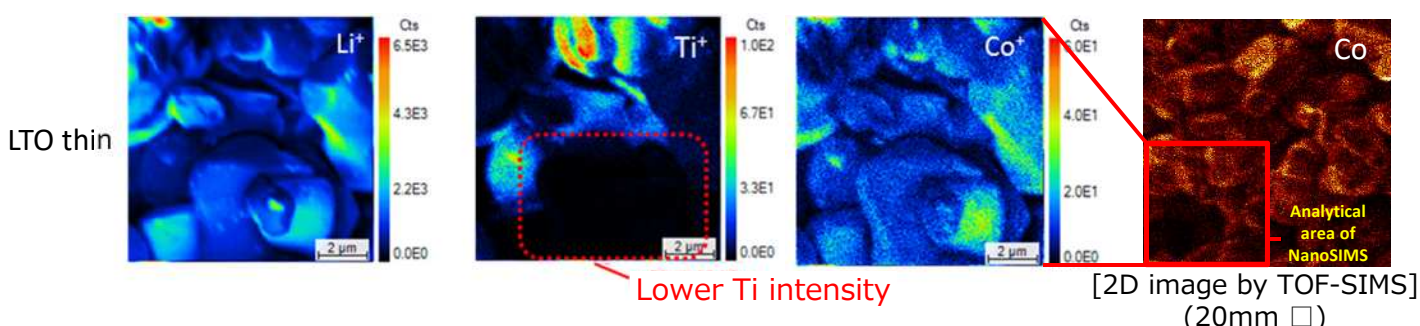
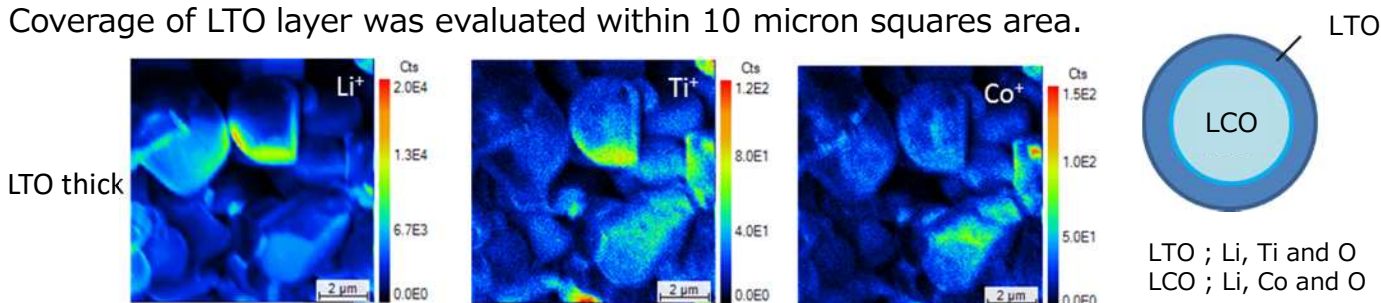
- Primary ion : Cs^+ , O^-
- Minimum beam size : 50 nm
- Detection limit : ppm~
- Mass analyzer : double focusing mass spectrometer
- Number of ions detected : 7
- Analysis depth : 10 nm~ several 100 nm

Primary Ion Source



2D images of LTO layer on LCO powder using NanoSIMS

Coverage of LTO layer was evaluated within 10 micron squares area.



LTO seems to cover almost of LCO powder surface in sample "LTO thick". Meanwhile, LTO layer partially disappears in sample "LTO thin", suggesting LTO layer is not coated or may be thin.

NanoSIMS allows us to evaluate coverage of coating layer on powder sample.