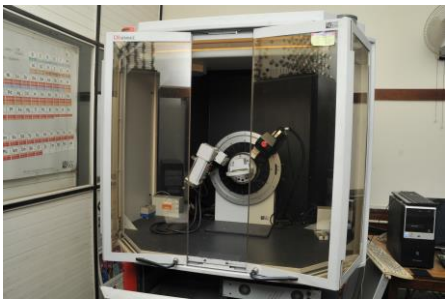
Measurement of: Powder X-Ray Diffraction

Equipment: Bruker D-8 Advance X-ray diffractometer

Property Measured: crystallographic information about the material/specimen.

Photograph (small size)



Basic Principle:

When a fast moving electron is fired against a metal target at high positive potential, the electron comes very close to the nucleus of a target atom and the coulomb interaction causes deviation of the trajectory wherein the electron losses energy and an X-ray photon is emitted.

Capabilities:

For the thin film, we can measure the diffraction in Grazing incidence mode and through that one can calculate the lattice dimension and angles. One can get the similar information for the pellet specimens. During the measurement, we can rotate the sample stage in order to get the accurate diffraction values.

Sample Requirement:

Particle size: 5 to 30 micron 2. Sample weight min 2g