

Spectrometry for urban area remote sensing—Development and analysis of a spectral library from 350 to 2400 nm

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We investigate the spectral complexity and unique spectral characteristics of urban environments using spectral library of more than 4500 individual spectra. Spectral properties of urban surface materials are separability is systematically analyzed using the Bhattacharyya distance (B-distance) as a quantitative measure find considerable spectral confusion between urban land cover types (i.e. specific roof and road types) spectral-resolution remote sensing for detailed mapping of urban materials and their condition based on their the most suitable wavelengths for separation of urban land cover identified specific spectral features that is a strong indication that current multispectral systems, including IKONOS and LANDSAT ETM+, provide these important features and are limited for urban land-cover mapping.