

# Hard X-ray Photoelectron Spectroscopy (HAXPES)

NIST X24A

## Variable Kinetic Energy HAXPES

- Tune the HAXPES depth sensitivity (photoelectron kinetic energy) by tuning the X-ray excitation energy using a synchrotron X-ray beamline
- The U7A and X24A endstations form a unique measurement suite for surface to near bulk HAXPES by spanning X-ray excitation energy from 0.2 to 5 keV

Example: Si electron binding energy 2p ~100 eV and 1s ~1800 eV, surface to bulk sensitivity (Lab source has fixed energy Al K $\alpha$ )

Photoelectron Kinetic Energy =  $h\nu - \text{Binding Energy}$

