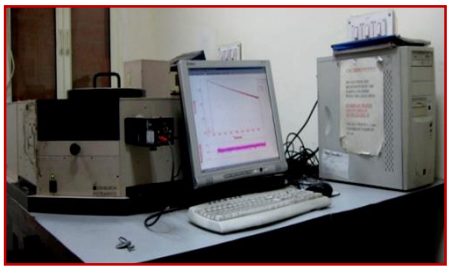
Measurement of: Steady state photoluminescence and time-resolved photoluminescence

Equipment: Combined steady state and time-resolved fluorescence spectrometers (Model: F-900, Edinburgh Instruments)

Property Measured: Excitation and emission scans, Kinetic measurements, Excitation - emission maps, Contour plot, Phosphorescence measurements and Fluorescence lifetime measurements

Photograph (small size)



Basic Principle:

Photoluminescence spectroscopy is a contact less, non-destructive method of probing the electronic structure of materials. Light is directed onto a sample, where it is absorbed and imparts excess energy into the material in a process called photo-excitation. One way this excess energy can be dissipated by the sample is through the emission of light, or luminescence. In the case of photo-excitation, this luminescence is called photoluminescence. The intensity and spectral content of this photoluminescence is a direct measure of various important material properties.

Time-resolved photoluminescence is measured by exciting luminescence from a sample with a pulsed light source and then measuring the subsequent decay in photoluminescence (PL) as a function of time.

Capabilities: The F900 is a complete fluorescence system in a single instrument. It offers the ultimate in sensitivity for steady state photoluminescence, time-resolved photoluminescence and phosphorescence lifetime measurements.

Sample Requirement: Any kind solid powder, thin film and liquid sample can easily possible to examine in this instrument without special sample preparation.