

TEXTURE AND SPECTRAL FEATURE-BASED PLANT TYPE CLASSIFICATION FROM AERIAL IMAGES OF ASAHI RIVER BASIN IN OKAYAMA-CITY

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ABSTRACT: The objective of this study is to identify and classify the plant types in Asahi River basin using texture feature and spectral feature from aerial images obtained by high spatial resolution and multi-channels UltracamX systems. To investigate the performance of spectral and texture feature based methods, color moments and gray-level co-occurrence matrix methods are applied for RGB and NIR channel images. In segmentation processes of images, the common metric obtained by object's spectral dispersions, compactness and smoothness parameters of each object is used, and to classify the segmented images into plant types, K-means methods are applied using texture and color features of each segmented image. We show the results of image segmentation and classification. Finally we evaluate the computational cost and the quality of these results.