HHC Networks & Smart City Solutions

Calibration Methods for Hyperspectral Spectrometers

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We propose the Curve-based Hyperspectral Imaging Radiometric Calibration (CHIRON) method – a novel approach for characterizing the distribution of RCCs across the entire spectral range.

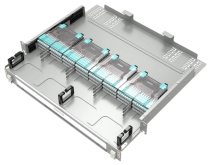
Current radiometric calibration standards, specifically blackbody and lamp-based optical radiation sources, produce spatially, spectrally, and temporally simple scenes.

This report is meant to aid oth-ers calibrating their own hyperspectral imagers with limited resources by showing how wavelength calibration accuracy varies with different models.

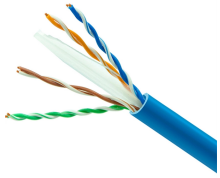
In summary, this study developed and validated a new simultaneous spectral–radiometric calibration method for spaceborne hyperspectral sensors, demonstrating strong stability, robustness, ...

This is a suite of open source tools to enable researchers in the field of cultural heritage to more easily calibrate and process data from hyperspectral imaging. We aim to provide a full pipeline of calibration ...

For existing NWP data assimilation to fully utilize GXS data, the GXS spectral information must be precisely captured and spectrally corrected, as needed due to instrument artifacts, onto a temporally ...

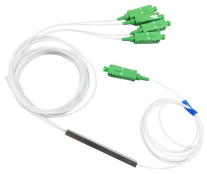


This paper introduces a learning-based approach for the automatic calibration of hyperspectral images (HSIs). A large-scale HSI calibration dataset, BJTU-UVA, has been developed, comprising 765 high ...



In this paper, we present a hyper-spectral imaging system and practical calibration procedure using a low-cost calibration reference made of polytetrafluoroethylene.

The extraction of meaningful radiance information from a hyperspectral sensor typically requires radiometric calibration using reference radiance sources. Tradi



These limitations inspire this paper to automatically calibrate HSIs using a learning-based method. Towards this goal, a large-scale HSI calibration dataset is created, which has 765 high-quality HSI ...

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