Fluorescence Measurement System

BIX-8814 Series

Fluorescence is the emission of light by a substance after absorbing photons or other electromagnetic radiation (e.g., UV light exciting visible fluorescence). This phenomenon has broad applications in:

- High-resolution optics
- Fluorescent powdercharacterization
- Medical diagnostics
- Photocatalytic research
- UV-curing processes
- Specialty lighting systems

Different Measurement system depending on the material state:

1.Liquid Samples

- Contained in standard cuvettes
- Fluorescence detection at 90 ° to excitation beam (minimizes scattered light interference)

2.Solid Samples

- Employed with micro fiber-optic holders
- Dual-fiber configuration at 45° for optimal excitation/ collection
- Non-contact measurement preserves sample integrity

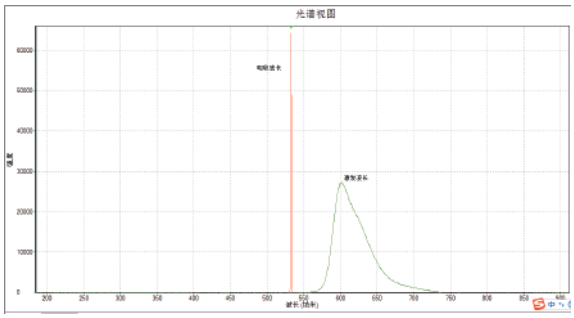
Features

- Dual measurement geometries accommodate diverse sample types
- 90° detection ensures pure fluorescence spectra for liquids
- 45° fiber alignment maximizes signal from solid surfaces
- Compatible with both reflective and translucent materials

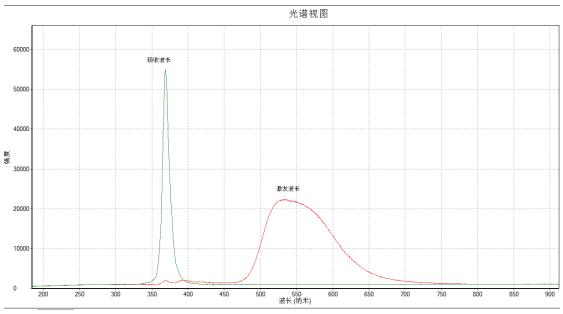
Applications

1. Biochemical Component Analysis
   - Biomarker Detection: High-sensitivity fluorescence measurement for proteins, nucleic acids, and enzymes.
   - Cell & Tissue Imaging: Fluorescent labeling and real-time monitoring of metabolic processes.
   - Drug-Protein Binding Studies: Quantifying molecular interactions in pharmacokinetics research.
2. Pharmaceutical Quantitative Analysis
   - Active Pharmaceutical Ingredient (API) Assay: Precise concentration measurement of drugs using fluorescence intensity.
   - Impurity Detection: Trace-level identification of degradation products or contaminants.
   - Dissolution Testing: Real-time monitoring of drug release profiles in vitro.
3. Mineral & Material Fluorescence Characterization
   - Gemstone Identification: Distinguishing natural vs. synthetic minerals based on spectral fingerprints.
   - Rare Earth Element Analysis: Detecting luminescent properties in geological samples.
   - Nanomaterial Research: Evaluating quantum dots, phosphors, and optoelectronic materials.

Typical Spectrum



Fluorescence spectrum of Rhodamine B



Ink fluorescence spectrum

Specifications

Model	BIX-8814-0X1X (Model Note: 0X- Spectrometer option, 1X- Sample fixture and Light Source option)
Spectrometer	01: 200nm~1100nm (BIM-6002S-22-S03L02F06G13)
	02: 200nm~900nm (BIM-6002A-01-S03L02F06G01)
	03: 400nm~1100nm (BIM-6002A-13-S03L01F05G02)
Sample Fixture and Light Source	11: 1 to 1 fiber (SIM-6102-1010-S/S-P) *2ea Cuvette Holder (BIM-6305-03) *1ea Quartz Cuvette (SIM-6301-QF10) *1ea LED Light Source (BIM-6216) *1ea
	12: 1 to 1 fiber (SIM-6102-1010-S/S-P) *1ea Diffuse reflection holder (SIM-6302) *1ea LED Light Source (BIM-6215) *1ea LED Power Supply (BIM-5036) *1ea