Geometric Features and Buildings Extraction Based on the Geometric Features

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Abstract: This paper analyzes the geometric features of buildings in high-resolution remote sensing image, and tries to extract buildings with four geometric features (area feature, fitting rectangle feature, length-to-width ratio feature, main direction feature). With these geometric features, the good segmentation objects of buildings can be easily extracted, while a few of the poor segmentation objects of buildings are missed. The fundamental reason about low accuracy of building extraction is the image segmentation, namely, the fundamental problem lies still on the spectral features. Because of the complexity of the buildings in the optical image, as well as the similarity of the buildings with their surrounding environment, the segmentation results don't consist with the actual image and the accuracy of building extraction is ultimately affected. The height feature is one of the typical features of buildings, and the introduction of height feature to building extraction is an important research direction to improve the accuracy of building extraction.