



HITACHI S-800 SCANNING ELECTRON MICROSCOPE

SEM Description

The Hitachi field emission scanning electron microscope (FE-SEM) is used for inspection of nanostructures. The SEM has a magnification power of 300,000 times actual size. The image is generated by scanning a small diameter electron beam over the specimen. These electrons are scattered from the surface, and are then collected to generate an image.

Energy Dispersive Spectroscopy

The electron beam is also used to perform chemical analysis on microstructures below 1 micron in size using an x-ray spectrometer. The spectrometer collects x-rays which are also generated by the electron beam. The x-rays are characteristic of the quantity of each element present in the area scanned by the electron beam.



Specifications

- 2 nm resolution
- 300,000x magnification
- Cold cathode field emission source
- Accepts specimens up to 25 mm diameter by 20 mm height
- EDAX-Phoenix EDS System
- Samples must be fully desiccated before they are put in the SEM
- A Hummer X sputter coater is available to coat non-conductive samples with an ultra-thin layer of Gold- palladium to prevent electron charging.