Abstract

The result of retinal images from fundus cameras are often provide unclear blood vessel of retinal images. As consequent, the ophthalmologists find it difficult to analyze the retinal images. Fundus images analyses require a longer time to achieve the test result especially for the patient with diabetic retinopathy. The research conducted in this paper introducing a space color reference approach to perform exudates segmentation. Exudates are one of the symptoms that cause diabetic retinopathy. The existence of exudates can be characterized by the appearance of fundus image in yellowish color with varying size and shape. The difficulties in exudates detection are due to the similar color intensity with optic disc (retinal blind spot), but with smaller size compare to optic disc. The study in this paper proposes color space approach where the object of interest area is used as exudates color references for retinal segmentation. The results of the experiments show that exudates detection based on color space reference are successfully segmented where the optic disc is not segmented as a part of exudates.

**Index Terms**

Computer Science  
Image Processing

**Keywords**

Exudates, Fundus Image, Region of Interest, RGB Color Space, Segmentation