Spectroscopic effect of the detector

Detectors in spectroscopy are responsible for converting the electromagnetic radiation into an electrical signal that can be processed and analyzed. The performance of a detector directly ...

In the context of spectrophotometers, the term "detector" refers to a light-receiving element that absorbs the energy of light and consequently induces an electrical change.

For the DLP-based method, the dimensions of the DMD strongly affect the wavelength resolution of the spectrometer rather than the dimensions of the detector. The dimensions of the detector now limit the ...

Most detectors used for spectroscopy benefit from cooling to reduce this background signal. As the detector is cooled below room temperature, often to very low operating temperatures, the ...

In this Article, we discuss some common detector choices, their roles in the spectroscopic detection arena, and salient points related to selection, advantages and key performance metrics.

All spectroscopic measurements are made through the use of a detector, which converts photons into a measurable signal. A ubiquitous example of a photon detector is the human eye, which can detect ...

This module is designed to introduce the basic concepts of spectroscopy and to provide a survey of several of the most common types of spectroscopic measurement.

The detector then turns this into usable data. The material you pick for the beam splitter--and the type of detector--directly affects the range, resolution, and reliability of ...

The output of a detector must respond to changes in the incident light intensity. The ability to respond is expressed by quantities such as responsivity, sensitivity, and dynamic range.

In thermal detectors, radiation is absorbed in the active element, and this changes the temperature of the device. The change in temperature then gives rise to a change in some measurable physical ...

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