

Normalized Difference Vegetation Index and Hyperspectral: Plant Health Assessment

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Abstract : The rapid advancement of remote sensing technologies has revolutionized plant health monitoring, offering valuable insights for precision agriculture and environmental management. This paper presents a comprehensive comparative analysis between the widely employed normalized difference vegetation index (NDVI) and state-of-the-art hyperspectral sensors in the context of plant health assessment. The study aims to elucidate the weigh ups of spectral resolution. Employing a diverse range of vegetative environments, the research utilizes simulated datasets to evaluate the performance of NDVI and hyperspectral sensors in detecting subtle variations indicative of plant stress, disease, and overall vitality. Through meticulous data analysis and statistical validation, this study highlights the superior performance of hyperspectral sensors across the parameters used.

Keywords : normalized difference vegetation index, hyperspectral sensor, spectral resolution, infrared

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