A Comparative Analysis for Shallow Aquatic Images Visibility Improvement and Restoration

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Abstract

This paper proposes an comparative analysis for shallow aquatic images visibility improvement which firstly classify whether the image is clear or haze image, along with the identification of more or less haze. The paper presented a separate method for low and high haze content image which utilizes a combination of dark channel prior, median filter, histogram equalization, gamma correction, dark channel with morphological action, in order to attain effective haze reduction and circumvent halo effects in complex structure single image. Our scheme, also lookup the effect of an adaptive gamma correction method for additional improvement of transmission depth which enables a important enrichment over existing state-of-the-art schemes based on dark channel prior.

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Index Terms

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Image Processing
Keywords

Undersea image, DCP, Transmission Depth, Adaptive Gamma Correction, Histogram Equalization.