Structure of a Spectrometer

A mass spectrometer produces a plot of the mass spectra of a chemical substance. The plot is defined by the mass-to-charge (m/e) ratio vs the relative intensity or abundance of each substance. For ...

The basic structure of an optical spectrometer comprises an entrance slit, a diffraction grating or prism, and a detector. Routing optics guide the light through the spectrometer, from the entrance slit to the ...

Modern NMR spectrometers use persistent superconducting magnets to gen-erate the B0 field. Basically such a magnet consists of a coil of wire through which a current passes, thereby generating a ...

Besides the two main characteristics of a spectrometer, namely collecting power and resolution, there are a number of other features which determine the potentialities of a particular spectrometer type.

Basically, a spectrometer is an optical system consisting of two lenses/mirrors that produces an image of the input slit on the detector. In between the lenses/mirrors is placed a diffraction grating which ...

The spectrometer uses a prism or a grating to spread the light into a spectrum. This allows astronomers to detect many of the chemical elements by their characteristic spectral lines.

At its simplest, an optical spectrometer consists of an entrance slit, a diffraction grating or prism, and a detector. Routing optics are used to route the light within the spectrometer, from the entrance slit to ...

There are three main components in all spectrometers; these components can vary widely between instruments for specific applications and levels of resolution.

Spectrometer detectors consist of a row of light sensitive pixels, each of which corresponds to a particular wavelength. Each pixel will generate an electrical signal of intensity proportional to how ...

Explore the components and structure of a spectrometer in this detailed diagram. Understand the parts and their functions for accurate measurements and analysis.

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