

# Degraded/Distorted Image Restoration

Tech ID: 25692 / UC Case 2016-055-0

## TECHNOLOGY DESCRIPTION

Some images and videos suffer from visible degradation and color distortion due to absorption and scattering, which cause propagated light to be attenuated with distance from the camera, and which affects some colors of light more strongly than others. These effects are seen in many underwater photographs, as well as in images taken under foggy or hazy conditions. Therefore, it is highly desired to develop an effective image restoration method for recovering underwater and other images, enhancing contrast, and bringing out image details that would be otherwise unseen.

This invention is a method of improving visual quality of pictures taken in such conditions. The method can be used with still images or video. The method is different than current methods in that it uses image blurriness, background light estimation, or other information to estimate scene depth for such images and thus is more reliable than current methods. For a wide range of lighting conditions, this method adaptively produces a more accurate estimate of the scene depth and hence of the scene transmission map for image restoration.

Winner of ICIP 2015 "Top 10%" paper designation.

## PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20180286066	10/04/2018	2016-055

Additional Patents Pending

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## OTHER INFORMATION

### KEYWORDS

image processing, photography

### CATEGORIZED AS

- ▶ **Imaging**
- ▶ Other

### RELATED CASES

2016-055-0