

# **Handheld state-of-the-art spectrometer**





## Handheld state-of-the-art spectrometer

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### Handheld Raman Spectrometers, Portable Raman , Agilent

What is Handheld Raman Spectroscopy?  
Handheld Raman spectrometers combine the long-established principles of Raman spectroscopy with miniaturized components, enabling users to take and use

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### (PDF) Hand-held near-infrared spectrometers: State-of

Recently, miniaturization of Raman, mid-infrared and near-infrared spectrometers has made substantial progress, and marketing companies predict

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Length:14.5mm  
Small-end inner diameter:2.0mm  
Large-end inner diameter:3.5mm  
Outer diameter:5.2mm



### Evaluation of handheld and portable Raman spectrometers with

Here we show the potential of four portable Raman spectrometers, using different excitation wavelengths and technologies (operating at 532, 785, and 1064 nm together with an

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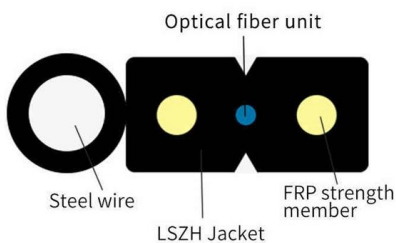
### Hand-held near-infrared spectrometers: State-of-the-art

However, contrary to Raman and MIR spectroscopy, miniaturization has been much further driven for near-infrared instrumentation. Thus, the present communication will focus on hand



**Hand-held near-infrared spectrometers:  
State-of-the-art**

Figure 1. Hand-held NIR spectrometers based on different monochromator principles (a) VIAVI MicroNIR 1700, linear variable filter, (b) Texas Instruments DLP NIRscan Nano EVM, digital micromirror device

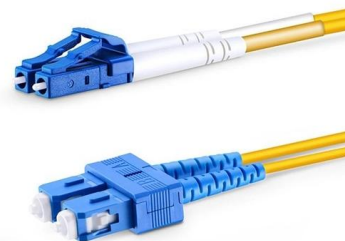


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**Portable handheld spectrometers**

State-of-the-art, real-time spectral performance and with rugged with wireless capabilities; ASD NIR spectrometers and spectroradiometers specialize in field

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**Handheld Near-Infrared Spectrometers:**

The presentation will provide an overview on the building principles of the most recently introduced handheld NIR spectrometers and critically highlight their performance and potential by means of

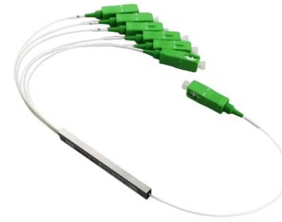
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## Portable handheld spectrometers

The SciAps PowerHouse X is a portable benchtop XRF spectrometer that offers on-site elemental analysis. Its 80 kV X-ray tube allows for enhanced sensitivity and a broader elemental range, making

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## Portable and Wearable Spectrometers in Our Future

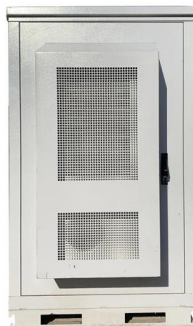
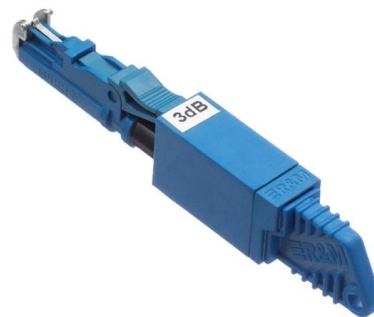
The following is a summary of selected articles published recently in Spectroscopy on the subject of handheld, portable, and wearable spectrometers

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## (PDF) Hand-held near-infrared spectrometers: State-of

Thus, the present communication will focus on hand-held near-infrared spectrometers only and discuss their applications to selected analytical

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## Handheld Near-Infrared Spectrometers: Reality and

In Figure 1 the state-of-the-art of miniaturized and commercially available NIR spectrometers is illustrated. Only the most important spectroscopic

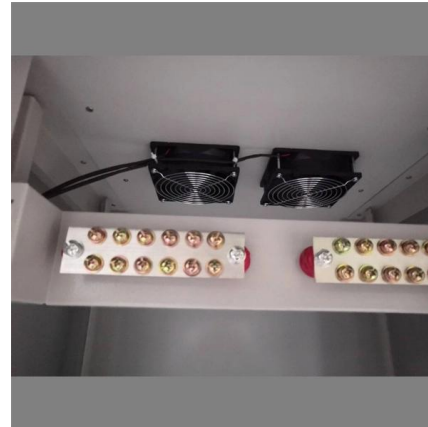
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**(PDF) Handheld Near-Infrared Spectroscopy: State-of**

This present review article considers the rapid development of miniaturized handheld near-infrared spectrometers over the last decade and

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**Portable NIR spectroscopy: the route to green analytical**

Abstract There is a growing interest for cost-effective and nondestructive analytical techniques in both research and application fields. The

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**Handheld Near-Infrared Spectroscopy: State-of-the-Art**

The objective of this review is to turn the interested readers' attention to the realistic potential of state-of-the-art handheld NIR spectrometers for qualitative and quantitative quality control.

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2. Improved design is convenient for expansion.

The design of two inlets saves space and allows for rear line entry.

**Handheld Near-Infrared Spectroscopy: State-of-the-Art**

Abstract: This present review article considers the rapid development of miniaturized handheld near-infrared spectrometers over the last decade and provides an overview of current instrumental

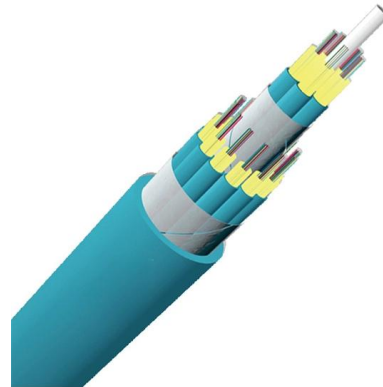
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## Handheld Near-Infrared Spectroscopy: State-of-the-Art

This present review article considers the rapid development of miniaturized handheld near-infrared spectrometers over the last decade and

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### **AURA® handheld NIR , Versatile & portable spectrometer**

AURA® handheld NIR is a portable spectrometer system, which enables measurements to be taken directly on site, suitable for a variety of applications.

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### **Handheld spectrometers: the state of the art**

The emphasis of this paper is on handheld dedicated analyzers. Many spectrometers have historically been large, possible fragile, expensive and complicated to use.

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### **(PDF) Handheld spectrometers: the state of the art**

Spectrometers have a wide range of applications ranging from optical to non-optical spectroscopy. The need for compact, portable, and user-friendly spectrometers has been the pivot of attention from

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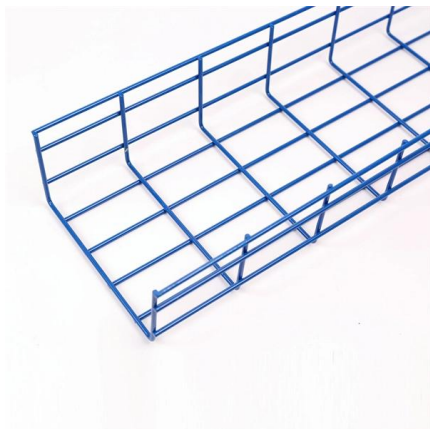




## The Rise of Portable and Handheld Spectroscopy

What does the rise of portable and handheld spectroscopic instrumentation tell us?

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### Handheld near-infrared spectrometers: Where are we

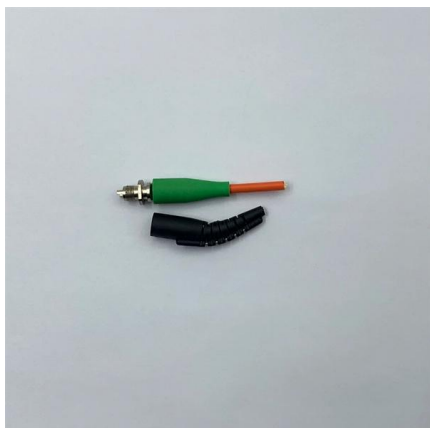
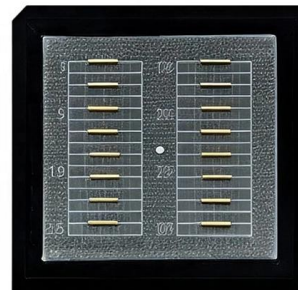
The most recent years have brought ultra-miniaturized NIR spectrometers to reality; such devices are either USB powered or have own built

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### Handheld spectrometers: the state of the art

"Small" spectrometers fall into three broad classes: small versions of laboratory instruments, providing data, subsequently processed on a PC; dedicated analyzers, providing

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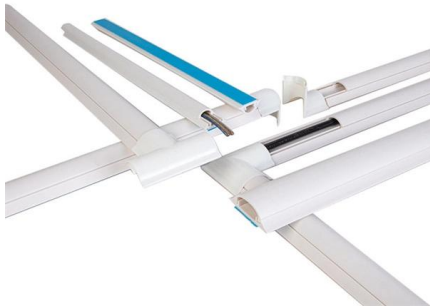
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## Evaluation of handheld and portable Raman spectrometers with different

In this study, four commercially available state-of-the-art mobile Raman spectrometers were used, each with a distinct excitation wavelength. Two of them allow the recording of the second

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