**HYPERSPECTRAL IMAGERY CALIBRATION IN AN URBAN SETTING**

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**Abstract:** Compact Airborne Spectrographic Imager (CASI – 1500), a mapping tool from ITRES, is used in multispectral and hyperspectral imaging. It measures reflected light from the visible and near infrared regions of electromagnetic spectrum (400 – 1000 nanometers), which is split into multiple and discrete image bands. Water quality assessment, land cover classification and forestry management are some of the applications of CASI-1500. However, remotely-sensed imagery should first be calibrated using field measurements before it can be used for various applications. Spectral measurements of features in the field can be acquired using a spectroradiometer. The objective of this research is to calibrate CASI imagery using spectral measurements of various homogenous land and man-made covers collected over selected areas of Tarlac City, Philippines. The objects of interest include water, tree, crops, grass, bare soil, concrete and asphalt, most of which are predominant in an urban metropolis in the Philippines. The paper will conclude by experimental results the gain and bias values for each band derived using linear regression, and the correlation per band of the CASI imagery and its corresponding field spectral measurement.

**Keywords:** CASI imagery, Remote sensing, Hyperspectral imaging, Spectral calibration

**Suggested Topic:** Hyperspectral Imagery Calibration

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