Detection of Anomaly in Water Body using Hyperspectral Images

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Abstract: Detection of anomaly due to pollution, stress, pest etc is of great interest for civil communities. In this paper a novel method has been proposed to detect anomaly in water cover. Here, Fractal dimension of spectral reflectance curve (SRC) of hyper spectral (HS) remote sensing data has been used as a feature for detection of anomaly. As SRC represents the characteristics of any object or land cover so does its fractal dimension (FD). And thus, any discrepancy in the value of FD of the SRC of any pixel in a HS image has been considered to represent the presence of anomaly in the pixel. The method works excellently for identification of anomaly among pixels in a water body. In future, the method may be used to identify pixel based target.