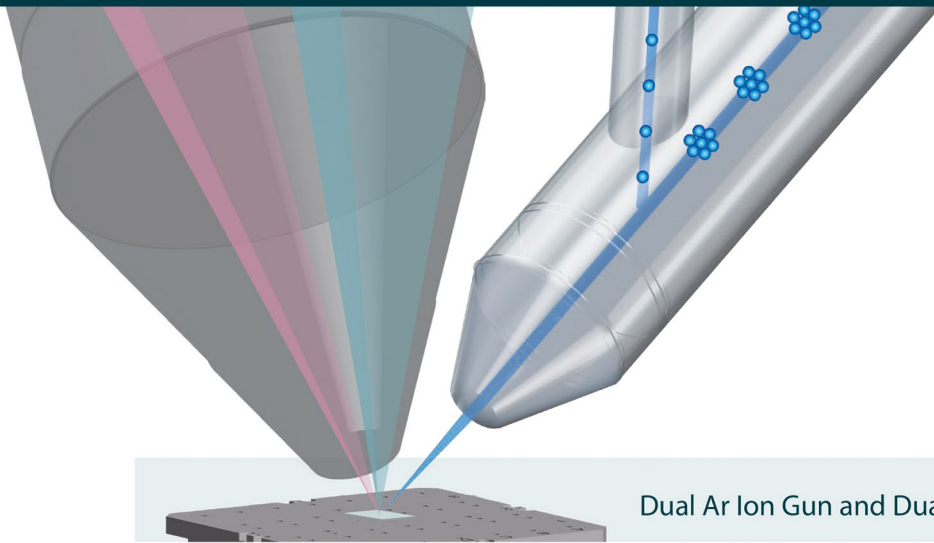


# PHI Quantes with Dual Source Ion Gun

*in situ* 20 kV Ar Gas Cluster / Ar monoatomic sputtering

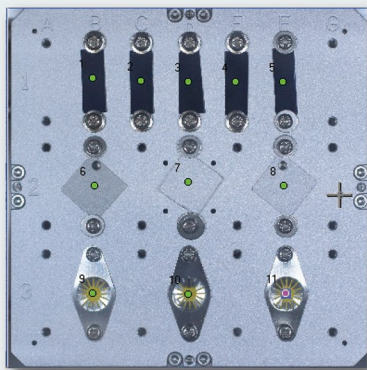


Dual scanning X-ray Photoelectron Microprobe  
**PHI Quantes**



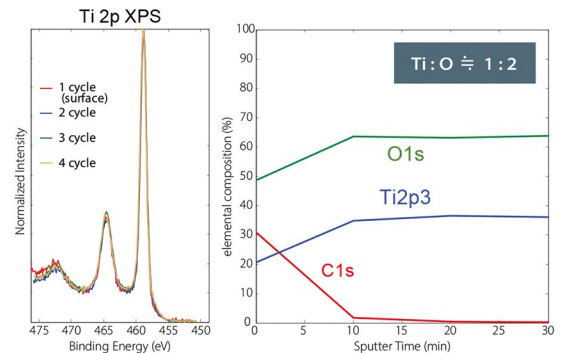
Dual Ar Ion Gun and Dual X-ray Beam on the Same Analysis Position

## Fully Automated, High Throughput Instrument Designed for a Wide Range of Depth Profile Applications



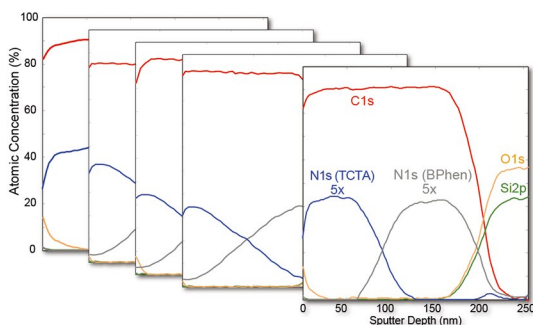
75 x 75 mm Sample Holder

### GCIB Surface Cleaning

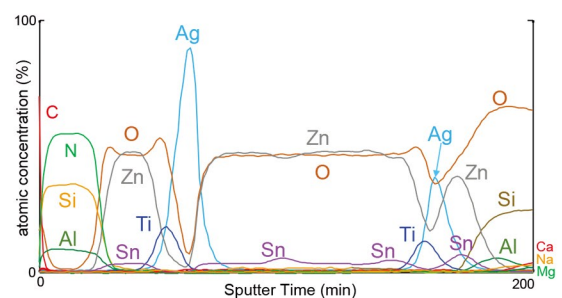


Composition stoichiometry of the ceramics can be obtained after GCIB sputter cleaning

Automated Multi-Sample Profiling for Production/Process Control

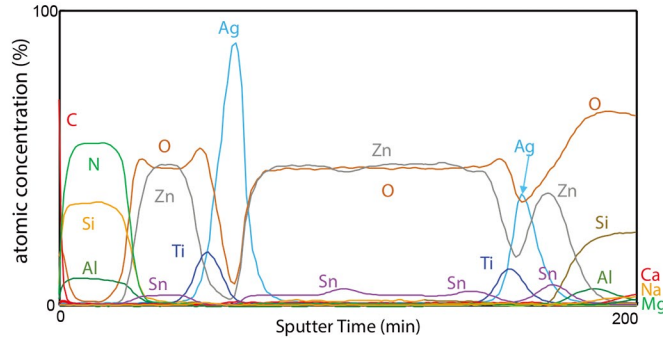
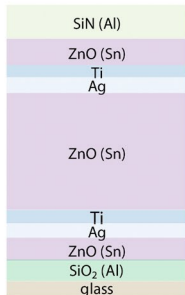


High Performance Monoatomic Ar<sup>+</sup> Depth Profiling with Excellent Depth Resolution



# Two Ion Beams in One Gun for a Wide Variety of Applications

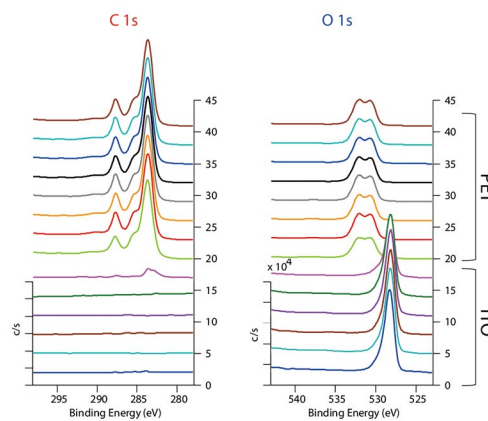
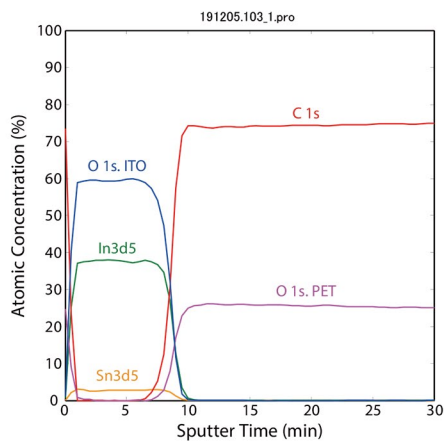
## 1. Multilayered Glass Coating [ Monatomic Ar<sup>+</sup> ]



500 eV Ar<sup>+</sup> depth profile from a multilayered coating on glass.

The energy of monoatomic Ar can vary between 200 eV and 5 keV.

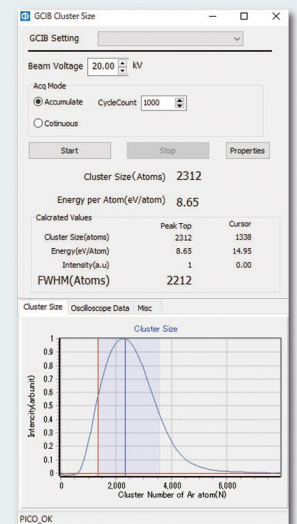
## 2. Inorganic/Organic Layer [ GCIB Ar<sub>1000</sub><sup>+</sup> ]



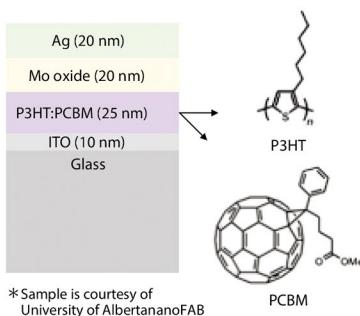
GCIB Ar<sub>1000</sub><sup>+</sup> depth profiling provides a high sputtering yield for the ITO (inorganic) layer (>10 nm/min) and sputtering without damage for the PET(organic) substrate. The chemical states of C1s and O1s in the PET layer are clearly observed.

## Cluster Size Measurement Tool

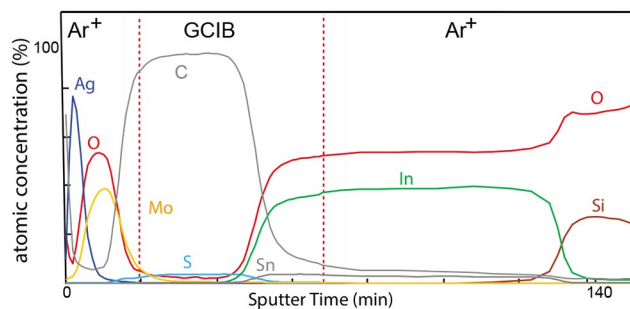
Option



## 3. Mixed Organic/Inorganic Hybrid Materials [ Monatomic Ar<sup>+</sup> and GCIB in the Same Profile ]



\* Sample is courtesy of University of AlbertananoFAB



Multilayered solar cell with both organic and inorganic layers on glass. Switching between 1 keV Ar<sup>+</sup> and GCIB sputter beams allows fast profiling through >300 nm of mixed material, while preserving the chemistry of the organic layer.