

## **112. MULTI-TEMPORAL SAR IMAGE CHANGE DETECTION USING NSCT AND K-MEANS CLUSTERING**

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In this paper, we introduce a change detection technique for synthetic aperture radar (SAR) images based on image fusion and K-means clustering algorithm. The image fusion technique is introduced to generate a difference image using complementary information from a mean-ratio image and a log-ratio image. NSCT (Non-subsampled contourlet transform) based fusion involves an averaging operator and maximum gradient coefficient selection to fuse low-frequency and high-frequency bands to restrain the background information and enhance the information of changed regions in the fused difference image. K-means clustering algorithm is the proposed algorithm for classifying changed and unchanged regions from the fused image with performance analysis.

Keywords— Change detection, Non-Subsampled Contourlet Transform (NSCT), K-means clustering algorithm, synthetic aperture radar (SAR) images.

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