

# AN IMPROVED GRAY GRAVITY CENTER ALGORITHM BASED ON SOBEL OPERATOR AND ITS APPLICATION ON FEATURE POINT'S EXTRACTION FROM REMOTE SENSING DATA

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**Abstract:** The extraction of image feature points is an essential step of remote sensing image classification and analysis, the results of the extraction directly impact on the effect of recognition and understanding of the image. This paper mainly discussed an improved gray gravity center algorithm based on Sobel operator and its application on feature point's extraction from remote sensing data. The improved algorithm separated the target area of image into two parts, the edge pixel region and the internal pixel region, by Sobel operator. By getting the mean gray value of the internal pixels, the algorithm effectively inhibits the effect of noise. In order to speed up the feature point's extraction, the connectivity had been introduced to distinguish the image features as well. This paper analyzed the accuracy of the improved algorithm and the traditional algorithm by contrast, the result shows that the improved gray gravity center algorithm based on Sobel operator has advantages in feature point's extraction.