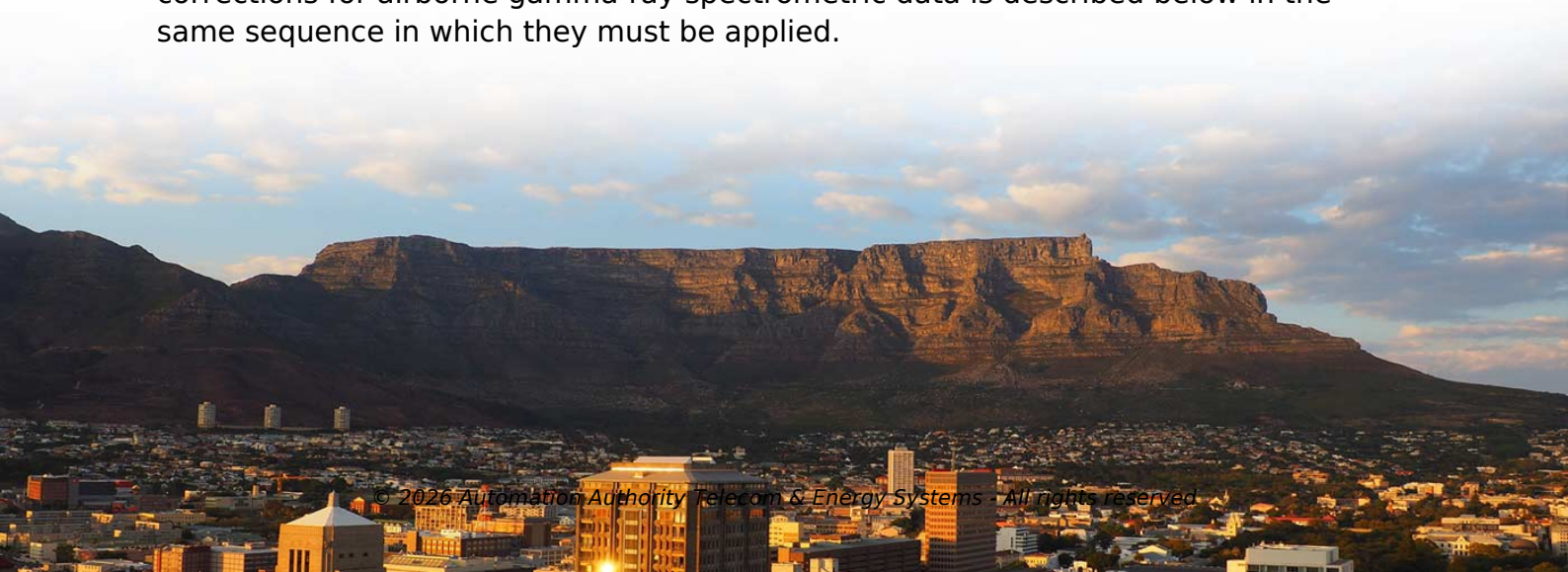
Verification Procedures for Airborne Spectrometers

Overview

National Institute of Standards and Technology (NIST) traceable radiometric calibration procedures for laboratory, in-flight, and field environments are described in detail to achieve a targeted VSWIR measurement requirement of within 5% to support calibration/validation efforts. National Institute of Standards and Technology (NIST) traceable radiometric calibration procedures for laboratory, in-flight, and field environments are described in detail to achieve a targeted VSWIR measurement requirement of within 5% to support calibration/validation efforts. in the radiomehic calibration of all AVIRIS science data collected in 1987 is described. The instrumentation and procedures used in the calibration are discussed and the calibration accuracy achieved in the laboratory as determined by measurement and calculation is compared with the cal bration. cience. AVIRIS measures the total incident radiance in 224 channels with nominally 10-nm widths between 400 and 2450 nm in the electromagnetic s ectrum. 5 km wide by 10 to 100. We describe advanced spectral and radiometric calibration techniques developed for NASA's Next Generation Airborne Visible Infrared Imaging Spectrometer (AVIRIS-NG). Each of the corrections for airborne gamma-ray spectrometric data is described below in the same sequence in which they must be applied.



Article Content

A GUIDE TO THE TECHNICAL SPECIFICATIONS

With this growth there has developed an increasing need to standardize the airborne measurements so that they will be independent of survey parameters. This report presents the technical specifications ...

A novel algorithm for spectral and radiometric simultaneous calibration ...

Consequently, it is crucial to develop a comprehensive method that can simultaneously derive both spectral and radiometric calibration parameters for on-orbit imaging spectrometers, ...

Spectral and radiometric calibration of the Airborne Visible/Infmed ...

The authors would like to express their gratitude to many colleagues for helpful suggestions and stimulating discussions on radiometric calibration which have helped us greatly in developing the ...

Hyperspectral Imager Characterization and Calibration

In the past decade great strides have been made in the ability to perform radiometric calibration and characterization of spectrometers. The introduction of detector-based reference standards allows ...

mgzd001

The procedure for performing a spectral calibration of AVIRIS involves the following steps: (1) calibration of the laboratory monochromator from a spectral emission line source, (2) use of the monochromator ...

Airborne Gamma-Ray Spectrometer Calibration | PDF | Gamma Ray ...

This paper outlines the calibration procedure used by the Geological Survey of Canada for converting airborne gamma-ray spectrometry measurements to equivalent ground concentrations.

Calibration Procedures for Imaging Spectrometers: Improving ...

This paper is structured into four separate parts: The rst part shortly introduces our calibration laboratory for airborne hyperspectral sensors. Here, standard measurement procedures and the accuracies, ...

Calibration of airborne optical sensors at DLR

various methods to perform a verifica calibration gap of airborne scanners. The difference in time and environmental conditions can be decreased by bringing some high precision radiance sources to the ...

Spectral and Radiometric Calibration of the Next Generation Airborne ...

In the study that follows, we detail the motivation and operation of advanced calibration procedures developed for the National Aeronautics and Space Administration (NASA)''s Next ...

Advanced Verification Methods for Safety-Critical Airborne ...

The main objective of this study is to provide the FAA with input on what verification process should be used and what criteria should determine completeness of the verification process for design ...

Technical Note 2: Gamma-Ray Calibration And Data Processing

The purpose of this Technical Note is to describe the methodology used by GammaSpec to calibrate airborne spectrometers and process airborne gamma-ray data. Each of the corrections for airborne ...

Airborne Visible / Infrared Imaging Spectrometer AVIS: Design ...

We describe the instrument design and present the results of laboratory characterization and calibration of the system''s second generation, AVIS-2, which is currently being operated. The ...

Radiometric calibration of a non-imaging airborne spectrometer to ...

For airborne missions, precise and accurate pre-flight, in-flight, and post-flight calibration procedures are therefore of paramount importance to achieve targeted instrument stability and measurement ...

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