Abstract

Change detection algorithms play a vital role in overseeing the transformations on the earth surface. Unsupervised change detection has a indispensable role in an immense range of applications like remote sensing, motion detection, environmental monitoring, medical diagnosis, damage assessment, agricultural surveys, surveillance etc In this paper, a novel method for unsupervised change detection in synthetic aperture radar(SAR) images based on
image fusion and kernel K-means clustering is proposed. Here difference image is generated by performing image fusion on mean-ratio and log-ratio image and for fusion discrete wavelet transform is used. On the difference image generated by collecting the information from mean-ratio and log-ratio image kernel K-means clustering is performed. In kernel K-means clustering, non-linear clustering is performed, as a result the false alarm rate is reduced and accuracy of the clustering process is enhanced. The aggregation of image fusion and kernel K-means clustering is seen to be more effective in detecting the changes than its preexistences.

References

- Y. Bazi, L. Bruzzone, and F. Melgani, “An unsupervised approach based on the

**Index Terms**

*Computer Science*  
*Clustering Method*

**Keywords**

*Change Detection*  
*Difference Image*  
*Image Fusion*  
*Kernel-k Means Clustering*  
*Synthetic Aperture Radar.*