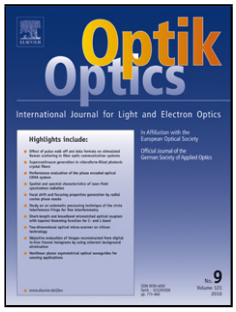
Accepted Manuscript



Title: An improved non-local means filter for color image denoising

Authors: Gaihua Wang, Yang Liu, Wei Xiong, Yan Li

PII: S0030-4026(18)31126-4
DOI: https://doi.org/10.1016/j.ijleo.2018.08.013
Reference: IJLEO 61310

To appear in:

Received date: 21-2-2017
Revised date: 7-8-2018
Accepted date: 8-8-2018

Please cite this article as: Wang G, Liu Y, Xiong W, Li Y, An improved non-local means filter for color image denoising, *Optik* (2018), https://doi.org/10.1016/j.ijleo.2018.08.013

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

An improved non-local means filter for color image denoising

Gaihua Wang[1, 2], Yang Liu*[3, 4], Wei Xiong[1, 2], Yan Li[2, 5]

*Corresponding author: Tel: +46 73 661 7727; Email: yang.liu@liu.se

[1]Hubei Collaborative Innovation Center for High-efficiency Utilization of Solar Energy, Hubei University of Technology, Wuhan 430068, China
[2]School of Electrical and Electronic Engineering, Hubei University of Technology, Wuhan 430068, China
[3]Department of Management and Engineering, Linköping University, SE-581 83 Linköping, Sweden
[4]Faculty of Technology, University of Vaasa, PL 700, 65101 Vaasa, Finland
[5]Faculty of Health, Engineering and Sciences, University of Southern Queensland, QLD 4350, Australia

Abstract

Non-local means filter is a special case of non-linear filter. It performs well for filtering Gaussian noise while preserving edges and details of the original images. In this paper, we propose an improved filter for color image denoising based on combining the advantages of non-local means filter and bilateral filter. To compare the similarity of patches, a new weight value is computed by adding texture information into weights. The experimental results of color image filtering show that the proposed method has a better performance for reducing Gaussian noise and mixture noise.

Key words: non-local means; bilateral filter; Gaussian noise; color image denoising

ACCEPTED MANUSCRIPT

Download English Version:

https://daneshyari.com/en/article/7222839

Download Persian Version:

https://daneshyari.com/article/7222839

Daneshyari.com