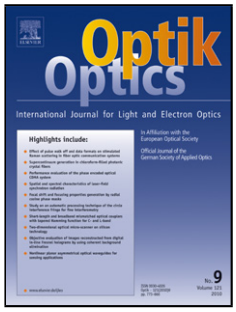

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Improved multi-scale composition based on high-quality candidate region extraction

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Abstract

Image composition is the process of first extracting a candidate region from a candidate image and then embedding this region into a target image. Traditional composite methods focus on reducing appearance gaps (boundary, brightness, color, and sharpness) between the candidate region and the target image. However, in the composite process, low-quality candidate region extraction negatively affects the composite results. In several complicated images, the composite results are not realistic, especially for the boundary**.**

This study proposes an innovative algorithm that can solve the drawback of traditional methods. We combined wavelet transform and high-quality candidate region extraction model to achieve composition. On one hand, segmentation and improved matting models are used for high-quality candidate region extraction. On the other hand, wavelet transform is used for multi-scale decomposition, which obviously improves the composite results. Experimental results using a large database show the superiority of the proposed method.

Keywords: image composition, Poisson equation, candidate region, wavelet transform

1. Introduction

In recent years, researchers have conducted studies on the development of composite techniques. In terms of high-quality composition, we inevitably focus on one essential problem: