

ENVIRONMENTAL SCANNING ELECTRON MICROSCOPE (ESEM)

TECHNICAL SPECIFICATION

MODEL NO : FEI QUANTA 200



FIELDS OF RESEARCH:

- 1. SEM IMAGING WITH HIGH RESOLUTION AND HIGH CONTRAST.**
- 2. CHEMICAL ANALYSIS (EDAX).**
- 3. INVESTIGATIONS OF NON –CONDUCTIVE SPECIMENS UNDER LOW –VACUUM CONDITIONS.**
- 4. INVESTIGATIONS OF WET SAMPLES AT PRESSURES UP TO 2600 Pa UNDER ESEM MODE.**
- 5. PELTIER EFFECT ON E-SEM
(We can cool between 0 to 10 deg C, specimen of very diverse in nature can be imaged)**

• **INSTRUMENT SPECIFICATION**

ELECTRON COLUMN:

SOURCE OF ELECTRON	W-FILAMENT
OPERATIONAL VOLTAGE	200 V-30 KV
RESOLUTION	
@30KV@HIGH VACUUM CONDITIONS	2.4 nm
@30KV@LOW VACUUM CONDITIONS	3.0 nm
@30KV@E-SEM CONDITIONS	5.4 nm
BEAM CURRENT	100 μA

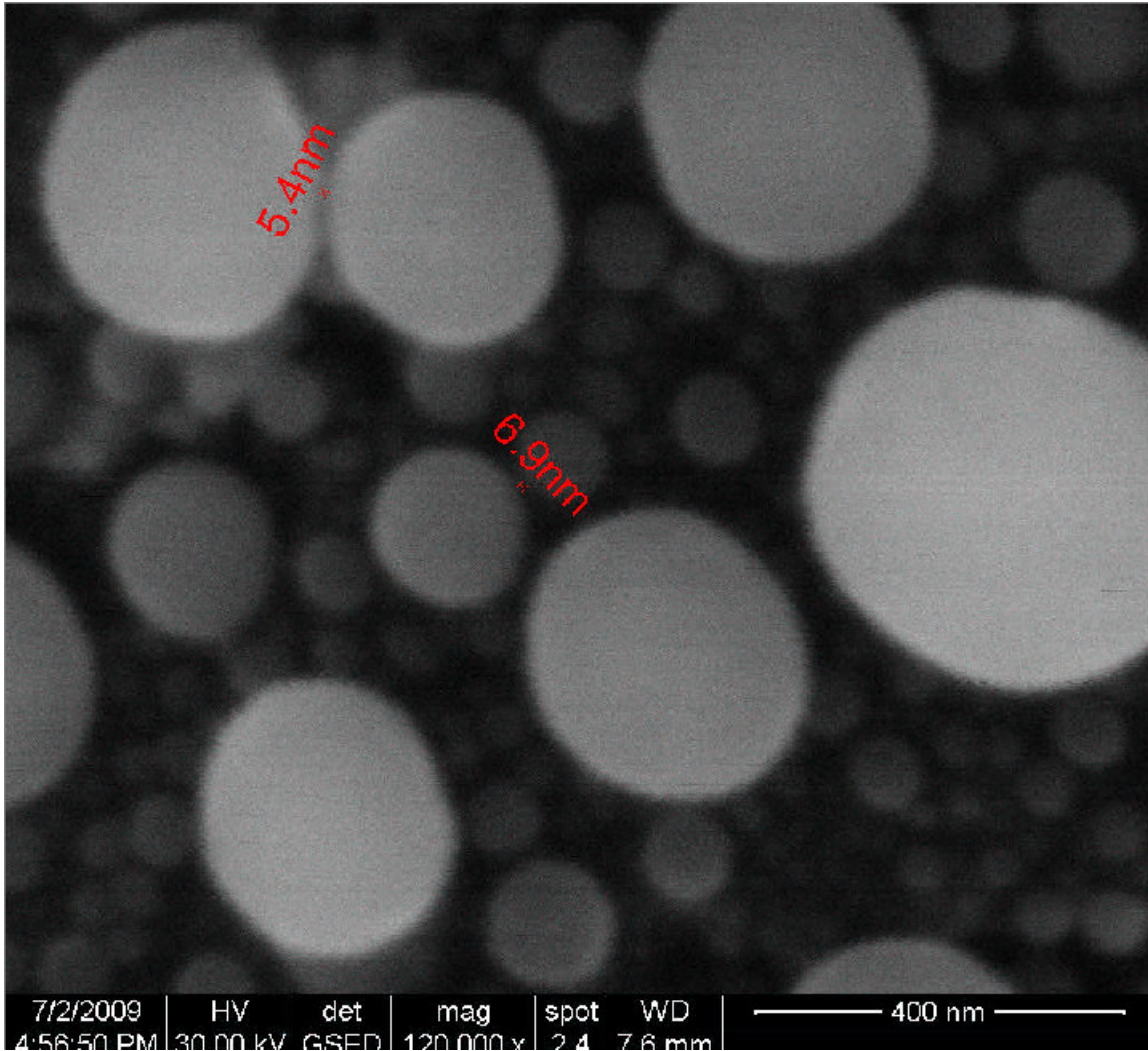
DETECTORS:

EVERHART-THORNLEY DETECTOR FOR SECONDARY ELECTRONS IN HIGH VACUUM.
GSED FOR PRESSURES UP TO 40mbar IN ESEM MODE OPERATION.
LARGE FIELD SECONDARY ELECTRON DETECTOR FOR LOW VACUUM OPERATION.

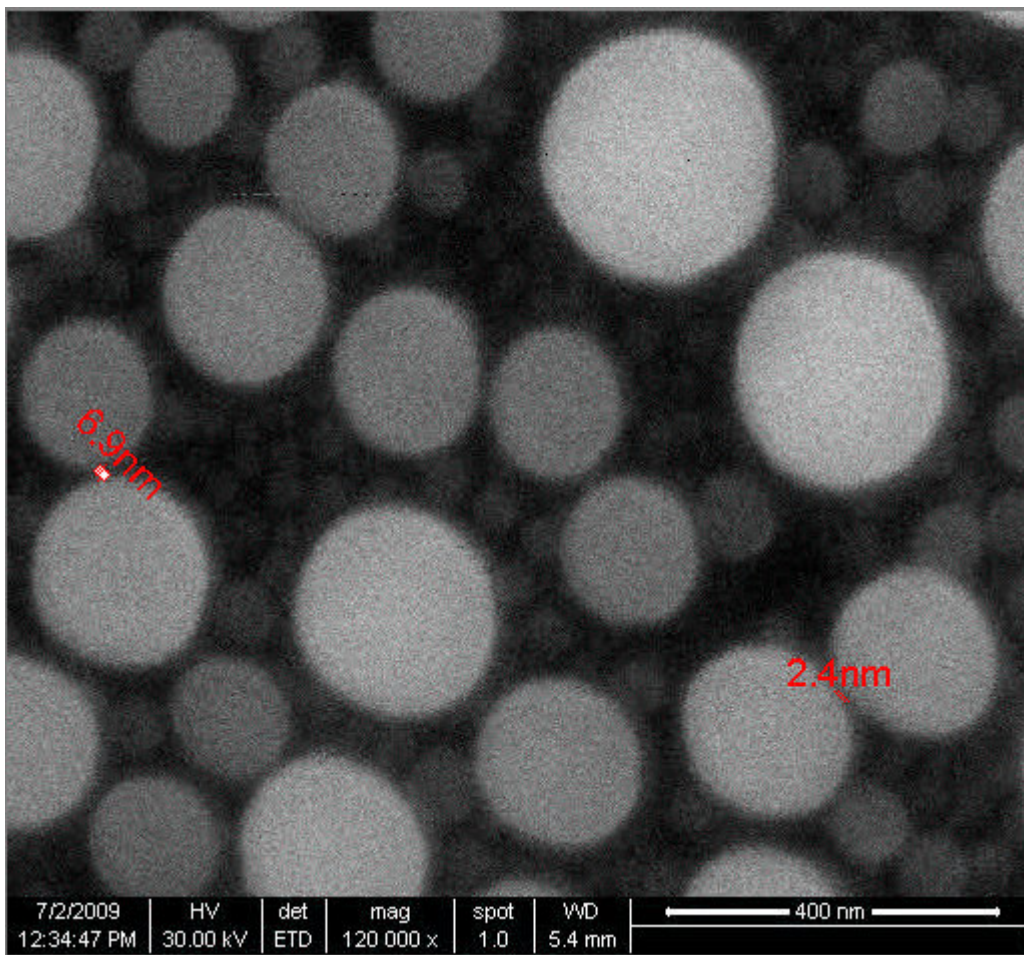
ENERGY DISPERSIVE X-RAY ANALYSIS.

- 1 ELEMENTAL QUANTIFICATION WITH MAPPING.
- 2 LINE EDAX MEASUREMENT.
- 3 SPECTRUM IMAGE.

Some image example is given below:



Tin on Carbon is taken in E-SEM mode



Tin on Carbon is taken in Hi-Vacc mode