

Development and utilization of urban spectral library for remote sensing of urban environment

ABSTRACT

Hyperspectral technology is useful for urban studies due to its capability in examining detailed spectral characteristics of urban materials. This study aims to develop a spectral library of urban materials and demonstrate its application in remote sensing analysis of an urban environment. Field measurements were conducted by using ASD FieldSpec 3 Spectroradiometer with wavelength range from 350 to 2500 nm. The spectral reflectance curves of urban materials were interpreted and analyzed. A collection of 22 spectral data was compiled into a spectral library. The spectral library was put to practical use by utilizing the reference spectra for WorldView-2 satellite image classification which demonstrates the usability of such infrastructure to facilitate further progress of remote sensing applications in Malaysia.

Keyword: Remote sensing; High resolution; Hyperspectral; Hyperspatial; Spectral data