266. SHADOW DETECTION AND REMOVAL FROM HIGH-RESOLUTION SATELLITE IMAGES USING WATERSHED ALGORITHM

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City high resolution satellite images may contain the shadows which can affect the clarity of the images. Many researchers have been conducted to examine the shadow detection and removal method from city high resolution remote sensing images. But very few studies only have focused on how the applications of these shadow detection and removal method can help to detect and eliminate the shadow problem from high resolution images. This paper proposes a new approach for shadow detection and removal from city high resolution remote sensing images from the reviews of past and current researches. The main aim of this paper is not only detecting the shadows also removing the shadow and reconstructs the shadow free images. The statistical features of the images are used to detect and extract the suspected shadows. Some back objects are ruled out according to the object properties and spatial relationship between the objects. To remove the shadows compute the mean and standard deviation of shadows and non-shadow areas and then find difference between the shadow and non-shadow areas. Finally, thesuspected shadows are accurately detected then eliminated and the high quality images can be restored with a minimum rate.

Keywords—Segmentation, Grayscale conversion, Shadow features, Statistical features, Object properties, spatial relationship.

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