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# Post-Earthquake Road Damage Detection by SVM Classification from Quickbird Satellite Images

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**Abstract :** Detection of damaged parts of roads after earthquake is essential for coordinating rescuers. In this study, an approach is presented for the semi-automatic detection of damaged roads in a city using pre-event vector maps and both pre- and post-earthquake QuickBird satellite images. Damage is defined in this study as the debris of damaged buildings adjacent to the roads. Some spectral and texture features are considered for SVM classification step to detect damages. Finally, the proposed method is tested on QuickBird pan-sharpened images from the Bam City earthquake and the results show that an overall accuracy of 81% and a kappa coefficient of 0.71 are achieved for the damage detection. The obtained results indicate the efficiency and accuracy of the proposed approach.

**Keywords :** SVM classifier, disaster management, road damage detection, quickBird images
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