

Maintenance of Online Raman Spectrometer

Article Overview

Proper maintenance of a Raman spectrometer ensures accurate measurements, extends instrument lifespan, and minimizes downtime.

Routine Operational Checks

Before using the spectrometer, ensure that the sample compartment and microscope are clean and properly aligned. For opaque samples, use a high numerical aperture objective on the microscope, while transparent samples may require a macro lens or lower magnification objective in the sample compartment. Verify that the excitation laser(s) are warmed up and the detector/CCD is cooled to the setpoint temperature; the system will alert you if the detector is not ready for data collection .

Calibration and Performance Monitoring

Regularly perform peak analysis using the software's "Find Peaks" function to confirm that the instrument is within acceptance criteria. Document all calibration and performance checks according to your laboratory's standard operating procedures to maintain traceability and compliance .

Software and Experiment Setup

Use the spectrometer software to turn on the desired laser, select the appropriate objective, and allow sufficient warm-up and cooling times. Monitor the detector tem...

Article Content

Feb 10, 2026

Microsoft Word

23. Enter 500 cm⁻¹ into the spectrometer offset. Figure 2. Setting 24. Silicon has a characteristic Raman shift at 520.7 cm⁻¹. Adjust

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Raman instruments calibration and verification protocols

CEN Workshop Agreement (CWA) provides a data harmonization protocol for Raman instruments — — Calibration Calibration

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RSPSSL: A novel high-fidelity Raman spectral preprocessing ...

A novel generic high-fidelity Raman spectral denoising and baseline correction strategy to enhance diverse cross

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Review of Existing Standards, Guides, and Practices for Raman ...

Purpose of the present review is to list, classify, and engage in a comprehensive analysis of the different standards,

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How do you perform good calibration on a Raman system?

With just a few clicks, users can automatically correct for wavelength drift, spectral resolution, and other factors that can affect

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Raman spectroscopy

Raman spectroscopy Energy-level diagram showing the states involved in Raman spectra. Raman

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online Raman

Overview In addition to performing Raman spectroscopy directly in the ic OS lab ("offline mode"), it is also possible to connect the

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Raman Services

HORIBA offers a comprehensive range of maintenance contracts, training programs, sample analysis, and technical support for its

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How do you perform good calibration on a Raman system?

Precise Raman calibration is obtained by relying on spectral calibration, laser alignment and video Raman matching. First, spectral

May 14, 2026

(PDF) Automatic real-time calibration, assessment, and maintenance

In this article, we propose a real-time just-in-time learning (RT-JITL) framework for automatic calibration, assessment,

Sep 27, 2025

Open RAMAN

OpenRAMAN is an open-source, 100% free, Raman Spectrometer designed by professional optical engineers to bring Raman

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Operating Procedure for Horiba Raman Microscope

Manuals Digital manuals can be found in the folder named "Manuals" on desktop of computer specifically used for Raman

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Raman Spectroscopy: Bringing Inline Analysis to Production

New Raman spectroscopy applications are emerging in non-traditional fields because of advances in easy-to-use

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PAT raman

The Raman effect exists in all molecules: gas, Liquid or solid, every molecule has a corresponding Raman spectrum. Raman

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In-line monitoring of bioreactor by Raman spectroscopy: Direct use of

This article demonstrates the potential of Raman spectroscopy and machine learning for in-line monitoring of

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Raman help and support

At Renishaw, we understand the need to minimise instrument downtime while maximising productivity and

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DXR User Training

The attached document provides maintenance information for DXR Raman Microscope and SmartRaman instruments.

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Raman support

Get the most from your Raman system with our continued after sales support. Contact our customer service engineers for: From 1st

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Review of Existing Standards, Guides, and Practices for Raman ...

Given the fact that Raman spectroscopy is a modern and innovative field, the standardization processes are complex

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Raman help and support

Raman support Our support team will be happy to help with your enquiry. You can contact them by completing a form or sending an

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Raman instruments calibration and verification protocols

5. spectrometer Primary use protocol is applicable to any kind of Raman instrument exact settings the scanning grating dispersive to

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Servicepläne für Raman-Geräte

Servicepläne für Raman-Spektrometer und Raman-Mikroskope: Die Servicepläne für Raman-Geräte erfüllen Ihre individuellen

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Raman spectroscopy applied to online monitoring of a bioreactor ...

An in-situ monitoring model of alcoholic fermentation based on Raman spectroscopy was developed in this study. The

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Raman Instrument Service Plans

Raman spectrometer and Raman microscope service plans: Raman instrument service plans meet your unique laboratory needs

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Raman spectroscopy

Raman spectroscopy - advanced optical analysis technology For high-performance chemical composition and quality measurements

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LabRAM HR Evolution User manual

LabRAM HR Evolution Presentation The Labram HR evolution is a fully integrated confocal raman microscope instrument offering full

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Raman spectroscopy

Raman spectroscopy is commonly used in chemistry to provide a structural fingerprint by which molecules

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Harnessing Raman spectroscopy for cell therapy bioprocessing

Herein, we review the role of Raman spectroscopy in cell therapy bioprocessing and discuss how simultaneous

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