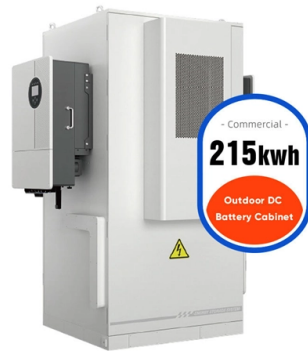


FoV Spectrometer



Overview

FoV — the angular extent of ground the spectrometer “sees” — determines the spatial footprint of each measurement, and it sits at the interface between instrument optics, sampling strategy, and the real, messy world we measure. Field spectroscopy gives us extraordinarily rich spectral detail about Earth's surfaces, but there's a deceptively simple. The spectrometer, and in particular its image slicer, is used over a large wavelength range. The photometer pixel size of 9. 4 arcseconds is a compromise between resolution at short wavelengths and observing efficiency (mapped area) at long wavelengths. Commercially available detectors are not only expensive, but have a limited number of pixels, compared with visible band detectors. Typical push broom hyperspectral imaging systems consist of a fore. We report on a near-infrared imaging spectrometer for sensing the three most prominent greenhouse gases in the atmosphere (water vapor, carbon dioxide and methane). The optical design of the spectrometer involves freeform optics, which enables achieving exceptional performance and allows. Spectroscopy is a key analytical method used to investigate material composition and related processes through study of the interaction of light with matter. Joseph von Fraunhofer invented the spectroscope in 1814 and used it to characterize the. A field-of-view-folding approach is proposed to extend the field of view (FOV) of a dispersive imaging spectrometer after introducing several linear arrays of imaging fiber bundles to which to replace the slit.



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Each fiber has in effect its own FOV, leading to each of the three spectrometers integrating radiance from different areas (and these areas appear only to overlap toward the extremities of each

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Product Details Item iCE 3300 AA Spectrometer Company Thermo Fisher Scientific Price Get Quote Lamps 6 (coded, auto-aligning carousel) Lamp Type Hollow Cathode Lamp (HCL) Vaporization

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The spectrometer is intended to be launched on a small satellite orbiting at 700 km and observing the Earth with a wide field-of-view of 120° and a spatial resolution of 2.6 km at nadir. The

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Advantages of multiple field of view spectrometer

By setting multiple field of view (FOV) in the sagittal plane of the spectrometer, spectra from different FOV can be acquired simultaneously by one spectrometer.

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ABSTRACT Accurately determining the field-of-view (FOV) is a basic requirement in photogrammetry and imaging spectroscopy but has rarely been considered in detail in field spectroscopy where the

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In this paper, the design specifications and performance statistics of a compact, high-resolution, and wide FOV spectrometer is presented, in which ISTL and MLA were employed to

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4.5. Spectrometer field-of-view and spatial resolution

The spectrometer, and in particular its image slicer, is used over a large wavelength range. The photometer pixel size of 9.4x9.4 arcseconds is a compromise between resolution at short

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Imaging spectrometry integrates imaging and spectroscopy to acquire both spatial and spectral information of an object or scene. Initially developed for Earth remote sensing, imaging

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A field-of-view-folding approach is proposed to extend the field of view (FOV) of a dispersive imaging spectrometer after introducing several linear arrays of imaging

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A compact wide-spectrum imaging spectrometer using freeform surface

This paper presents a compact imaging spectrometer covering visible-near-infrared (VNIR) and shortwave-infrared (SWIR) spectrum with a large field-of-view (FOV). The design is

Sep 21, 2025

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