

# Adaptive Search Region Fast Area-Based Stereo Correspondence

## ABSTRACT

Traditionally, the search region is based on epipolar line and the maximum disparity constraints in area-based stereo correspondence methods. The search region is invariable with this method. The reduction of search region can increase the performance of the matching process, in the context of the execution time and accuracy. According to disparity gradient theory, the paper presents a fast area-based correspondence whose search region is *variable*. The core of the method is that the search region of each point in one image is relation to itself disparity gradient and former result. The paper apply disparity gradient to the whole image. While others similarity papers focus on feature-based correspondence. The proposed approach is compared with the traditional area-based matching method with invariable search region. The experiment result indicates that the proposed algorithm is the higher matching speed and the less calculation than the ones based on invariable search region.