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The Role of Airborne Spectrometers

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Application of airborne and spaceborne hyperspectral imaging

This paper provides a comprehensive review of the current state-of-the-art in the applications of airborne and spaceborne hyperspectral imaging for atmospheric research.

The airborne visible/infrared imaging spectrometer (AVIRIS)

The need for airborne imaging spectrometers will continue even after systems such as HIRIS are in earth orbit. The ability to station an air- borne instrument near the desired test site and,

Real-time remote detection and measurement for airborne imaging

Airborne remote measurement is an effective method to detect and quantify these emissions. In a campaign context, the science yield can be dramatically increased by real-time retrievals that allow

Airborne gamma ray spectrometer surveying

The International Atomic Energy Agency (IAEA) in its role as collector and disseminator of information on nuclear techniques has long had an interest in gamma ray spectrometer methods and

Aerosol optical depth measurements by airborne sun photometer in

NASA Ames Airborne Track-ing Sunphotometer (AATS-14) measured solar- beam trans-mission on the NASA DC-8 during the second SAGE III Ozone Loss and Validation Experiment (SOLVE II). This

Remote sensing of methane point sources with the MethaneAIR airborne

Abstract. The MethaneAIR imaging spectrometer was originally developed as an airborne demonstrator of the MethaneSAT satellite mission. MethaneAIR enables accurate methane

Airborne Solar Radiation Sensors , Springer Nature Link

When paired with airborne imagers, leveled irradiance spectrometers (also called albedometers) proved useful in deriving surface-leaving upwelling radiance from flight level measurements (atmospheric

Spectrometer for Sky-Scanning, Sun-Tracking

4STAR (Spectrometers for Sky-Scanning Sun-Tracking Atmospheric Research; Dunagan et al., 2013) is an airborne sun-sky spectrophotometer

Airborne mass spectrometers: four decades of atmospheric and space

A novel aircraft-based triple-quadrupole mass spectrometer (TQMS) has been developed for improved detection and collisional analysis of atmospheric ions and trace gases.

The Airborne Imaging Spectrometer APEX: From

A new facility designed to perform calibration measurements of airborne imaging spectrometers was established at the German Aerospace

(PDF) Fundamentals of airborne gamma-ray spectrometry

PDF , The interpretation of gamma-ray spectrometric data requires an understanding of the underlying physics of the method, and an insight into the

Airborne Single Particle Mass Spectrometers (SPLAT II

Herewepresentouraircraft-compatiblesingleparticlemassspectrometers,SPLATIIand its new, miniaturized version, miniSPLAT that measure in-situ and in real-time the size and chemical

Airborne Science Instruments at Ames

Scientists installed components of the Spectrometer for Sky-Scanning, Sun-Tracking Atmospheric Research (4STAR) instrument into NASA's DC-8 flying laboratory for data collection

Airborne Science Instruments at Ames

The Pushbroom Imager for Cloud and Aerosol Research and Development (PICARD) is a VNIR-SWIR airborne imaging spectrometer that primarily acquires imagery from the NASA ER-2

Some notes on the importance of airborne gamma-ray spectrometry in

Airborne gamma-ray spectrometry (AGRS) is an important component of the International Geochemical Mapping (IGM) project. It permits geochemical mapping of radioactive elements

ARES

This paper introduces a new airborne imaging spectrometer, the ARES (Airborne Reflective Emissive Spectrometer) currently being built by Integrated Spectronics, Sydney, Australia, and co-financed by

Mapping of radiation anomalies using UAV mini-airborne gamma-ray

Sensitivities of airborne gamma ray spectrometers are normally determined by a flight over a calibration range (Minty et al., 1997a). Since there is no calibration range for mini-airborne systems,

The AVIRIS-4 Airborne Imaging Spectrometer

Commissioned by the Swiss Airborne Research Facility for the Earth System (ARES) research consortium, AVIRIS-4 is geared toward delivering cutting-edge imaging spectroscopy data

The Airborne Methane Plume Spectrometer (AMPS): Quantitative

AMPS features a 36° field of view with 600 resolved spatial elements across track (1 mRad) and 431 pixels in the spectral dimension. All other aspects of the instrument, such as the telescope, cryo

Airborne instruments to measure atmospheric aerosol particles, clouds

Photoacoustic spectrometers have much faster response times than lter based instruments and are well suited for fi airborne applications (Arnott et al., 1999; Moosmüller et al., 2009). Particles contained in

An Airborne A-Band Spectrometer for Remote Sensing Of

Recent conceptual studies have demonstrated the potential of spaceborne high spectral resolution O 2 A-band spectrometers for retrieval of aerosol and cloud optical properties.

Advancing atmospheric pollution monitoring with airborne THz

This study details the development and validation of an airborne THz spectrometer designed for real-time, remote detection of atmospheric pollutants.

An evaluation of airborne SWIR imaging spectrometers for CH

Generic airborne imaging spectrometers operating in the shortwave infrared (SWIR) wavelength range (1000-2400 nm) have shown their suitability for this task. However, to date, there

Design, Performance, and Applications of AMMIS: A Novel Airborne

Airborne hyperspectral imaging spectrometers have been used for Earth observation over the past four decades. Despite the high sensitivity of push-bro

Spectrometer , NASA Airborne Science Program

It is intended to simulate existing satellite imager products (MODIS/VIIRS,) and to validate radiances and geophysical retrievals, with an emphasis on cloud and aerosol science. It will

Performance of Airborne Imaging Spectrometers for

In this study, we assess the capability of an airborne monitoring system with temporally sparse observations to constrain annual emissions at both facility

Hyperspectral imaging and its applications: A review

3. Conclusion The role of HSI in material detection, identification, geo-observation, and physicalparameterestimationisnotadequateamongotherremotesensingapproaches. Therefore,

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