

## Demonstration of Auger Electron Spectrometry

### Experiment

The principle of AES (Auger electron spectrometry) will be demonstrated using a Perkin-Elmer PHI-680 system. This system consists of a field-emission scanning electron microscope with a Schottky emission cathode, a secondary electron detector, and an axial cylindrical mirror analyzer with a multi-channel detector to collect Auger electrons produced during electron imaging. Very small spot sizes can be realized with this instrument - down to 7 nm. This is useful for high-resolution imaging and for Auger data acquisition using low beam currents. Inert gas sputtering (using a PHI 06-350 ion gun) is used to clean surface contamination from samples and to remove material from a small area on the surface for depth profiling.

The specimen for this experiment are SiC (silicon carbide) particles with additions of further elements. After demonstrating the alignment of the instrument, AES spectra will be acquired from three different spots of a specimen area imaged with the help of a secondary electron detector.