EFFICIENT IMPROVEMENT METHOD FOR SEPARATION OF REFLECTION COMPONENTS BASED ON AN ENERGY FUNCTION
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Abstract
In this study, we propose a novel and effective method for improving the accuracy of separation reflection components in a single image based on the dichromatic reflection model after calculating the diffuse reflection component by any existing method. Our proposed method is based on unsharp masking and an energy function. Separating reflection component accurately is very important and useful in computer vision to enhance image quality because we can control the intensity and apply a filter independently to each reflection component.

Motivation
High-resolution displays such as 4K and 8K televisions are becoming more common. Therefore, we cannot keep our competitiveness just by the resolution. We have to develop new technologies except resolution.

Objective
As a new technology, we consider reality(gloss) improvement[1, 2].

Proposed method
Input image
Calculating the diffuse reflection component (αpId)
Separating reflection components based on the dichromatic reflection model[7]. Is is assumed to be known and set to white.

Experimental results

Related studies

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*Excerpt from [3].

Conclusion
- Our proposed method can improve the separation of reflection components by a maximum of 13.06dB.
- We can show the effectiveness by using real images.

References