785nm Raman Measurement Experiment

BEX-8206

Summary

BEX-8206 emits laser from a narrow linewidth laser, focusing on the sample through a Raman probe. The Raman signals generated after interacting with the sample are collected by the probe and transmitted through an optical fiber to an optical spectrum analyzer, from which the final Raman spectrum of the sample is obtained.
This experiment adopts a modular design structure, facilitating the rapid connection and efficient coupling of the spectrometer, Raman probe and laser, and also ensuring the safety of the experiment greatly. Meanwhile, it is convenient for students to understand and master the basic principles, composition and structure of the Raman spectrometer.

Features

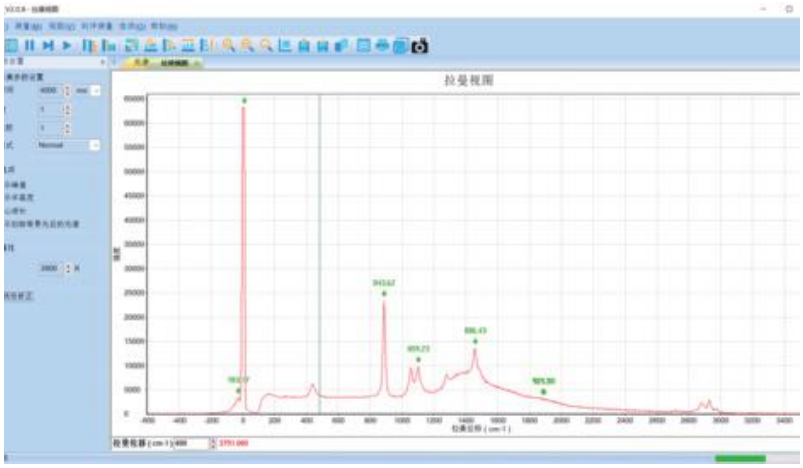
1. The modular design structure is convenient for students to understand and master the basic principles, composition and structure of the Raman spectrometer.
2. Adopting the industry standard structure design, it facilitates the quick connection and efficient coupling of the spectrometer, Raman probe and laser, and also greatly ensures the safety of the experiment.
3. Professional test software is available, facilitating students and teachers to conduct experiment operations and data processing.
4. It can be used for both teaching experiments and research experiments.

Main Experiment Contents

1. Master the basic principles, composition and structure of Raman spectroscopy instruments.
2. Analyze and test liquid and solid samples to obtain Raman spectra.

Experiment Contents and Typical Data

Ethanol Raman spectrum



Specifications

NO.	Part Name	Main Parameter
1	Fiber Spectrometer	wavelength range: 750nm-1100nm resolution: ~ 1nm
2	785nm Raman Probe	Matched laser wavelength: 785nm, Operation mode: Fiber output
3	Raman Sample Holder	12.7mm×12.7mm
4	Solid Sample Testing Holder	Adjustable range 0-130mm
5	785nm Narrow Linewidth Laser	wavelength: 785nm, output power 0~400mW
6	Quartz Cuvette	12.5 mm×12.5 mm×45 mm

Configuration List

NO.	Part Name	Model	Qty.
1	Fiber Spectrometer	BIM-6002A-04	1
2	785nm Raman Probe	SIM-6131-785F	1
3	Raman Sample Holder	BIM-6322	1
4	Solid Sample Testing Holder	BEM-5239	1
5	785nm Narrow Linewidth Laser	BRM-7602	1
6	Quartz Cuvette	SIM-6301-QT10	1
7	Power cord	BC-105075	1
8	USB cable	BC-105080	1